

**APPENDIX 18-A**  
**Socio-economic Baseline Report**

# Coffee Gold Mine – YESAB Project Proposal Socio-economic Baseline Report

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## ACRONYMS AND ABBREVIATIONS

Abbreviation	Definition
\$	dollar
%	percent
CBC	Canadian Broadcasting Corporation
CMHC	Canadian Mortgage and Housing Corporation
Coffee Project	Coffee Gold Mine (Coffee Project interchangeable with Project)
CKS	Conservation Klondike Society
CNIM	Centre for Northern Innovation in Mining
CPI	Consumer Price Index
CSI	Crime Severity Index
Dawson	City of Dawson
FNNND	First Nation of Na-cho Nyäk Dun
FRMP	Forest Resources Management Plan
GDP	Gross domestic product
GMA	Game Management Area
Goldcorp	Goldcorp Inc.
ha	Hectares
IC	Intermediate Component
KDO	Klondike Development Organization
km	Kilometer
km <sup>2</sup>	square kilometre
LSA	Local Study Area
LSA	Local Study Area
LMU	Landscape Management Unit
m <sup>3</sup>	cubic metre
MIHR	Mining Industry Human Resources Council
NAICS	North American Industry Classification System
NAR	Northern Access Route
NHS	National Household Survey
NOC	National Occupation Classification
NWT	Northwest Territories
OCP	Official Community Plan
PHA	Permit Hunt Authorization
Project	Coffee Gold Mine (interchangeable with Coffee Project)
Proponent	Goldcorp Inc.
RSA	Regional Study Area
RCMP	Royal Canadian Mounted Police
RSA	Regional Study Area

Abbreviation	Definition
RSS	Robert Service School
RTC	Registered Trapping Concession
SFN	Selkirk First Nation
SGA	Self-Government Agreement
sq. mi.	square miles
TH	Tr'ondëk Hwëch'in
TK	Traditional Knowledge
TWG	Technical Working Group
UFA	Umbrella Final Agreement
U.S.	United States
VBY	Volunteer Bénévoles Yukon
VC	Valued Component
Whitehorse	City of Whitehorse
WRFN	White River First Nation
YBS	Yukon Bureau of Statistics
YESAA	<i>Yukon Environmental and Socio-economic Assessment Act</i>
YESAB	Yukon Environmental and Socio-economic Assessment Board
YG	Yukon Government
YHC	Yukon Housing Corporation
YWB	Yukon Water Board

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## 1.0 INTRODUCTION

Kaminak Gold Corp., a wholly-owned subsidiary of Goldcorp Inc. (the Proponent or Goldcorp) is proposing to construct and operate a high-grade, open-pit gold mine in west-central Yukon, on its property located approximately 130 kilometres (km) south of the City of Dawson (Dawson) by a 214 km Northern Access Route (NAR) in the White Gold District. This project is known as the Coffee Gold Mine (the Project). The Project is scoped as an open pit gold mine using a cyanide heap leach process to extract ore. Its temporal boundaries consist of a 3-year Construction Phase and a 12-year mine life with an average operation rate of five million tonnes per annum of heap leach feed.

The Mine Site is located on Crown land within the established Traditional Territory of the Tr'ondëk Hwëch'in (TH) and the asserted Traditional Territory of White River First Nation (WRFN). The northern access route is located within the Traditional Territory of TH, and portions are located within the shared traditional territories of Selkirk First Nation (SFN), the First Nation of Na-cho Nyäk Dun (FNNND) and the asserted Traditional Territory of the WRFN.

In support of a Project Proposal submission to the Yukon Environmental and Socio-economic Assessment Board (YESAB), this report describes the existing human environment conditions for the Project for the following components: demographics; economic conditions; social economy; physical infrastructure and community services; education services; land and resource use; and community health and well-being. While heritage considerations are reflected throughout the report as applicable, the Project's heritage values are explicitly presented and discussed separately in **Appendix 26-A Heritage Resources VC Assessment Report** of the Project Proposal.

**Sections 1.0** through **2.6** present supporting information that provides context and understanding about the Project area and overall approach used during baseline studies. **Sections 3.0** through **9.0** present the existing conditions for the human environment components identified above; these sections are presented as discrete studies, wherein the specific study area, information sources, results, and discussion for each component are described.

The human environment baseline conditions described in this report are intended to inform the Demographics Intermediate Component (IC) (**Appendix 19-A**) and the assessments of the following Valued Components (VCs): Economic Conditions (**Appendix 20-A**), Social Economy (**Appendix 21-A**), Community Infrastructure and Services (**Appendix 22-A**), Education Services (**Appendix 23-A**), Land and Resource Use (**Appendix 24-A**), and Community Health and Well-being (**Appendix 25-A**).

## 1.1 STUDY BOUNDARIES

This section identifies the spatial, administrative, and temporal boundaries established for the human environment baseline report.

### 1.1.1 Spatial Boundaries

This report documents socio-economic baseline conditions for a Local Study Area (LSA) and Regional Study Area (RSA) as detailed in **Table 1-1**.

These study areas were selected to inform baseline conditions, and to support identification of the assessment areas in which potential effects are likely in the IC and VC assessment reports. As such, a broader perspective has been taken than for the assessment reports, and discussion may extend beyond the RSA to provide context. Alternatively, the discussion may focus on the relevant community rather than the assessment area which must include the Project area. The RSAs are generally but not necessarily the same as the assessment areas. For example, this baseline report may focus on community characteristics recognizing that the Project area does not overlap communities, but that the assessment area will include the Project area. Rationales for the selection of LSAs and RSAs described **Table 1-1** for each component are provided in the respective component subsection.

**Table 1-1 Summary of Human Environment Spatial Boundaries**

Component	Topic(s)	Local Study Area	Regional Study Area
Demographics	N/A	Whitehorse Area, City of Dawson Beaver Creek, Pelly Crossing, and Mayo	Includes the LSA and Yukon Territory
Economic Conditions	N/A	Whitehorse Area, City of Dawson, Beaver Creek, Pelly Crossing, Mayo, WRFN, SFN, and FNNND.	Includes the LSA and Yukon Territory
Social Economy	Non-Wage Economy	Includes City of Dawson and a 1 km extent on either side of the Project, inclusive of any land-use designations (for example, trap line concessions, game management areas or placer claims) that overlap with this area.	Includes the LSA and Yukon Territory
	Traditional Economy	The established or asserted Traditional Territory of First Nations located within a 1-km area of the Project. These First Nations include TH, SFN, FNNND, and WRFN.	The area that encompasses the entire established Traditional Territory of the TH, SFN, FNNND, and the entire asserted Traditional Territory of the WRFN.

Component	Topic(s)	Local Study Area	Regional Study Area
Education Services	Primary, secondary and post-secondary education services Industry specific community based training	Whitehorse Area, City of Dawson, Beaver Creek, Mayo, and Pelly Crossing	Includes the LSA and Yukon Territory
Physical infrastructure and community services	Housing and Accommodation	Dawson, Whitehorse, Mayo, Beaver Creek, and Pelly Crossing	
	Physical Infrastructure		
	Community Services		
	Transportation	Dawson and area within 1 km of the NAR (including existing government-maintained roads) and the North Klondike Highway in proximity to Dawson	Includes the LSA and Yukon
Land and Resource Use	Current Traditional Land and Resource Use	The established or asserted Traditional Territory of each First Nation located within 1km on either side of the Project footprint. These First Nations include the TH, SFN, FNNND, and WRFN.	The area that encompasses the entire established Traditional Territory of TH, SFN, and FNNND, and the entire asserted territory of the WRFN.
	Non-traditional Land and Resource Use	1 km buffer either side of the Project footprint.	Game Management Subzones overlapping the Project footprint.
Community Health and Well-being	Crime	Whitehorse Area, City of Dawson, Beaver Creek, Mayo, and Pelly Crossing	Includes the LSA and Yukon Territory
	Food Security		
	Accidents and Injuries		
	Infectious Disease		
	Mental Health and Wellness		
	Health Services Structure and Capacity		

### 1.1.2 Administrative Boundaries

All spatial boundaries for components of the human environment included in this report were defined in consideration of and reference to municipal, First Nation, and territorial boundaries, as well as geographical areas defined by Statistics Canada.

The Project is located entirely on Crown land (**Figure 1-1**). The Mine Site is within the TH Traditional Territory and the asserted territory of the WRFN (**Figure 1-2**). In addition, the NAR alignment is located within the Traditional Territory of TH, portions of which are located within the shared traditional territories of SFN and the FNNND. The Project Footprint does not overlap with any First Nation Category A or B Settlement Lands.

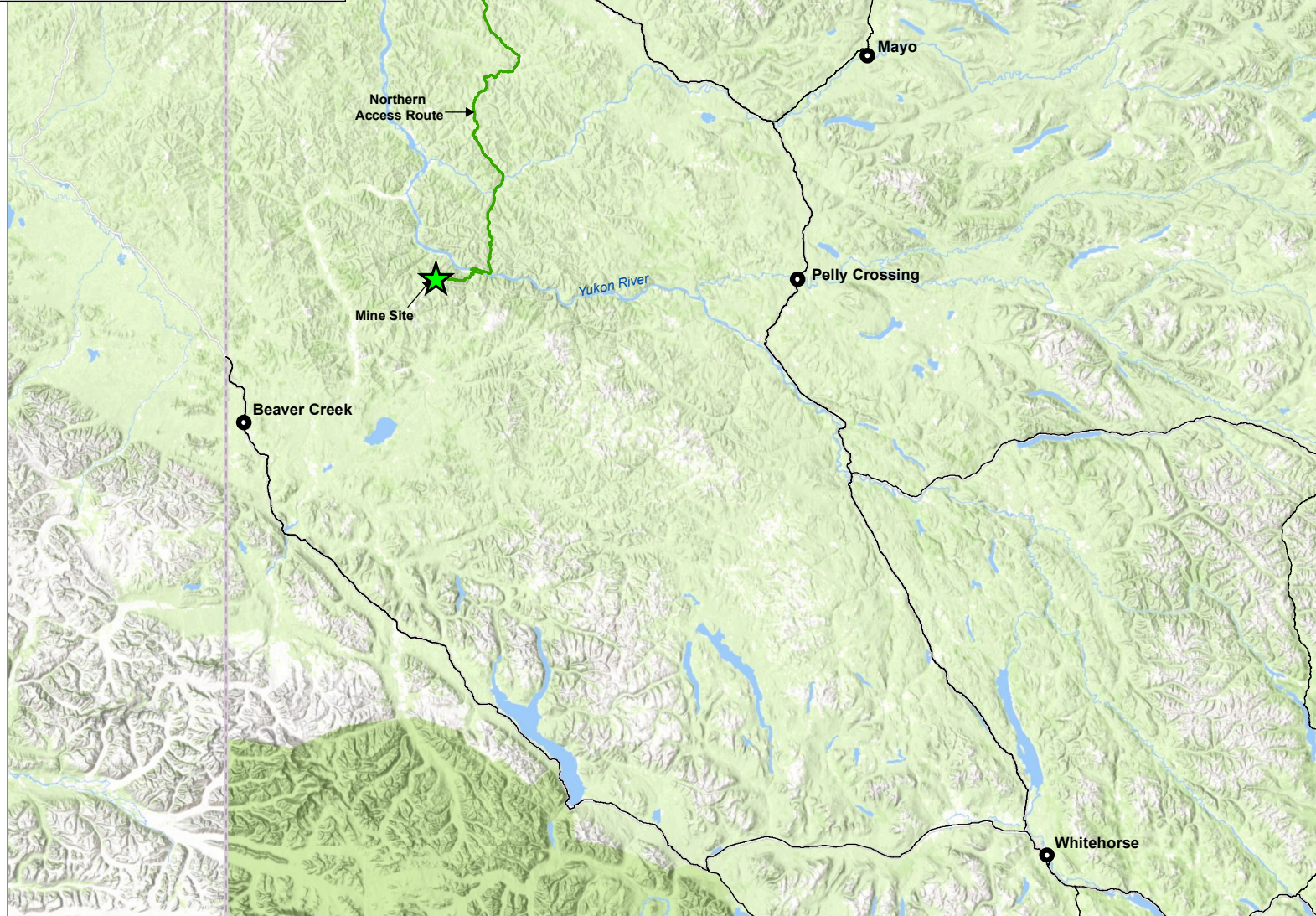
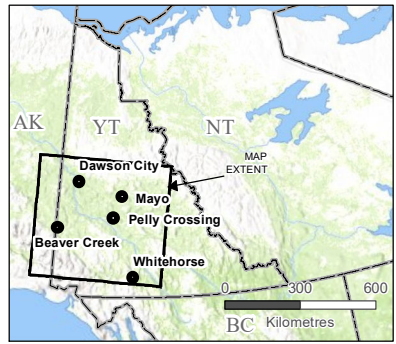


The Project does not overlap with any municipal boundaries; however, the following municipalities and communities are within an LSA that includes one or more of the spatial boundaries delineated for the human environment components:

- City of Dawson (Dawson)
- Community of Beaver Creek
- Community of Pelly Crossing
- Community of Mayo
- Municipality of Whitehorse.

# COFFEE GOLD MINE

## Overview of the Project and Communities

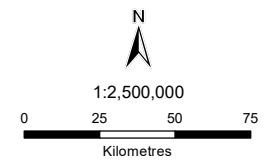


### Legend

- Highway
- ▭ Project Footprint

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



NAD 1983 UTM Zone 7N

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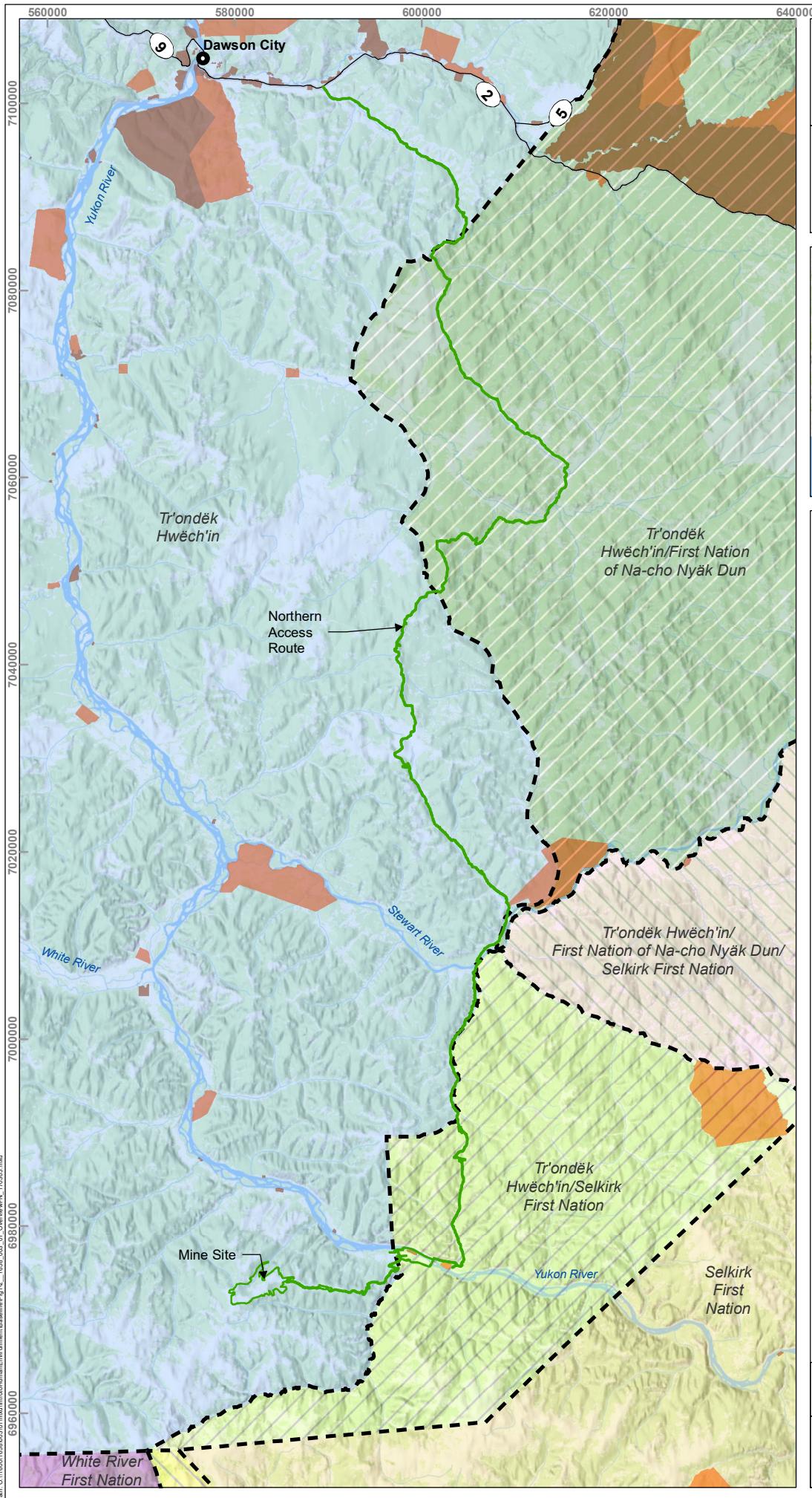
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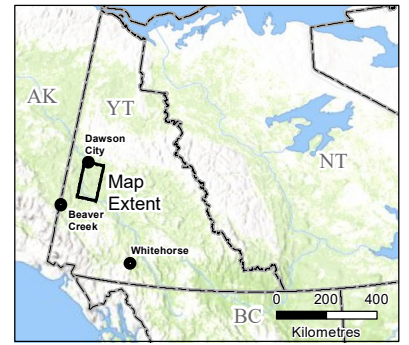
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DP

**GOLDCORP**



COFFEE GOLD MINE

Overview of the Project and First Nation Traditional Territories



Legend

- Highway
  - Watercourse
  - Project Footprint
  - Settlement Lands - Category
  - Settlement Lands - Category B
- Traditional Territories**
- Traditional Territory Boundary
  - Traditional Territory of Selkirk First Nation
  - Traditional Territory of Tr'ondëk
  - Shared Traditional Territory of Tr'ondëk Hwëch'in, First Nation of Na-cho Nyäk Dun
  - Shared Traditional Territory of Tr'ondëk Hwëch'in, First Nation of Na-cho Nyäk Dun, Selkirk First Nation
  - Shared Traditional Territory of Tr'ondëk Hwëch'in, Selkirk First Nation
  - Traditional Territory of White River First Nation
  - Shared Traditional Territory of White River First Nation, Selkirk First Nation

Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. The WRFN traditional territory boundary represented in this Figure represents the recognized WRFN traditional territory under the UFA. This is not the asserted traditional territory that is recognized by WRFN.

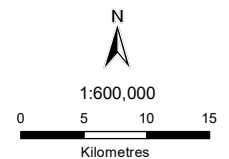


Figure 1-2	Date: Mar 20, 2017	Drawn by: JS	Reviewed: DP
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### 1.1.3 Temporal Boundaries

Baseline data used for this baseline, at a minimum, are from a period spanning from 2005 to present (wherever possible and applicable). Baseline data are intended to support identification of trends and comparison of existing conditions with and without the Project during its Operation phase.

## 1.2 STUDY AREA: PEOPLE AND COMMUNITIES

The following sections provide a brief profile for each community and First Nation considered as part of one or more of the human environment components that fall within the spatial boundaries defined in Section 1.1.1.

### 1.2.1 Yukon

#### 1.2.1.1 Geographic Area

Yukon Territory is Canada's most northwestern territory, and the smallest of Canada's three federal territories. Comprising approximately 483,610 square kilometres (km<sup>2</sup>), Yukon borders Alaska to the west, the Northwest Territories to the east, and British Columbia to the south, with the Beaufort Sea bordering the northern coast (YG n.d.a).

Eight municipalities are located within the territory: Carmacks, Dawson, Faro, Haines Junction, Mayo, Teslin, Watson Lake, and Whitehorse. In addition, there are 17 major communities in Yukon where populations of unorganized areas are assigned to the nearest community. These communities include: Beaver Creek, Burwash Landing, Carcross, Destruction Bay, Faro, Haines Junction, Mayo, Old Crow, Pelly Crossing, Ross River, Tagish, Teslin, Watson Lake, Whitehorse Area, and Other (YBS 2015a). These communities range in size<sup>1</sup>, from Whitehorse Area<sup>2</sup> with the greatest population (n=29,529) and Destruction Bay with the smallest (n=53) (YBS 2016a). It should be noted that Whitehorse's population is significantly higher than the rest of Yukon communities; Dawson is the second largest population centre with 2,202 residents (YBS 2016a).

There are several major highway systems within the territory, including the Alaska Highway (No. 1), Klondike Highway No. 2), Haines Road (No. 3) and the Robert Campbell Highway (No. 4) as well as numerous secondary and tertiary roads. In addition, there are 11 regional airports, including the Erik Nielsen International Airport in Whitehorse, 16 small airports, and seven sea plane bases within Yukon.

Yukon's leading industries are tourism, agriculture, energy, film and sound, fishing, forestry, hunting, trapping, and mining. Commodities being mined include: lead, zinc, silver, tungsten, iron, molybdenum, nickel, coal, gold, and copper (YG 2015a).

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<sup>1</sup> As of the Yukon Bureau of Statistics Population Report September 30, 2016.

<sup>2</sup> Estimates for Whitehorse now include population in surrounding areas as well as in Marsh Lake to remain comparable with the geographical area defined by Statistics Canada as the Whitehorse Census Agglomeration (YBS 2016a).

### **1.2.1.2 History**

First Nation oral traditions describe Yukon as being occupied by First Nation peoples since the arrival of the Crow, a mythological creature credited with creating the world, and setting it into order (Yukon Museum Guide 2013). Archaeologists calculate that the first humans inhabited Yukon more than 10,000 years ago, via the Bering land bridge, from Asia. Today, the Yukon First Nations peoples belong to the Athapaskan or Tlingit language families (CYFN 2016a). The 14 First Nations of Yukon include: Carcross/Tagish First Nation, Champagne and Aishihik First Nation, FNNND, Kluane First Nation, Kwanlin Dün First Nation, Liard First Nation, Little Salmon Carmacks First Nation, , Ross River Dena Council, SFN, Ta'an Kwäch'än Council Teslin Tlingit Council, and Tr'ondëk Hwëch'in Vuntut Gwitchin First Nation and WRFN (Yukon First Nations Tourism Adventures n.d.).

### **1.2.1.3 Self-governing First Nations**

The Umbrella Final Agreement (UFA) was finalized in Yukon in 1990, and is an overall umbrella agreement of the Yukon Land Claims package. While the agreement is not a legal document, it represents a 'political' agreement made between the three parties. The Umbrella Final Agreement contains several main topics from which all of the remaining topics flow. These include land, compensation, self-government, and the establishment of boards and committees and tribunals to ensure the joint management of a number of specific areas (Government of Canada 1993). Ratification of the Umbrella Final Agreement by the Yukon First Nations, through the Council for Yukon Indians, and by Canada and the Yukon, signifies their mutual intention to negotiate Yukon First Nation Final Agreements in accordance with the Umbrella Final Agreement. First Nation Final Agreements have been reached with eleven of the Yukon First Nations to date.

The individual First Nation Final Agreements follow the structure of the UFA, but comprise the actual legal agreements made between the Federal Government, the Government of Yukon, and the individual First Nation, and are often referred to as modern-day-treaties. The Final Agreements designate settlement lands and deal with matters of economy, wildlife, land and resource management, and other matters such as heritage (CYFN 2016b).

Once each First Nation reaches its Final Agreement, it also commits to a Self Government Agreement (SGA), found in Chapter 24 of the UFA. The SGA details the powers, authorities, and responsibilities of the First Nation Government (CYFN 2016c). The SGA includes a funding package to support the delivery of services and programs at the First Nation level to create and enact laws regarding land, citizens, tax, planning, and lands and resources (CYFN 2016c). The three industry sectors that employed most the total and Aboriginal Yukon labour force in 2011 were public administration (28.4 percent (%) and 35.1%), retail trade (10.7% and 7.3%), and construction (9.1% and 10.9%).

Chapter 12 of the UFA necessitates the establishment of a federal assessment process applicable to all lands within Yukon, whether federal, territorial, First Nation, or private. This was achieved in May 2003, when the *Yukon Environmental and Socio-economic Assessment Act* (YESAA) was given Parliamentary Royal Assent, providing federal legislation to guide the assessment process for the territory (YESAA 2015). The remaining four first nations do not have settled land claims, and are each considered to be an Indian Band under the Federal *Indian Act*, RSC 1985, c. I-5.

#### **1.2.1.4 Language**

Yukon is a bilingual territory with two official languages, English and French. Eight Aboriginal languages are spoken in Yukon, of which seven are part of the Athapaskan language group. These seven languages include: Gwich'in, Hän, Kaska, Northern Tutchone, Southern Tutchone, Tagish, and Upper Tanana. The Tlingit Aboriginal language is the eighth Aboriginal language spoken in Yukon, and is spoken primarily in the communities of Carcross and Teslin (YNLC n.d.a).

#### **1.2.1.5 Governance**

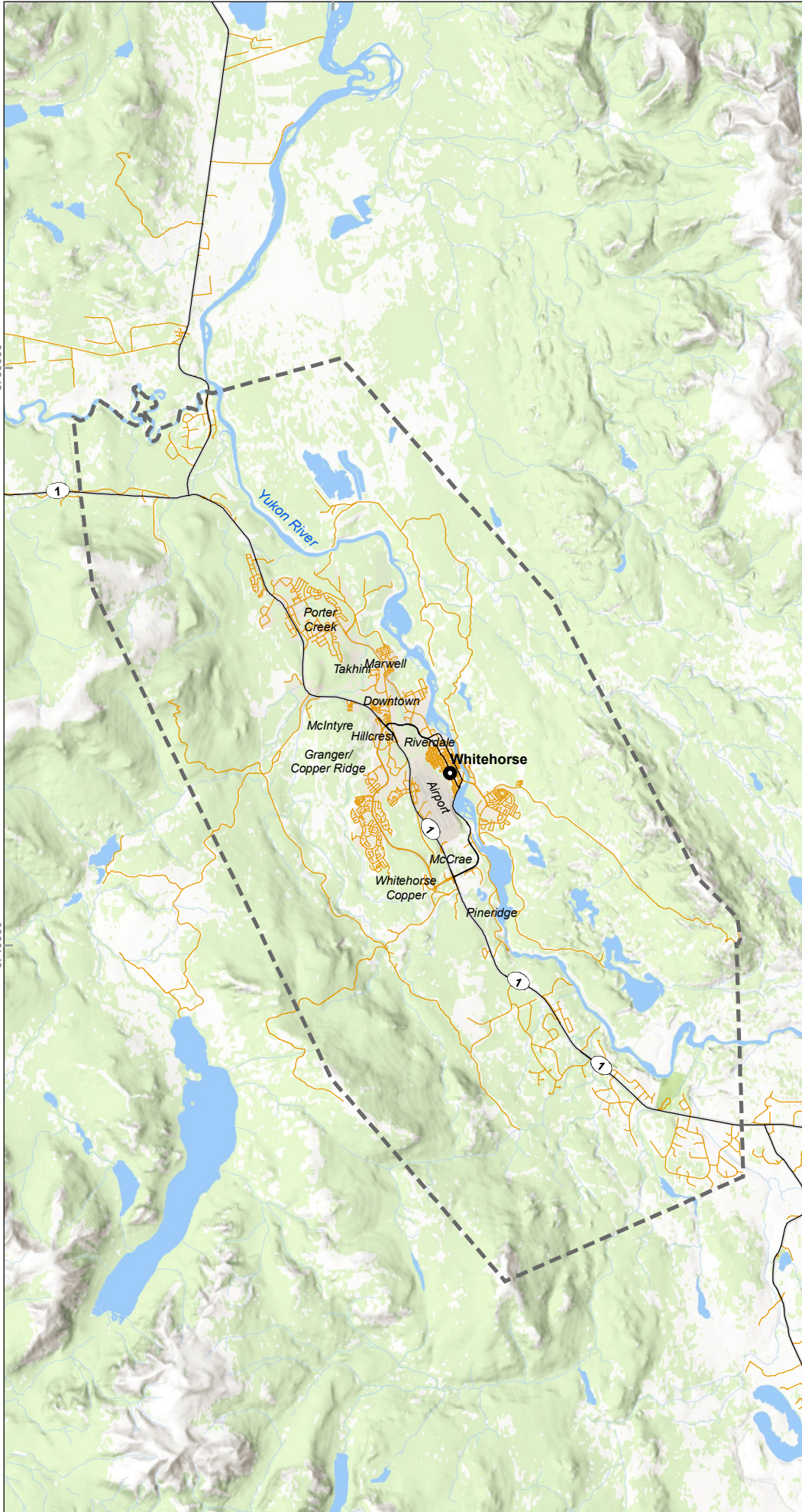
Passed on April 1, 2003, the *Yukon Act*, SC 2002, c. 7, formalized the powers of the Yukon Government and devolved additional powers from the federal government to the Territorial Government. This gave the Yukon Government many of the same powers as Provincial Governments, including responsibility over public lands, water, forestry, mineral resources, and resource management. The role of the Commissioner is analogous to that of a Provincial Lieutenant Governor, and generally acts on the advice of elected officials. At the federal level, the territory is represented in the Parliament of Canada by a single Member of Parliament and one senator. The government includes one Premier and eight cabinet members (YG 2016a). Yukon elections are held every three to five years, with the most recent election held in October 2016 (Elections Yukon n.d.).

### **1.2.2 The City of Whitehorse**

#### **1.2.2.1 Geographic Area**

The City of Whitehorse (Whitehorse) is the capital of Yukon and the largest city in northern Canada. Comprising approximately 41,900 hectares (ha), Whitehorse is in southern Yukon along the shores of the Yukon River, at Km 1,425 along the Alaska Highway (Yukon Community Profiles 2014a; City of Whitehorse 2010) (**Figure 1-3**). The city is recognized for its broad valleys and large lakes, and is situated amongst Grey Mountain to the east, Haeckel Hill to the northwest, and Golden Horn Mountain to the south (Yukon Community Profiles 2014a). Road access options include the Alaska Highway (No. 1), and the Klondike Highway (No. 2). The Erik Nielsen Whitehorse International Airport serves as a hub for both passenger and cargo transport.

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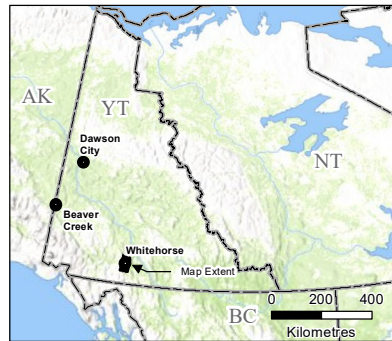


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# COFFEE GOLD MINE

## City of Whitehorse

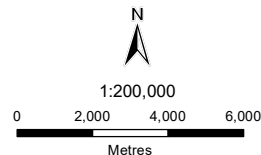


### Legend

- Highway
- Local Road
- ▬ Municipal Boundary

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



NAD 1983 BC Environment Albers

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Figure 1-3

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Mar 20, 2017

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### **1.2.2.2 History**

Historically, the Whitehorse region was used by First Nations as a place for meeting and food gathering. During the Klondike gold rush, Whitehorse became a transportation hub and gateway to Yukon and Alaska (YG n.d.b.). Whitehorse is named after the historic rapids of the Yukon River, which resembled the flowing manes of charging white horses. With the creation of the hydroelectric dam in Whitehorse in 1958, these manes have since disappeared but their legacy lives on (Hougen Group n.d.). As a result of the Klondike gold rush, a tramway was built in 1897 to cross the river, resulting in the establishment of a tent town on the east bank of the Yukon River called Canyon City. In 1900, Whitehorse became even more popular due to the construction of the White Pass and Yukon Route railway, which made the city accessible by rail (Yukoninfo n.d.).

The construction of the Alaska Highway between 1942 and 1943 was a significant turning point in Yukon's history. Although the highway was intended to protect against Japanese invasion, the access it provided to Whitehorse spurred on positive population and economic growth (Alaska Highway Archives n.d.). Prior to the spring of 1942, the population of Whitehorse was approximately 400 people, growing to approximately 20,000 people in a matter of months, and up to 40,000 in 1943 (Alaska Highway Archives n.d.). These numbers were mainly made up of American troops stationed in the region and construction workers building the highway. The construction of the Alaska Highway not only made Whitehorse more connected to the rest of the world; it also facilitated a network of connecting roads and supporting infrastructure to strengthen the mining and tourism industry (Alaska Highway Archives n.d.).

Whitehorse was incorporated as a City in 1950, and in 1953, the capital of Yukon was transferred from Dawson to Whitehorse (Yukoninfo n.d.).

As of September 2016, Whitehorse Area had a population of 29,529 people (YBS 2016a). The city's major industries are based in tourism, mining, government, agriculture and business-oriented services (YG n.d.b). Whitehorse also still acts as a major transportation hub for Northern Canada and Alaska.

### **1.2.2.3 Language**

English is the predominant language spoken in Whitehorse, with 84.3% identifying it as their mother tongue in 2011. Yukon's other official language, French, was considered by 4.6% of the Whitehorse population to be their mother tongue in 2011. Approximately 9.7% of Whitehorse residents identified that they considered a non-official language to be their mother tongue; the three most common non-official languages spoken in Whitehorse in 2011 were German (2.3%), Tagalog (Pilipino, Filipino) (1.6%), and Spanish (0.6%) (Statistics Canada 2012a).



#### **1.2.2.4 Governance**

Whitehorse is governed by an elected Council consisting of one Mayor and six Councillors. The City of Whitehorse is organized into three predominant divisions, which are then divided into several departments. The three major divisions include: Community and Recreation Services, Development Services, and Infrastructure and Operations. Smaller departments comprise each of these major divisions, and include such departments as Bylaw Services, Economic Development, and Operations (City of Whitehorse n.d.a). The Yukon Government headquarters, the Council of Yukon First Nations, and several Federal Government offices are centred in Whitehorse (YG n.d.a.).

The Member of the Legislative Assembly for the Whitehorse Centre Electoral District is Liz Hanson (New Democratic Party), who was elected to the Yukon Legislative Assembly in a by-election in December 2010, and re-elected in October 2011 and again on November 7, 2016 (Yukon Legislative Assembly 2016).

The Member of the Legislative Assembly for the Whitehorse West Electoral District is Hon. Richard Mostyn (Yukon Liberal Party), who was elected to the Yukon Legislative Assembly on November 7, 2016 (Yukon Legislative Assembly 2016).

### **1.2.3 The City of Dawson**

#### **1.2.3.1 Geographic Area**

Dawson is in west-central Yukon along the shores of the Yukon River, approximately 525 km north-west of Whitehorse (**Figure 1-3**). Accessible by road, air, and river, Dawson can be accessed year-around by a variety of transportation options. Road route options include the Klondike Highway (No. 2) from Yukon, and seasonal access from Alaska via the Top of the World Highway (No. 9). Prior to the establishment of highways, the Yukon River acted as the principal means of transportation. Located downstream of Whitehorse along the Yukon River, the river continues to function as an integral travel corridor. Located approximately 214 km north of the Project by road, Dawson is the closest municipal centre to the Project. Dawson is also accessible via the Dawson Airport, where most arriving flights come from Whitehorse; however, direct flights are also available from Old Crow and Inuvik (City of Dawson 2016a).

#### **1.2.3.2 History**

The Hän have inhabited the region now considered as Dawson, along the Yukon River for millennia (Tr'ondëk Hwëch'in n.d.a.). Different reports note the Hän population, ranging between 100 and 250 people, settled along the Yukon and Klondike Rivers in 1896 (Willis 1997). The Hän relied heavily on the Yukon and Klondike Rivers for annual catches of salmon, grayling and whitefish for their main food source. The Hän people were also dependent on moose and caribou populations reported to have been abundant throughout the Klondike Valley. When miners began to occupy the Dawson region, the Hän began hunting for economic purposes, selling most of the meat to miners (Willis 1997).

Named after the Canadian geologist, George Dawson, Dawson was officially established as a result of the Klondike Gold Rush at the turn of the twentieth century. Dawson originated in 1896, when gold was discovered at Bonanza Creek, where the Yukon and Klondike Rivers meet (Spotswood 2013). Two years after its establishment in 1898, Dawson was the largest city west of Winnipeg, fluctuating between 30,000 to 40,000 people (Oosterom 2016). It is estimated that between 1896 and 1899, 100,000 people migrated to the Dawson region to take advantage of the Klondike gold rush. Many of these new inhabitants were unemployed Americans escaping the Panic of 1893, an economic depression that swept through the United States labour force (Oosterom 2016).

By 1899, Dawson had electricity, telephone lines, and a significant span of commercial enterprises; however, it wasn't until 1902 that Dawson was incorporated as a town, when it met the criteria for city status under the municipal act at the time.

Favourable twenty-first century gold prices, as well as a growth in the tourism sector have encouraged development in Dawson (Spotswood 2013). Furthermore, Dawson is recognized as a culturally diverse city, famed for its arts and culture scene, as well its rich First Nation heritage (Spotswood 2013). Today, mining and tourism are the two main industries that support the local economy (Yukon Community Profiles 2014a).

### **1.2.3.3 Language**

Tr'ondëk Hwëch'in is based in Dawson and its citizens are decedents of the Hän-speaking people. Per the 2011 Census, of the 430<sup>3</sup> individuals who comprised the Aboriginal identity population in Dawson, approximately 7% had knowledge of an Aboriginal language and 4.7% spoke an Aboriginal language most often at home (see **Section 3.4.2** for a full discussion of language).

### **1.2.3.4 Governance**

The City of Dawson is governed by an elected Mayor and Council, chosen through a general election held every three years. The City of Dawson also has several committees and boards, including the Committee of the Whole, the Recreation Board, and the Heritage Advisory Committee (City of Dawson 2016b).

The Member of the Legislative Assembly for the Klondike Electoral District is Hon. Sandy Silver (Yukon Liberal Party), who was elected to the Yukon Legislative Assembly in October 2011 and re-elected on November 7, 2016 (Yukon Legislative Assembly 2016), in which election he also became Premier.

## **1.2.4 Tr'ondëk Hwëch'in**

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<sup>3</sup> In the 2011 Aboriginal National Household Survey, 430 was the "total Aboriginal identity population in private households by knowledge of official languages".

#### **1.2.4.1 Traditional Territory**

Over time, early people in the region developed a unique social group identity, becoming a People, a nation with a distinctive language, culture, traditions, customs, values and beliefs – all tied to what we now call a Traditional Territory (Tr'ondëk Hwëch'in 2012a, p. 7).

Centred in the west-central Yukon community of the City of Dawson, TH citizens have descended from Aboriginal groups who lived along the Yukon River in the Klondike region since time immemorial. More specifically, this First Nation includes the Hän, Gwich'in and Northern Tutchone language groups (Tr'ondëk Hwëch'in n.d.a.).

Tr'ondëk Hwëch'in Traditional Territory extends from the southern border of the Ni'iniinlii Njik (Fishing Branch) Territorial Park in the north, to the Dawson Range Mountains south of the Yukon River, to the Yukon–Alaska border to the west, and to the Clear Creek–McQuesten area to east. The TH Traditional Territory also includes the Tombstone mountain range and the Tombstone Territorial Park.

Spanning approximately 35,466 square miles (sq. mi.) across mid-Northern Yukon, TH's established Traditional Territory includes approximately 1,000 sq. mi. of settlement lands (Tr'ondëk Hwëch'in 2014). The diverse and rich landscape that characterizes the TH language, culture, and way of life also characterizes the TH Traditional Territory.

#### **1.2.4.2 Ethnography**

Over the past 150 to 200 years, the TH have experienced considerable social, economic, and cultural change because of such historic events as the fur trade, missionaries, and the gold rush amongst other influences (Mishler and Simeone 2004).

European and missionary presence in the region between the eighteenth and nineteenth century altered TH traditional networks in a variety of ways. The newcomers' arrival initially facilitated opportunity in the form of increased trade and the arrival of western goods, as well as introducing western economic practices (Willis 1997). In 1880, gold was discovered in the Ch'édäh Dëk region (also known as Fortymile River), which was an integral area for caribou interception and grayling fishing (Willis 1997). In 1896, more gold was found in TH territory, in the Yukon and Klondike Rivers, which had been traditionally used for hundreds of years due to the significant salmon stocks (Willis 1997).

Shortly after the gold discovery in the Yukon and Klondike Rivers, Hän leader Chief Isaac realized the impact that newcomers would have on TH's traditional lifestyle. This resulted in an effort between TH, the Government of Canada, and the Anglican Church to formally move the people of TH from the Dawson region to Moosehide, approximately 5 km downriver. In the 1950s TH people began to move back to Dawson, where they remain an important part of the community (First Voices 2013).

### **1.2.4.3 Language**

The Hän language is the traditional language of TH, who speak their own dialect of Hän, known as the Moosehide dialect (CYFN 2016a). The importance of waterways and rivers to the TH and their ancestors is represented in their language, as 'Hän' translates to 'river', and the Hän Gwich'in dialect means 'River People' (Mishler and Simeone 2004). The word 'Klondike' was derived from the Hän word 'Tr'ondëk' which means 'grassy banks river' or 'water flowing through grass' (Mishler and Simeone 2004).

When the TH people moved to Moosehide during the gold rush, Chief Isaac recognized the importance of preserving their traditional culture, and especially the Hän language. Chief Isaac took the Hän language and supporting songs and dances across the border to relatives in Mansfield, Alaska for preservation, only to be returned when the TH people were ready (First Voices 2013). In recent years, younger TH generations have been trying to reclaim their native Hän language and culture, a trend that is represented in the slow recovering of traditional language, songs, and dances that have resurfaced from the Alaskan border (Yukon Native Language Centre 2012).

Per the 2011 Census, of the 430<sup>4</sup> individuals who comprised the Aboriginal identity population in Dawson, approximately 7% had knowledge of an Aboriginal language and 4.7% spoke an Aboriginal language most often at home (see **Section 3.4** for a full discussion of language).

### **1.2.4.4 Governance**

Tr'ondëk Hwëch'in land claim negotiations began in 1991; the SGA was signed in July 1997, and in July 1998, the Final Agreement was signed. The SGA provides TH with the rights and benefits to self-govern, negotiate, and assert Aboriginal rights, titles, and interests (Tr'ondëk Hwëch'in Final Agreement 1998). The Final Agreement asserts Aboriginal rights, titles, and interests with respect to TH's Traditional Territory while securing a prosperous future for TH citizens, ensuring traditional knowledge and connections to the land are upheld and respected (Tr'ondëk Hwëch'in Final Agreement 1998).

Tr'ondëk Hwëch'in is governed by an elected Chief and Council, and ex-officio representatives appointed by the Elders' and Youth Councils (Tr'ondëk Hwëch'in n.d.a.). Tr'ondëk Hwëch'in governance is further supported by an Elders' Council (consisting of TH citizens aged 55 or greater) and the General Assembly (an annual gathering of voting-aged citizens) who work to guide and approve Chief and Council (Tr'ondëk Hwëch'in n.d.a.). As a self-governing First Nation, TH oversees all its government departments, including: Administration; Finance and Capital; Health and Social; Heritage; Human Resources and Post-Secondary Education; Implementation; Natural Resources; Tr'inke Zho Childcare Centre; Kindergarten to Grade 12 Education; Housing, and Infrastructure (Tr'ondëk Hwëch'in n.d.a.).

### **1.2.5 Selkirk First Nation**

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<sup>4</sup> In the 2011 Aboriginal National Household Survey, 430 was the "total Aboriginal identity population in private households by knowledge of official languages".

### **1.2.5.1 Traditional Territory**

Although the modern world has made its footprint in our lives, we still rely heavily on the land for survival... Since the beginning of time, our people have used our land for healing, nurturing and guidance. Our footsteps today still walk alongside our ancestors in practicing our traditional lifestyles and will continue for generations to come (SFN 2016a).

Selkirk First Nation originally settled in Fort Selkirk, a trading post used during summer months for fish camps (SFN 2016a). Subsequently, SFN re-located to Minto after the construction of the Klondike Highway brought increased development and activity. Shortly after this, SFN permanently settled in Pelly Crossing approximately 285 km northwest of Whitehorse in central Yukon (SFN 2016a).

The Traditional Territory of the SFN extends north of Tatchun Lake to Stewart Crossing, and spanning from Wellesley Lake to the headwaters of the Macmillan River (Fred n.d.a). Through their Final Agreement Selkirk First Nation owns Settlement Land, including approximately 2,408.69 km<sup>2</sup> of Category A Land, 2,330.99 km<sup>2</sup> of Category B Land, and 6.79 km<sup>2</sup> of land allocated as per Section 4.3.4 of the Final Agreement (Fred, n.d.a). Category A lands are lands for which First Nations ownership includes both the surface and sub-surface, including mines and minerals. Category B lands are lands for which First Nations hold surface rights only, and subsurface rights are held by Yukon Government. They have also created three Special Management Areas through their Final Agreement, which include: the Ddhaw Ghro Habitat Protection Area, Lhutsaw Wetland Habitat Protection Area, and Ta'tla Mun Special Management Area (Fred n.d.a). These Special Management Areas value natural, cultural, and recreational considerations, and therefore restrict development.

### **1.2.5.2 Ethnography**

The Selkirk people were once known as the Hu'cha Hudän people, meaning 'flatland people' in their traditional language (SFN 2016a). This name reflects the Fort Selkirk landscape, which was flat on either side of the Yukon River (SFN 2016a). Today, the Selkirk citizenship accounts for 671 people, with 40% living in Pelly Crossing and the remaining 60% living across Canada, as well as within the Yukon (SFN 2016a).

The SFN people are part of the Northern Tutchone cultural group (Fred, n.d.a). Today, SFN comprises the two clans that include the Northern Tutchone clan system; *Egay*, the Wolf Clan, and *Ts'ek'l*, the Crow Clan (Fred, n.d.a). Membership to a clan is matrilineally determined, and is maintained for life (SFN 2016a). The clan system reflects who SFN are as a people, as well as their relations with other families and the environment (SFN 2016a). Each clan has rights to their stories, songs, crests, regalia, objects, and art, which cannot be used by other clans (YESNet 2013).

### **1.2.5.3 Language**

The traditional language of SFN is Northern Tutchone, which is a part of the Athapaskan language group. The Northern Tutchone language and cultural grouping are closely connected with neighbouring groups, such as the First Nation of Na-cho Nyäk Dun in Mayo and the Little Salmon / Carmacks First Nation in Carmacks (CYFN 2016d). The groups are collectively known as the Northern Tutchone Tribal Council (CYFN 2016e).

As described in a 2013 report, revitalizing the traditional Northern Tutchone language is a key component of the Nation's current traditional land and resource use, a result of the intrinsic connection shared between their language and to their Traditional Territory (KCB 2013). Improving the fluency of citizens in Northern Tutchone was identified in this 2013 report as being a communal objective (KCB 2013).

### **1.2.5.4 Governance**

Selkirk First Nation is governed by its Traditional Land and Constitution. Since the beginning of time the Selkirk people have practised their Traditional Law, *Dän Ki*, which reflects "The First Nation Way", evolving over thousands of years (SFN 2016a). *Dän Ki* is guided by four major principals: caring, sharing, respect, and teaching (SFN 2016a). *Dän Ki* is intrinsically linked to *Doòli*, the ancient way of living in harmony with the natural and spiritual world as well as using the land to develop a rich history, culture, and traditions (SFN 2016a). *Doòli* provides guidance for how people should behave in their individual lives to bring balance and harmony to the people and environment around them (SFN 2016a).

Selkirk First Nation signed the Self-Government Agreement in July 1997, followed by the SFN Final Agreement in 1998. The Self-Government Agreement provides SFN with the rights and benefits to self-govern, negotiate, and assert Aboriginal rights, titles, and interests (Selkirk First Nation Self-Government Agreement 1997). A Final Agreement asserts Aboriginal rights, titles, and interests with respect to SFN's Traditional Territory while securing a prosperous future for SFN citizens, ensuring traditional knowledge and connections to the land are upheld and respected (Selkirk First Nation Final Agreement 1998). The SFN government has an elected Chief and Council, with Councillors elected to represent both of SFN's clans, the Wolf and Crow (CYFN 2016e).

Selkirk First Nation governing institutions include the Chief and Council (Council), Elders Council, Family Heads, and the General Assembly. Several internal, local, and regional committees and boards play an important role in supporting SFN's initiatives and objectives; these include the Citizenship and Finance Committees (SFN 2016a).

## **1.2.6 First Nation of Na-cho Nyäk Dun**

### **1.2.6.1 Traditional Territory**

In early times, the ancestors of the First Nation of Na-Cho Nyäk Dun lived off the land, using the rich supply of game animals, fish, birds, and numerous plants for food and for medicinal purposes. Their lifestyle required traveling throughout the First Nation's Traditional Territory at various times of the year, for hunting, fishing, and gathering food to survive (FNNND 2016a).

Today, FNNND is centred in the community of Mayo, in central Yukon. (The Taiga Plains, Taiga Cordillera, and Boreal Cordillera are some of the features that characterize FNNND Traditional Territory. Encompassing approximately 162,456 km<sup>2</sup>, FNNND Traditional Territory includes approximately 131,599 km<sup>2</sup> in Yukon and approximately 30,857 km<sup>2</sup> in the Northwest Territories (FNNND 2008a). Under the FNNND land claims agreement, the First Nation was allocated 739.68 km<sup>2</sup> of settlement lands in Yukon (FNNND 2016a).

The Final Agreement established two Special Management Areas, the Ddhaw Ghro Habitat Protection Area and Horseshoe Slough Habitat Protection Area (Fred n.d.b). The Final Agreement also recognized Lansing townsite, located upstream from Mayo on the Stewart River, as a historic site under the *Historic Resources Act*. First Nation of Na'cho Nyäk Dun currently has an un-settled claim with the Government of the Northwest Territories, and is involved in discussion with the Federal Government regarding transboundary negotiations (Fred n.d.b).

### **1.2.6.2 Ethnography**

Citizens of FNNND report that they have been using the area around Mayo since time immemorial (FNNND 2008a). Travelling across their territory hunting, fishing and gathering food, FNNND were nomadic people who moved across the landscape according to the seasonal round.

With a membership of 602 people, FNNND citizens today share Northern Tutchone ancestry, as well as Gwich'in ancestry from the north, and Dene ancestry from the east (CYFN 2016d). The FNNND is the most northern First Nation within the Tutchone language and culture group (CYFN 2016d; FNNND 2016a). As part of this group, FNNND remains closely affiliated with SFN and the Little Salmon / Carmacks First Nation. Together, FNNND and these two First Nations comprise the Northern Tutchone Tribal Council (CYFN 2016e; FNNND 2016a). The objective of the Northern Tutchone Council is to work collaboratively to address shared issues and achieve shared objectives.

### **1.2.6.3 Language**

The FNNND are Northern Tutchone-speaking people. Translated from their traditional language, 'Na Cho Nyäk' means 'Big River' and is the Northern Tutchone name for the Stewart River (FNNND 2016a).

Revitalizing and preserving the Northern Tutchone language is a FNNND priority (DPRA Canada 2010). The FNNND has established several community initiatives to promote and teach the language, including programs in the school, daycare, FNNND Government House, and community (DPRA Canada 2010).

### **1.2.6.4 Governance**

The FNNND Final Agreement and Self-Government Agreement came into effect on February 14, 1995 (FNNND 2008a). The governance structure of the FNNND is composed of an elected body, including a Chief, Deputy Chief, four Councillors at large, a Youth Councillor and an Elder's Councillor (FNNND 2016b). The form of government practised by the FNNND is a Participatory Democracy, thus facilitating a high level of accountability to citizens (FNNND 2008a). Further, through the FNNND General Assembly held each year, the Chief and Council report to FNNND citizens. This provides an annual opportunity for citizens to provide direction to their leadership and engage with the Administration (FNNND 2008a).

## **1.2.7 White River First Nation**

### **1.2.7.1 Traditional Territory**

...there is limited development within the WRFN Traditional Territory in comparison to other areas of the Yukon (YESAB 2012).

Today, the WRFN is centred in Canada's most western border town of Beaver Creek, along the Alaskan Highway. Beaver Creek was originally a surveying camp and served as a Canada Customs post in the 1950s. Beaver Creek, however, was the relocation site for the WRFN people who were relocated from Snag and Scotties Creek after construction of the Alaska Highway (Fred n.d.c).

White River First Nation does not have settled land claims, and is an Indian Band under the *Federal Indian Act*, RSC 1985, c. I-5. White River First Nation Traditional Territory, as recognized by the UFA, does not align with the area that the WRFN asserts. This baseline report uses the WRFN's asserted Traditional Territory with respect to delineating spatial boundaries, though the UFA-recognized Traditional Territory appears on figures. The WRFN's asserted territory consists of 1.3 million ha of land, spanning from the southern tip of Kluane Lake, northwesterly to the Canada-Alaska border (Calliou Group 2012a). White River First Nation's asserted territory includes the drainages of the Donkej and White Rivers, as well as Mount Logan (Calliou Group 2012a).



### **1.2.7.2 Ethnography**

Traditionally, the WRFN people moved around their territory seasonally, hunting, fishing, and trapping. The people of White River also had access to an abundant supply of copper located in streams near the headwaters (YG 2014a). White River First Nation utilized the copper to create spear points, arrowheads, tools, and ornaments (YG 2014a). Their hand-crafted items and raw copper nuggets were traded with other First Nation groups within the Yukon interior, who in turn engineered their own items (YG 2014a).

White River First Nation has experienced many changes over the past 75 years. For administrative purposes, the Canadian Government merged the Upper Tanana and Northern Tutchone language groups into a single White River Indian Band in the 1950s. By 1961, the White River Band was amalgamated with the members of the Burwash Band on Kluane Lake, forming the Kluane Band. In 1990, the Kluane Tribal Council split the membership into the Kluane First Nation (centred in Burwash) and the White River First Nation (centred in Beaver Creek) (WRFN n.d.a.). White River First Nation currently includes the Upper Tanana people of Alaska and the Northern Tutchone people that reside south easterly in Yukon Territory (WRFN n.d.a.).

### **1.2.7.3 Language**

White River First Nation is affiliated with both the Upper Tanana people of Alaska and the Northern Tutchone people to the south and east, and are a part of the Athabaskan language family of the Upper Tanana (WRFN n.d.a.). Both the Upper Tanana and Northern Tutchone Aboriginal languages are spoken by the WRFN members (YNLC n.d.b, n.d.c).

### **1.2.7.4 Governance**

In 2002, a Memorandum of Understanding was signed between Canada, Yukon, and the WRFN, which noted the end of the tripartite negotiation; however, the WRFN did not ratify the negotiated agreements and there have been no ongoing negotiations. In December 2014, the WRFN and the Government of Yukon initiated preliminary negotiations with the intent of reaching a Reconciliation Agreement. The implementation of a Reconciliation Agreement enables a process whereby the WRFN and the Government of Yukon can resolve various land use, cultural, and traditional issues that have long plagued their relationship (YG 2014b).

Under the *Indian Act*, the WRFN is administered as an Indian Band (Band No. 506). White River First Nation is governed by an elected Chief, Deputy Chief, and three Councillors (WRFN n.d.b, Fred n.d.b).

## **2.0 METHODOLOGY**

### **2.1 KEY-INFORMANT INTERVIEWS**

Semi-structured information interviews were conducted with representatives and key informants from government departments, various agencies, and organizations to enhance the understanding of and to confirm desktop research findings.

At the beginning of each interview a Project Information and Informed Consent Form (the 'form') was reviewed between the researcher(s) and interview participant(s) (**Appendix A**). Following this review, both the researcher(s) and interview participant(s) were asked to sign to acknowledge that both parties understood the purpose and process of the work being conducted. Further, interview participant(s) indicated on the form whether they wanted to be acknowledged or participate anonymously. Although interview participants may have chosen to participate anonymously, the consent form indicates that the organization or business that they represent may still be identified. A copy of the form was scanned and sent by email to interview participant(s) for their records.

For quality assurance and quality control, interview participants were asked if they wanted to review their interview summary prior to their interview summary being used for analysis. All revisions received by interview participants were incorporated into the respective interview summary used for analysis.

Interviews varied in length from approximately 30 minutes to one and a half hours in length, depending on the size of the group being interviewed, the availability of the interview participant(s), and the amount of information that they wanted to share. All interviews were conducted in English, and data were collected through hand-written notes as well as maps that could be marked up by participants.

In total, 33 key informant interviews were conducted either in-person or over the phone, as summarized in **Table 2-1**.

**Table 2-1 Summary of Human Environment Key Informant Interviews<sup>5</sup>**

No.	Agency / Organization	Date of Interview	Method of Contact
1	Canada Prenatal Nutrition Program, Dawson	February 9, 2016	In-person Interview
2	City of Dawson Chamber of Commerce	February 11, 2016	In-person Interview
3	City of Dawson Community Development and Planning	February 9, 2016	In-person Interview
4	City of Dawson Public Works and Fire Protection Services	February 8, 2016	In-person Interview
5	Coldwell Banker Redwood Realty	February 17, 2016	Phone Interview
6	Conservation Klondike Society	February 10, 2016	In-person Interview
7	Dawson City Community Hospital	February 8, 2016	In-person Interview
8	Dawson City Royal Canadian Mounted Police (RCMP)	March 2, 2016	In-person Interview
9	Dawson Conservation Officer	February 12, 2016	In-person Interview
10	Dawson Search and Rescue, and the Canadian Rangers	February 11, 2016	Phone Interview
11	Dawson's Women Shelter	February 9, 2016	Phone Interview
12	Klondike Development Organization	February 23, 2016	Phone Interview
		March 4, 2016	Phone Interview
13	Klondike Institute of Art and Culture	February 10, 2016	In-person Interview
14	Klondike Outreach	March 1, 2016	In-person Interview
15	Klondike Visitors Association	March 2, 2016	In-person Interview
16	Tr'ondëk Hwëch'in Education and Training	March 2, 2016	In-person Interview
17	Tr'ondëk Hwëch'in Education Department and Robert Service School	February 11, 2016	In-person Interview
18	Tr'ondëk Hwëch'in Health and Social Department	February 9, 2016	In-person Interview
19	Tr'ondëk Hwëch'in Heritage Department	February 10, 2016	In-person Interview
		March 1, 2016	In-person Interview
		March 9, 2016	Phone Interview
20	Tr'ondëk Hwëch'in Housing	February 9, 2016	In-person Interview
21	Tr'ondëk Hwëch'in Lands and Resources Branch of the Natural Resources Department	February 12, 2016	In-person Interview
22	Trapline Concession Holders <sup>6</sup>	February 10, 2016	In-person Interview
		February 11, 2016	In-person Interview
		February 29, 2016	In-person Interview
23	Yukon College	February 8, 2016	In-person Interview
24	Yukon Emergency Medical Services	January 13, 2016	In-person Interview
25	Yukon River Quest	March 23, 2016	Phone Interview
26	Yukon Wide Adventures	March 22, 2016	Phone Interview
27	Yukon Women's Transition Housing	December 16, 2015	In-person Interview
28	Yukon Workers' Compensation Health and Safety Board	December 22, 2015	In-person Interview

<sup>5</sup> Additional consultation and engagement did occur in addition to the interviews listed in **Table 2-1**; however, these are recorded as personal communications.

<sup>6</sup> Interviews were held with the holders of Trapline Concession #58, #15 and #54. In addition to these three Registered Trapping Concession (RTC) holders, the authors did talk with a fourth RTC holder, but no interview was conducted; thus this engagement event is not recorded in this table.

## **2.2 FOCUS GROUPS**

All focus groups followed a semi-structure group interview format, and were scheduled to be approximately two hours in length. There were three focus group events: a local business focus group; a road users focus group and a traditional foods and economy focus group. Focus groups were facilitated by a lead researcher and supported by up to two other researchers. Supporting researchers took notes by computer or on a flip chart during the focus group session.

At each focus group, attendees received their own copy of the focus group presentation, in addition to a pen and feedback form. Project information was available for anyone seeking additional information.

## **2.3 SURVEYS**

Surveys were used to gather detailed information from large groups of people. All surveys were made available in paper and digital format, and were conducted anonymously. Paper format surveys were available upon request from the study team and mailed to those individuals with no email address available. Digital surveys were hosted through the secure online research website, Simple Survey ([www.simplesurvey.com](http://www.simplesurvey.com)). Further detail on each survey is provided in the applicable human environment component of this report.

## **2.4 TR'ONDĚK HWĚCH'IN – COFFEE PROJECT RESEARCH SUPPORT**

Through funding agreements with the Proponent, TH hired three Project-specific support staff. These were a Community Liaison Officer; a Health, Social, and Heritage Analyst; and, a Lands, Resources, and Heritage Analyst. These individuals supported the research, consultation, and engagement with respect to many different aspects of the Project proposal.

The Community Liaison Officer and Analysts supported primary data collection activities by:

- Providing secondary data sources
- Assisting in the communication of study activities (i.e., promoting primary data collection activities and events, acting as a local point of contact for TH citizens, etc.)
- Collecting primary data directly through interviews and meetings
- Contributing to the development of primary data materials (i.e., the Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey).

Supporting primary data collection events (i.e., the Tr'ondëk Hwëch'in Traditional Foods and Traditional Foods focus group, interviews).

## **2.5 PRIMARY DATA CONTRIBUTORS**

Individuals, businesses, and organizations were contacted to contribute primary data activities conducted as part of the human environment baseline studies. When potential contributors responded to the initial contact made by study researchers, a maximum of three attempts were made to return contact with the potential contributor. If there was no response after three attempts to contact the party, the research team ceased further efforts to reach parties.

## **2.6 DATA LIMITATIONS AND CONSIDERATIONS**

The following data limitations typically associated with socio-economic data in rural, remote, and northern regions are described in the following section for context. In addition, each section in this baseline report presents a detailed discussion on data limitations and considerations with respect to each component.

### **2.6.1 Statistical Data**

#### ***2.6.1.1 Statistics Canada Census Program***

Statistical data are provided by the Statistics Canada Census Program. Population and demographics were provided in the 2016 Census Profiles while housing, mobility and migration, education, labour, and income were provided in the 2011 National Household Survey (NHS). In previous Census years (e.g., 2001 and 2006), statistical data for the aforementioned topics were provided in the Census Profiles.

Census data were collected in 2016 and scheduled for release in stages over 2017. As of the time this report was written, only the 2016 data on population size and dwellings were available. Data on changes to age and gender were scheduled for release later in 2017, and as such were unavailable for inclusion in this report.

The NHS was a new data product, which was implemented during the 2011 Census cycle. A voluntary survey replaced the former mandatory long-form Census (Statistics Canada 2011a). The NHS achieved a national response rate of 69%, compared to 97% for the 2011 Census (Statistics Canada 2015a). Population and other statistical data may vary between the NHS and 2011 Census as the NHS does not include Canadian citizens and landed immigrants living outside the country (Statistics Canada 2015a). Moreover, the NHS estimates are subject to sampling error as they were derived from a sample survey (i.e., only part of the population is measured as opposed to the whole population) (Statistics Canada 2011a). Due to the voluntary nature of the NHS survey, it is also subject to potentially higher non-response error than in the Census (Statistics Canada 2011a). This is particularly evident in smaller communities, and for this Project is exemplified by the community of Mayo. While a Census Profile is available for the community and provides population and demographic data, a NHS Profile is not available, citing suppression for data quality or confidentiality reasons. In most cases, Statistics Canada has not released data for any geographic area with a global non-response rate greater than or equal to 50% (Statistics Canada 2015b).

Although weights were applied to reduce or eliminate differences between the underlying total populations for the Census and NHS, Statistics Canada indicates that weighting constraints were sometimes discarded, resulting in discrepancies (Statistics Canada 2011a). For all Project area communities as well as Yukon, differences exist for the underlying total population between the Census and NHS, as well as data contained in YBS reports. This may result in different population data presented in this report, depending on the source data (i.e., 2011 Census versus NHS). In this report, 2011 NHS data are compared to data from the 2001 and 2006 Census, where available and warranted. It should be noted that Statistics Canada advises to exercise caution when comparing 2011 NHS data to previous Census data due to data quality and differences between the voluntary survey and the previous long-form questionnaire (Statistics Canada 2011a). Although limitations to the NHS exist, the data product provides one of the few available published statistical data at the community level across the entire study region, as well as an indication of existing conditions and trends.

### ***Aboriginal Population Statistical Data***

For 2011, data are also provided from the Aboriginal Population Profile, a component of the 2011 NHS. The Aboriginal Population Profiles provide available information for the reported Aboriginal identity population of a community. The term Aboriginal identity is used in this report, and refers to statistical data for Aboriginal people, including First Nations, Métis, or Inuk, as defined in the *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982 (U.K.)*, 1982, c. 11. Aboriginal identity population data from NHS are available for populations of 250 or more, and are subject to the limitations of the 2011 NHS. Data are also presented, where warranted and available, from the 2001 and 2006 Aboriginal Peoples Survey.

Data from the Census are subject to a confidentiality procedure known as random rounding in which the numbers are rounded up or down to a multiple of 5 or 10 to prevent associating statistical data to any one individual. In some cases, the numbers are rounded to zero, which could be the result of inconsistencies or errors in the source data. The data also may be subject to suppression depending on the topic and the size of the community (Statistics Canada 2011b).

#### ***2.6.1.2 Statistical Data Discrepancies***

It is understood that some communities, particularly smaller communities, may not be accurately reflected in statistical data. It is also understood that not all Aboriginal communities agree with the Census results or the Aboriginal Peoples Survey results. Where available, primary and other secondary data sources were incorporated to supplement and verify statistics presented in this report.

It should also be noted that Statistics Canada and the Yukon Bureau of Statistics (YBS) delineate spatial boundaries differently with respect to how demographic statistical data are gathered. While Statistics Canada delineates specific Census boundaries for specific areas, the YBS uses postal codes; therefore, discrepancies between data collected by the two sources may be identified (YBS, Pers. Comm., 2016).

### **2.6.1.3 Yukon Bureau of Statistics**

YBS provides statistical data on various topics that have been used to inform the existing conditions for several socio-economic and health components. Much of the YBS data are custom data tables from Statistics Canada, and provide statistical data annually to supplement data between Census years. Often, the custom data tables and other data are provided for Yukon and Whitehorse geographic areas, and therefore data are not always available for other communities from the YBS between Census years. YBS provides population statistics based on Health Care Registration data, and are generally regarded as a more robust and current assessment of population statistics in Yukon.

## **2.6.2 Primary Data Collection**

### **2.6.2.1 Seasonal Bias**

This study's primary data collection was seasonally biased, as the entire data collection period took place in the winter season from February to March 2016. Due to Project schedule, additional data collection outside of this period was not possible; the study's primary data collection program therefore presents data on year-round or winter residents of Dawson.

Seasonality also influenced the response and participation rate of some primary data collection activities. These influences are described in detail in the 'data limitations' section of each respective human environment component.

### **2.6.2.2 Community Bias**

This study's primary data collection program was focused on TH and Dawson, the closest service centre to the Project by road and the only First Nation whose Traditional Territory overlaps with the entire Project Footprint. The study team's emphasis was on conducting a comprehensive, community-based study with these communities.

Though no primary data collection was conducted with the WRFN, the study's researchers worked closely with representatives of the WRFN to incorporate secondary data from the First Nation wherever possible.

The other First Nations and communities were consulted more broadly on the Project but primary data related to socio-economic conditions were not gathered at an in-depth level due to preference or the level of expected interaction with the Project.

## **2.6.3 Terms and Definitions**

The word Aboriginal is used throughout this report, as Statistics Canada summarizes statistics for the Aboriginal identity population, which includes "First Nations (North American Indian), Métis or Inuk (Inuit), and/or those who reported Registered or Treaty Indian status, as defined by the *Indian Act*, and/or those who reported membership in a First Nation/Indian band" (Statistics Canada 2015c).

#### **2.6.4 Socio-economic Conditions**

The socio-economic landscape is dynamic, and conditions are continually changing based on a multitude of factors. The authors of the report have described the existing socio-economic conditions based on the most current data sources available at the time of report preparation; however, conditions will continue to change and may not be representative of future conditions.



### 3.0 DEMOGRAPHICS

Demographics is the study of the structure of a population, including age, gender, and mobility. This section describes the demographics in the LSA, and RSA of the Project, with a focus on the following topics:

- Population characteristics
- First Nation language
- Family Structure
- Mobility.

The baseline discussion of demographics existing conditions supports the analysis of the economic conditions, education services, and community infrastructure components of the human environment. It is important to note that for the purposes of this baseline report, population predictions and associated barriers to population growth will not be included, but are discussed in the Demographics IC Effects Assessment (**Section 19.0** of the **Project Proposal**).

#### 3.1 DEMOGRAPHICS OVERVIEW

The Project is in a northern, remote location. Local communities are also remote and characterized by small populations, reducing their resiliency to potential demographic change.

#### 3.2 DEMOGRAPHICS STUDY AREA

The study areas for Demographics consist of a Local Study Area (LSA) and Regional Study Area (RSA), defined in **Table 3-1** and shown in **Figure 3-1**.

**Table 3-1 Demographics Local Study Area and Regional Study Area**

Component	Topic(s)	Local Study Area	Regional Study Area
Demographics	N/A	Whitehorse Area, City of Dawson, Beaver Creek, Mayo, Pelly Crossing	Includes the LSA and Yukon Territory

##### 3.2.1 Local Study Area

The LSA is defined as the area where direct changes as a result of the Project are likely to occur. The LSA includes the Whitehorse Area, the City of Dawson, and the communities of Beaver Creek, Mayo, and Pelly Crossing. Whitehorse Area includes the City of Whitehorse and surrounding area as well as the community of Marsh Lake.

Whitehorse Area was included in the LSA as the location of the Project's main administrative facility, and one of its pickup locations for fly-in, fly-out workers. In addition, Whitehorse is home to 80 percent (%) of the territory's population and is Yukon's fastest-growing community in terms of population. The City of Dawson was chosen for its geographic proximity to the Project, and because the community is likely to be a source of labour, goods, and services associated with the Project. Beaver Creek, Pelly Crossing, and Mayo were included as the administrative centres of White River First Nation (WRFN), Selkirk First Nation (SFN), and First Nation of Na-cho Nyäk Dun (FNNND), respectively, reflecting the availability of demographic data at the community scale. Not all of these communities have administrative boundaries; thus, the LSA boundaries were approximated based on the apparent physical boundaries of the communities. The LSA boundaries selected do not necessarily exclude from the analysis entities that may be located immediately adjacent to, but outside, the above-mentioned communities.

### **3.2.2 Regional Study Area**

The RSA for Demographics is the Yukon Territory. The RSA encompasses the LSA and is also the area within which indirect and some direct changes may occur as a result of the project. It also is the area from which data are collected that can provide a context for information collected within the LSA. There is a possibility that some people may choose to work for the Project and live in smaller Yukon communities that are not the administrative centres of First Nations communities within the LSA, or the Whitehorse Area and Dawson. Including those communities as part of an RSA that encompasses the whole Yukon Territory is a way of considering them in the analysis.

# COFFEE GOLD MINE

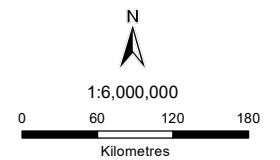
## Demographics Study Areas

### Legend

- Highway
- National/International Border
- Project Footprint
- Local Study Area
- Regional Study Area

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



NAD 1983 UTM Zone 8N

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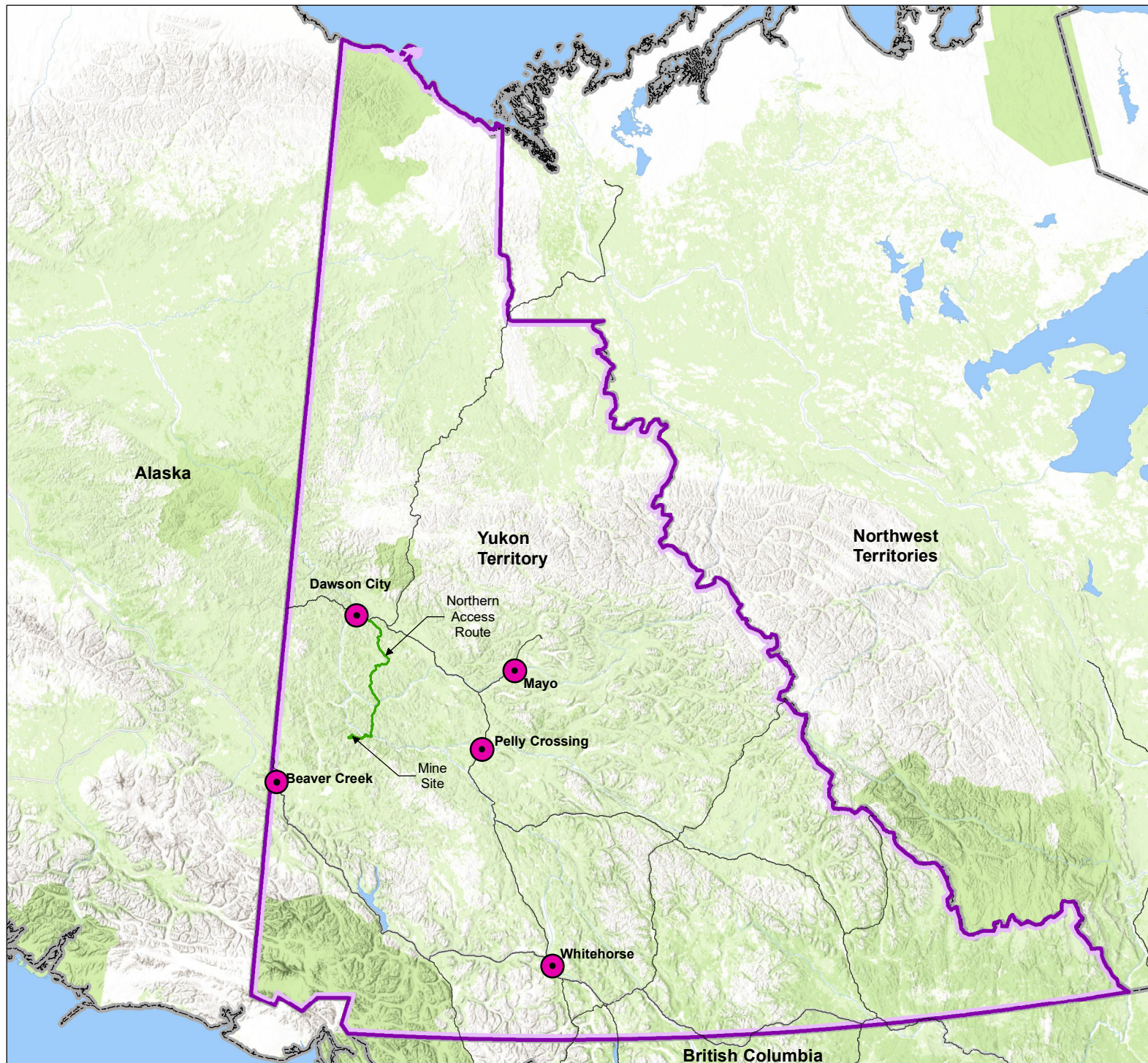
Figure 3-1

Date:  
Mar 20, 2017

Drawn by:  
JS

Reviewed:  
DP

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### 3.3 DEMOGRAPHICS INFORMATION SOURCES

#### 3.3.1 Desktop Research

Existing demographics in the LSA and RSA were documented from statistical data including Statistics Canada (Census 2011) and the NHS (**Table 3-2**). Population and demographics were provided in the 2016 Census Profiles. Data from published statistical reports produced by YBS and First Nation Governments and websites have also been collected to help characterize existing conditions.

**Table 3-2 Summary of Key Demographic Secondary Data Sources**

Demographics
<ul style="list-style-type: none"> <li>• Yukon Population Report, September 2016</li> <li>• Yukon Migration Patterns Report, 2010</li> <li>• Census data (2016, 2011, 2006) and the NHS 2011</li> <li>• First Nation Government Data:               <ul style="list-style-type: none"> <li>▫ TH Website (Tr'ondëk Hwëch'in n.d.a.)</li> <li>▫ SFN Website (SFN n.d.)</li> <li>▫ FNNND Website (FNNND 2016a)</li> </ul> </li> <li>• White River – Quartz Exploration Project Number: 2012-0080</li> <li>• Aboriginal Affairs and Northern Development Canada data.</li> </ul>

#### 3.3.2 Primary Research

##### 3.3.2.1 Interviews

Primary data were collected through semi-structured information interviews conducted with representatives from municipal departments, non-profit organizations, and local businesses (**Table 3-3**). For more details regarding interview methodology, please see **Section 2.1**. These interviews provided thematic areas that enhanced demographic data identified from desktop research. Information related to demographics was discussed with informants specifically and in tandem with other socio-economic topics.

**Table 3-3 Summary of Demographic Interviews**

No.	Organization	Date of Interview	Method of Contact
1	City of Dawson Community Development and Planning	February 9, 2016	In-person Interview
2	Conservation Klondike Society	February 10, 2016	In-person Interview
3	Coldwell Banker Redwood Realty	February 17, 2016	Phone Interview
4	Dawson City Chamber of Commerce	February 11, 2016	In-person Interview
5	Klondike Development Organization	March 4, 2016	Phone Interview

### 3.3.3 Data Limitations and Constraints

#### 3.3.3.1 Statistical Data

Census data provide comprehensive population data; however, there are limitations, which include:

- **Random Rounding:** Data from the Census are subject to a confidentiality procedure known as random rounding in which the numbers are rounded up or down to a multiple of 5 or 10 to prevent associating statistical data to any one individual.
- **Data Suppression:** Data may be subject to suppression depending on the topic and the size of the community.
- **Census Boundaries:** The geographic extent of the area included in Census data collection and analysis is demarked by Census boundaries, which may exclude individuals who live in a community, but outside of Census boundary areas; thus, Census population data may not reflect representative population data for an entire community.

Canadian Census data characterize Aboriginal identity and general populations for a single point in time; however, Aboriginal identity population numbers may not provide an accurate reflection of the actual Aboriginal population. For example, the Census did not capture individuals who were absent on Census Day, or Aboriginal people living in institutions. Additional information is collected through the Aboriginal Persons Survey, which specifically samples the population who self-identifies as Aboriginal on the National Household Survey (NHS<sup>7</sup>). The Aboriginal Persons Survey samples on-reserve and off-reserve individuals and households in separate processes (Statistics Canada 2012a).

#### 3.3.3.2 Data Discrepancies

There may be discrepancies between YBS data and Census data. Census data only reflect municipality numbers, and do not represent the community members who do not reside in the municipality proper (Interview 28, Pers. Comm. 2016). Further, data discrepancies were observed between First Nation website population numbers and data provided by Aboriginal Affairs and Northern Development Canada; where necessary both figures are presented.

### 3.4 DEMOGRAPHICS RESULTS AND DISCUSSION

Demographic data are described for the following topics:

- **Population characteristics:** Characteristics such as age, gender, and population change over time comprise the foundational components of population and demographic descriptors
- **First Nation Language**
- **Mobility:** Aspects of mobility include internal migration and immigration. Mobility provides additional quantitative data to understand drivers of population change.

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<sup>7</sup> Feedback from WRFN indicated disagreement with federally collected demographic data related to WRFN.

### 3.4.1 Population Characteristics

Population characteristics are described for First Nations and non-First Nations, and include age and gender in LSA communities. Historical population growth is also described for the LSA, and RSA communities; however, population predictions of growth are beyond the scope of this report.

#### 3.4.1.1 Aboriginal Population

The LSA and RSA population includes First Nation<sup>8</sup> and non-First Nation peoples, with the NHS (2011), reporting a total First Nation population of 7,705 in Yukon and 4,100 living in Whitehorse (16.0% of total Whitehorse population) (Statistics Canada 2013b).

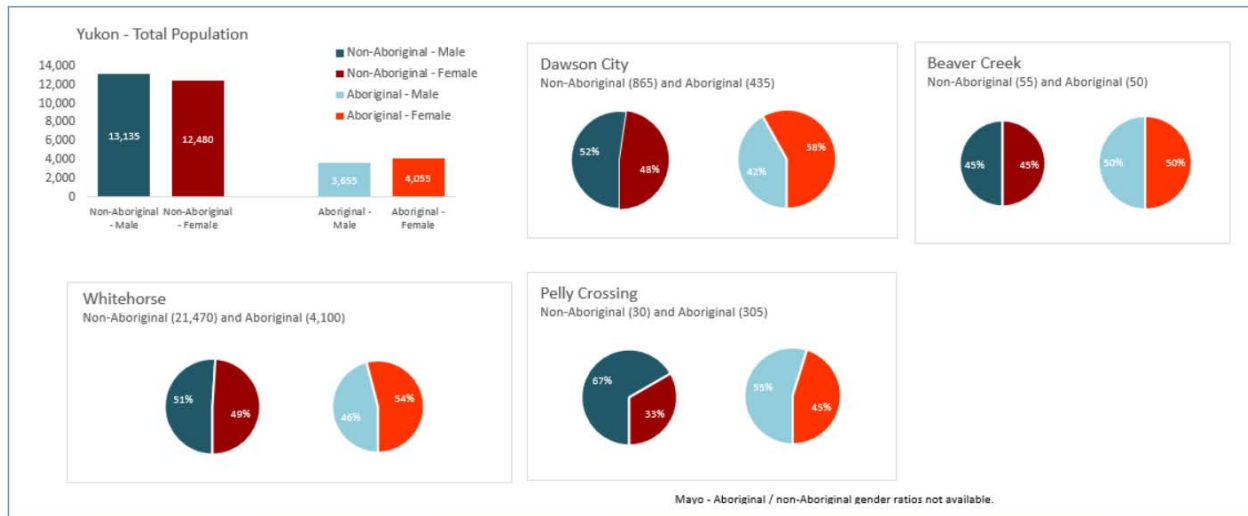
The First Nation population living outside of Whitehorse in the LSA is composed of citizens of TH, SFN, and FNNND, as well as members of the WRFN (**Table 3-4**). Dawson had a First Nation population of 430; Beaver Creek's population was 50; no data were available for Mayo; and Pelly Crossing had 305 First Nation residents (Statistics Canada 2013b). Some First Nations dispute population figures used in Federal Census data. As such, two numerical figures are provided in **Table 3-4** for each First Nation in the Demographic study area: one provided by Aboriginal Affairs and Northern Development Canada and a second data set provided by First Nation Government websites. **Figure 3-2** summarizes gender distribution in the LSA for First Nation and non-First-Nation populations in 2011.

**Table 3-4 Summary of Local Study Area and Regional Study Area First Nation Registered Members**

First Nation	Number of Registered Members (2016) (as of February 2016)	Number of Registered Members (First Nation websites accessed 2016)
Tr'ondëk Hwëch'in	825	1,100
Selkirk First Nation	637	N/A
First Nation of Na'cho Nyäk Dun	555	602
White River First Nation	153	220 <sup>9</sup>

<sup>8</sup> Please note that the Census uses the term Aboriginal as defined by the *Constitution Act, 1982*, which comprise the Indian, Inuit, and Métis peoples of Canada.

<sup>9</sup> Data provided from the 2012 White River – Quartz Exploration Report, provided by WRFN.



Sources: Statistics Canada 2013b

**Figure 3-2 Local Study Area and Regional Study Area Demographics and Gender Distribution**

### 3.4.1.2 Regional Study Area

#### Yukon

As of September 2016, Yukon's population was 38,200 people, which represents a 1.8% increase from September 2015 (YBS 2016a). Between 2006 and 2016, Yukon's population grew 19.6%, making it the fastest-growing province or territory in Canada at the time (population growth was 5.9% in Canada during the same time period) **Figure 3-3** (YBS 2016a). According to statistics, 51% of the territory's total population is male, whereas 49% are female.

2016 Census data provided by YBS (2016a) are summarized below and illustrated in **Figure 3-4**. In September 2016, most males living in Yukon are between the ages of 25 and 34, with the highest representation of this range aged 30 to 34 (8.3%). For females in Yukon, the majority are between the ages of 25 and 34, with most highly represented between the ages of 30 and 34 (9.1%) (YBS 2016a).

### 3.4.1.3 Local Study Area

#### Whitehorse

As of September 2016, the Whitehorse Area had a population of 29,529 people, which is representative of 77% of the population of Yukon (YBS 2016a). The biggest city in the territory has increased by 21.8% since 2006 (YBS 2016a).

Community-level 2011 Census data provided by Statistics Canada (2013a) are summarized below and illustrated in **Figure 3-4**. In 2011, the majority of the male population ranged between the ages of 25 and 34 (16.6%), followed by 44 to 54 (15.1%), and 55 to 64 (14.4%). For females living in Whitehorse in 2011, the majority were aged between 25 and 34 (17.2%), 35 to 44 (15.3%), and 45 to -54 (15.8%) (YG 2013a).

### **City of Dawson**

Dawson's population, as of September 2016, was 2,202, having increased by 21.5% since 2006 (YBS 2016a). Community-level 2011 Census data provided by Statistics Canada (2013a) are summarized below and illustrated in **Figure 3-4**.

The majority male population in 2011 ranged between the ages of 25 and 34 (17.7%), followed by 45 to 54 (16.8%) and 55 to 64 (17%). For females living in Dawson, the majority were aged between 25 and 34 (19%), followed by 35 to 44 (16.2%) and 55 to 64 (16.2%) (YG 2013b).

### **Beaver Creek**

As of September 2016, the population of Beaver Creek was 113 people (YBS 2016a), 13% more people than at the 2011 census. Community-level 2011 Census data provided by Statistics Canada (2013a) are summarized below and illustrated in **Figure 3-4**.

The majority male population in 2011 ranged between the ages of 25 and 34 (21%) followed by 45 to 54 (14.5%). For females living in Beaver Creek the majority were aged between 25 and 34 (22%) followed by 55 to 64 (16%) (YG 2013c).

### **Mayo**

According to the 2016 Census, Mayo had a population of 200 people, a decline of 11.5% compared to the 2011 census (Statistics Canada 2016d). Community-level 2011 Census data provided by Statistics Canada (2013a) are summarized below and illustrated in **Figure 3-4**.

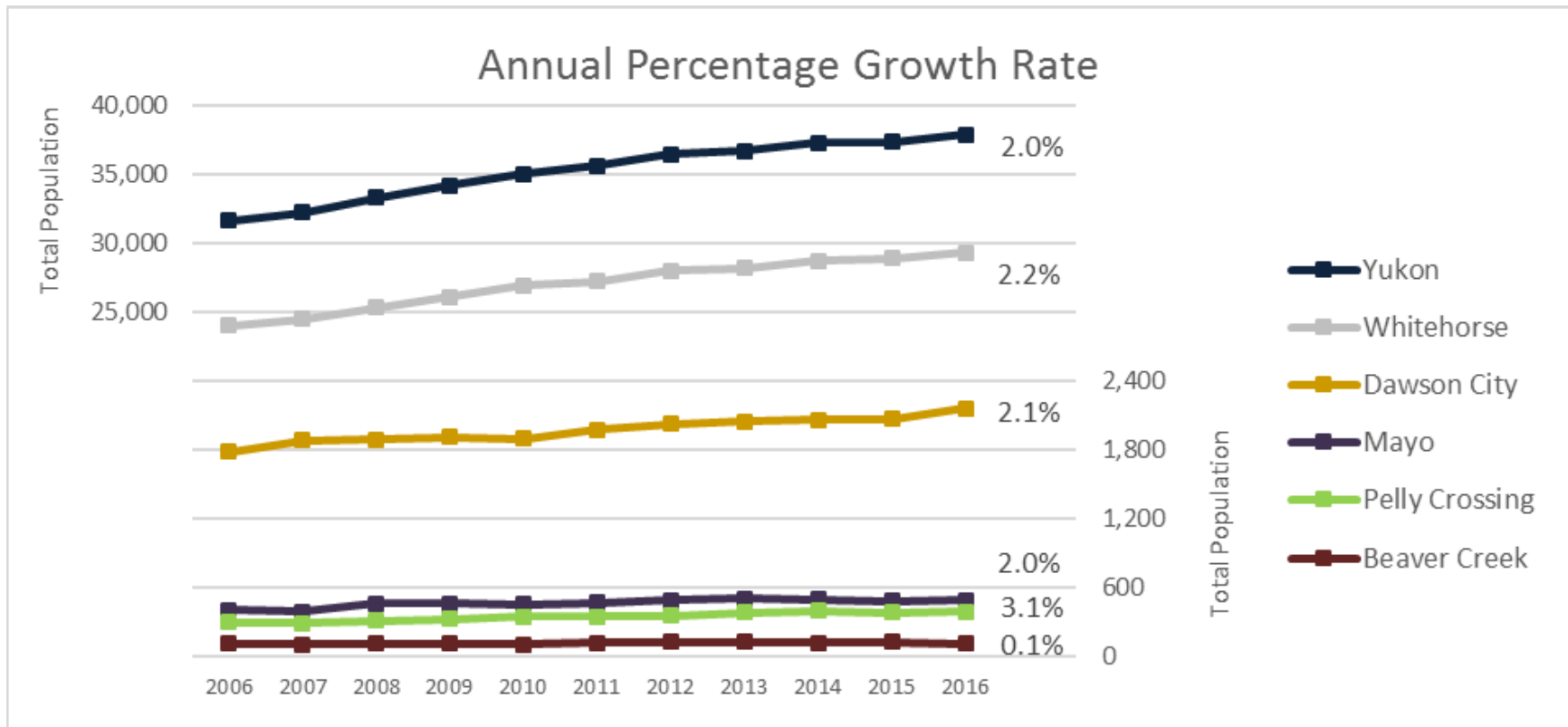
The majority male population in 2011 ranged between the ages of 55 and 64 (19.3%) followed by 25 to 34 and 45 to 54 (15.6% respectively). For females living in Mayo, the majority were aged between 25 and 34 (19.2%) followed by 45 to 54 (16.2%), and 55 to 64 (15%) (YG 2013d).

### **Pelly Crossing**

Pelly Crossing had a population of 393 as of September 2016 (YBS 2016a), a 17.3% increase over the previous census period in 2011. Community-level 2011 Census data provided by Statistics Canada (2013a) are summarized below and illustrated in **Figure 3-4**.

The majority male population in 2011 ranged between the ages of 25 and 34 (17.9%) followed by 45 to 54 (16.9%). For females living in Pelly Crossing, the majority were aged between 25 and 34 (16.6%) followed by 15 to 24 (14.9%) (YG 2013e).








Source: YBS 2016b

Figure 3-3 Annual Percentage Growth Rate from 2006 to 2016

# COFFEE GOLD MINE

## Gender and Age Distribution in the Local Study Area and Regional Study Area

### Legend

-  Project Footprint
-  Local Study Area
-  Regional Study Area

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

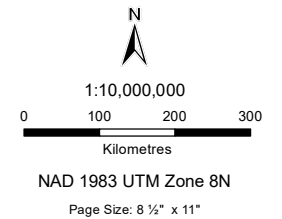
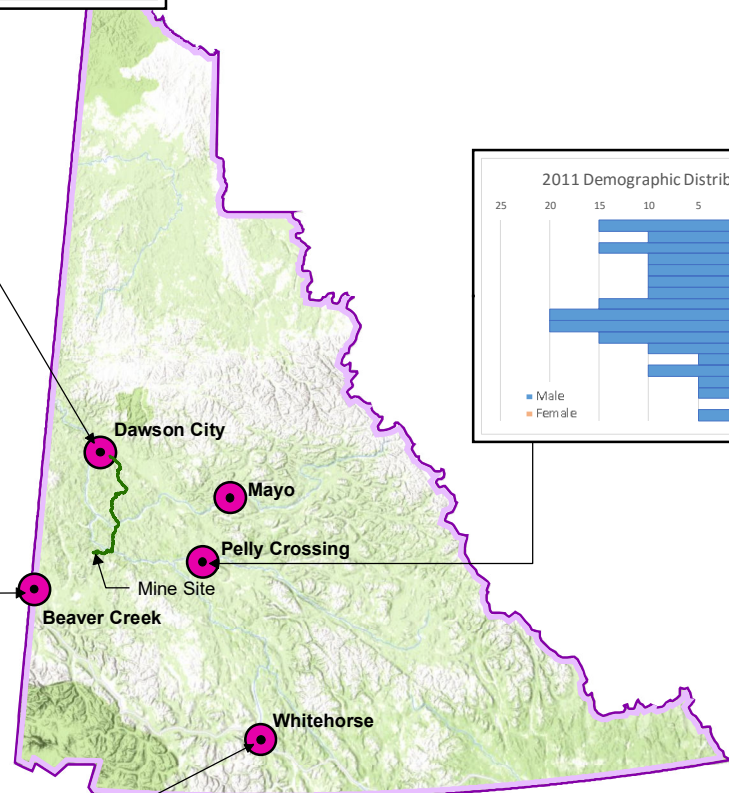
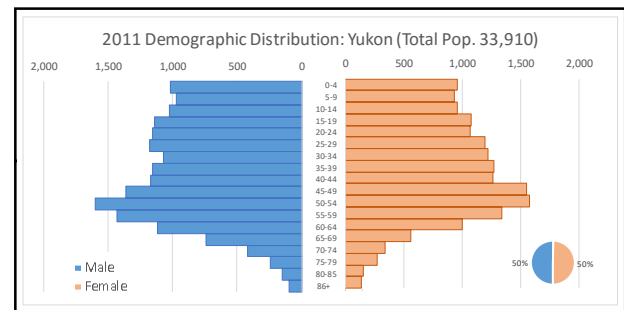
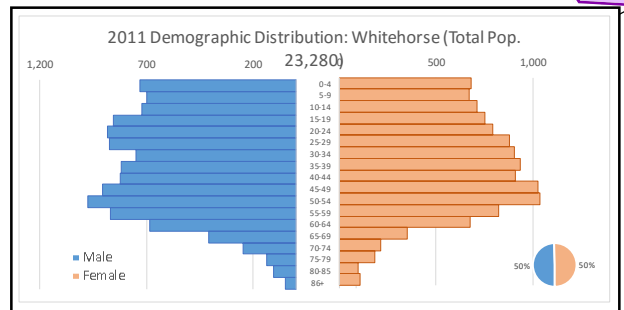
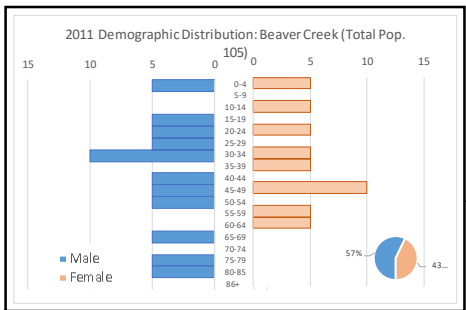
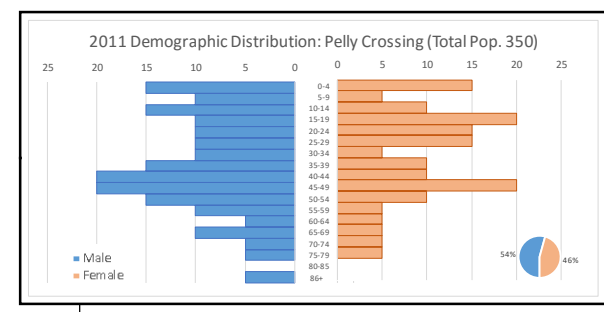
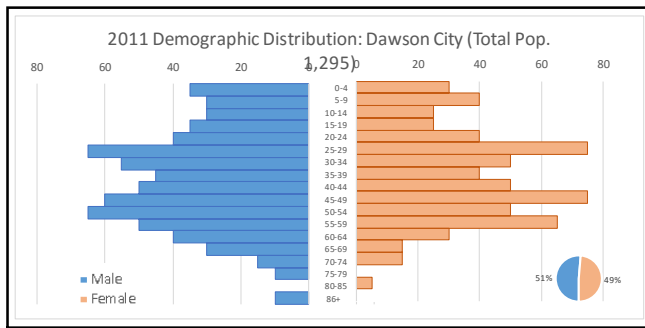


Figure 3-4

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### 3.4.2 First Nations Language

A description of First Nations languages in the LSA is presented in this section.

#### **Local Study Area**

In 2011, the Whitehorse Area Aboriginal identity population was 4,100 people (Statistics Canada 2013b). Of this population, approximately 5.7% had knowledge of an Aboriginal language, and 4.8% considered an Aboriginal language to be their mother tongue **Figure 3-5**. Consistent with the change in Yukon's Aboriginal language characteristics between 2006 and 2011, the proportion of the Whitehorse Aboriginal identity population who consider an Aboriginal language to be their mother tongue, and who have knowledge of an Aboriginal language, also decreased during this period **Figure 3-6**.

As seen in **Figure 3-5** more females (6.1%) than males (3.2%) in Whitehorse considered an Aboriginal language to be their mother tongue, and more females (8.8%) than males (2.1%) had knowledge of an Aboriginal language (Statistics Canada 2013b).

Tr'ondëk Hwëch'in is based in Dawson, and citizens are descendants of the Hän speaking people. Per the 2011 Census, of the 430<sup>10</sup> individuals who comprised the Aboriginal identity population in Dawson, approximately 7% had knowledge of an Aboriginal language and 4.7% spoke an Aboriginal language most often at home. As seen in **Figure 3-5**, more females (8%) than males (5.4%) considered an Aboriginal language as their mother tongue (Statistics Canada 2011a). Though the Hän language is widely used, few citizens are fluent speakers (Interview 24, Pers. Comm., 2016). More broadly speaking, of Dawson's total population in 2011, 95% of residents identified English as their first official language spoken and 4.1% reported French (YG 2015g).

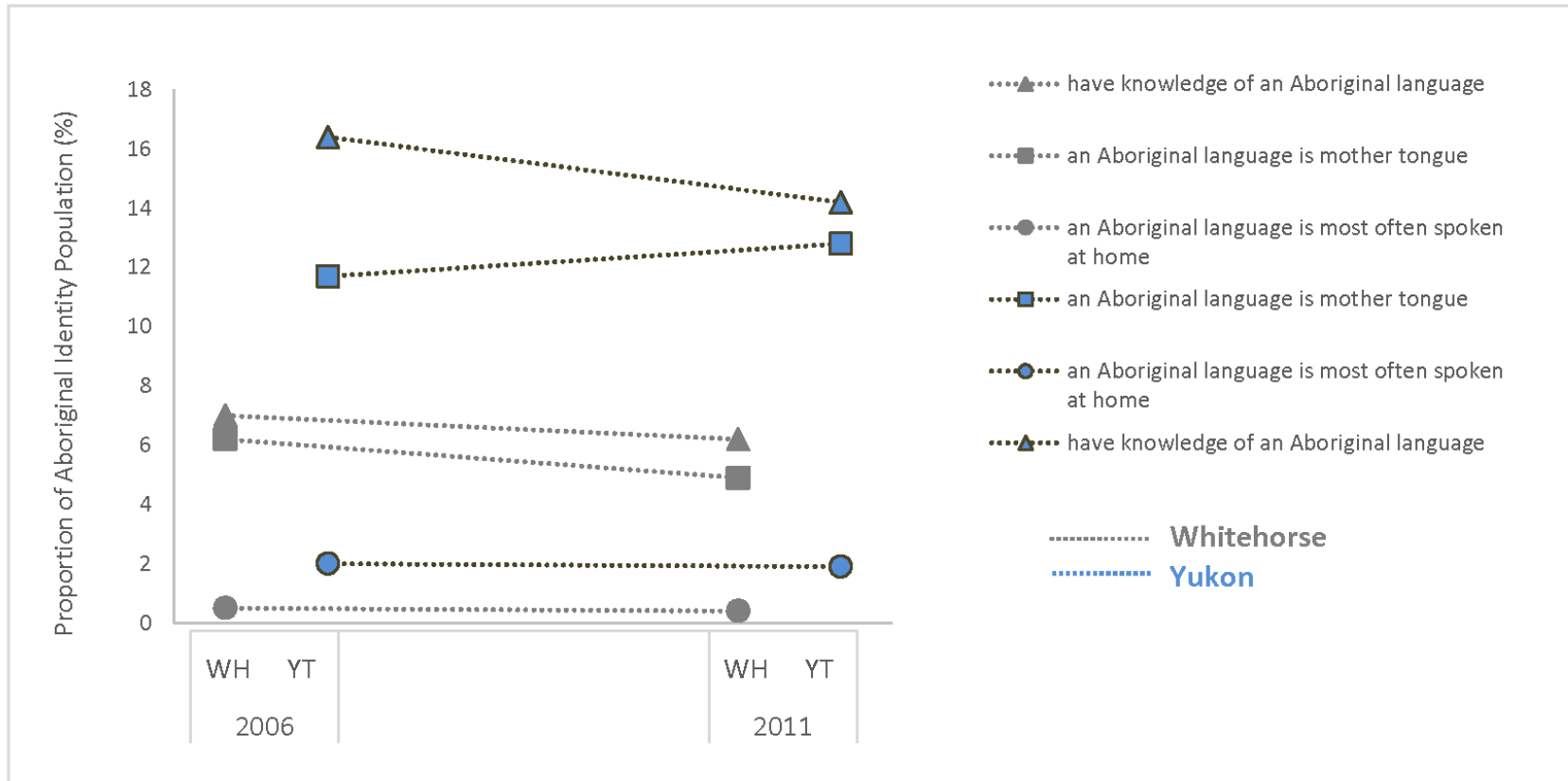
The Aboriginal identity population in Pelly Crossing comprised 305 individuals in 2011 (Statistics Canada 2013b). Of these 305 individuals, approximately 16.4% had knowledge of an Aboriginal language. As seen in **Figure 3-5**, approximately the same number of females (14.8%) and males (14.7%) had knowledge of an Aboriginal language. Related 2011 Census data were not available for the communities of Beaver Creek or Mayo.

#### **Regional Study Area**

In 2011, Yukon's Aboriginal identity<sup>11</sup> population comprised 7,705 people. Of this population, approximately 12.8% considered an Aboriginal language to be their mother tongue, and 14.2% had knowledge of an Aboriginal language (Statistics Canada 2013b). This marked a 2.2% decrease in the proportion of Yukon's Aboriginal identity population who consider themselves to have knowledge of an Aboriginal language between 2006 and 2011 **Figure 3-6**. Though approximately the same number of females (12.7%) and males (12.9%) considered an Aboriginal language to be their mother tongue, more females (15.5%) than males (12.9%) had knowledge of an Aboriginal language **Figure 3-6**.

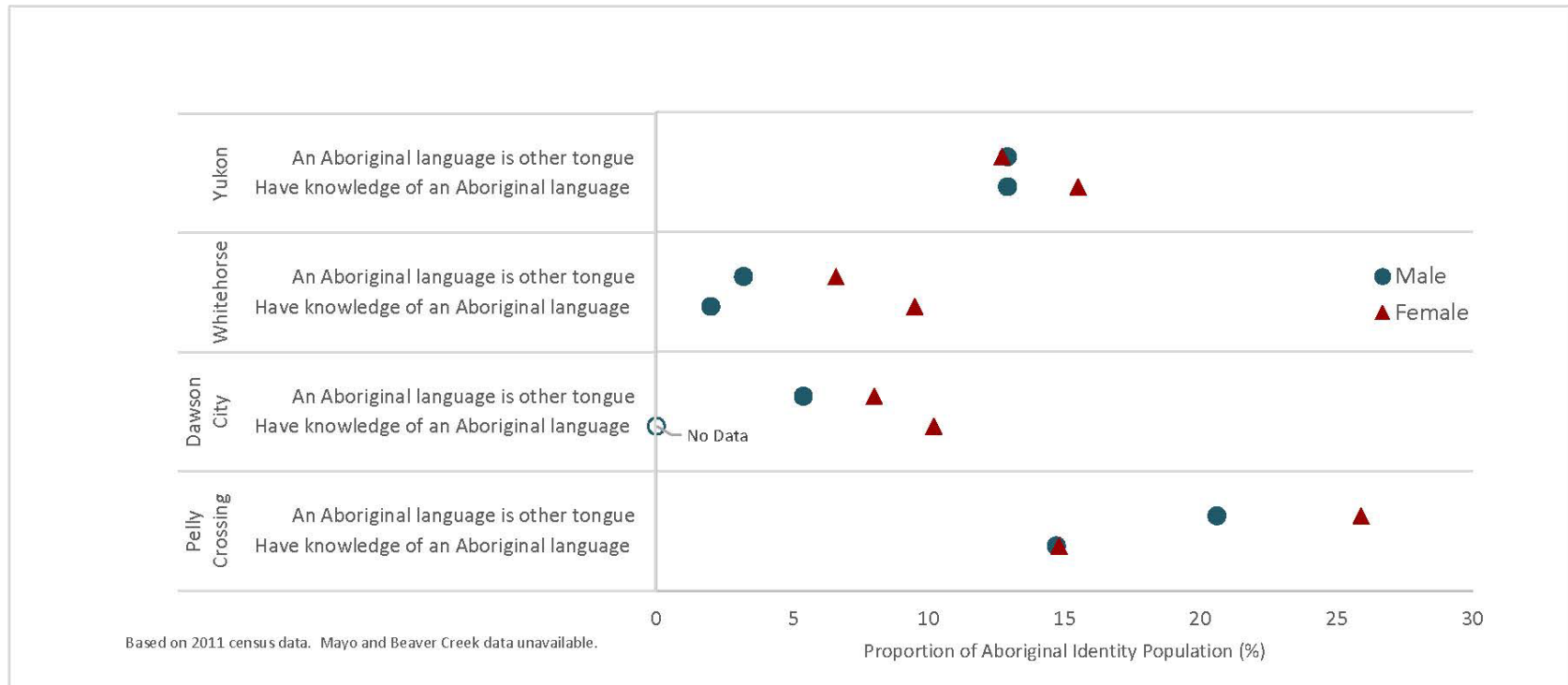
<sup>10</sup> In the 2011 Aboriginal NHS, 430 was the "total Aboriginal identity population in private households by knowledge of official languages".

<sup>11</sup> Please see **Section 0** for a discussion on the definition of 'Aboriginal identity population'.



Source: Statistics Canada 2007a, 2013a

Figure 3-5 Summary of Aboriginal Language Proficiency by Aboriginal Identity Population in 2011



Source: Statistics Canada 2007a, 2013a

Figure 3-6 Summary of Aboriginal Language Characteristics within Aboriginal Identity Population for Yukon and Whitehorse

### **3.4.3 Family Structure**

Family structures and household types in the LSA are predominantly couples or individuals living in a single-family dwelling.

#### **Local Study Area**

As reported in the 2011 Census, there were 10,525 private households<sup>12</sup> in Whitehorse Area, of which 3,005 were one-person households, 3,495 were two-person households and 4,025 had three or more people, with an average of 2.4 people per household; 28.5% were one-person households and diverse family types were represented (Statistics Canada 2012b).

According to the 2011 Census, there were 630 private households in Dawson, of which 255 were one-person households, 195 were two-person households and 175 had three or more people, with an average of 2.1 people per household; 40% were one-person households, and diverse family types were represented (Statistics Canada 2012c).

There were 50 private households in Beaver Creek per the 2011 Census, of which 30 were one-person households, 10 were two-person households and 10 had three or more people, with an average of 2.0 people per household; 60% were one-person households, and diverse family types were represented (Statistics Canada 2012d).

Per the 2011 Census, there were 135 private households in Pelly Crossing, of which 40 were one-person households, 35 were two-person households and 60 had three or more people, with an average of 2.6 people per household; 30% were one-person households, and diverse family types were represented (Statistics Canada 2012e).

There were 115 private households in Mayo according to the 2011 Census, of which 55 were one-person households, 35 were two-person households and 25 had three or more people, with an average of 2.0 people per household; 48% were one-person households, and diverse family types were represented (Statistics Canada 2012f).

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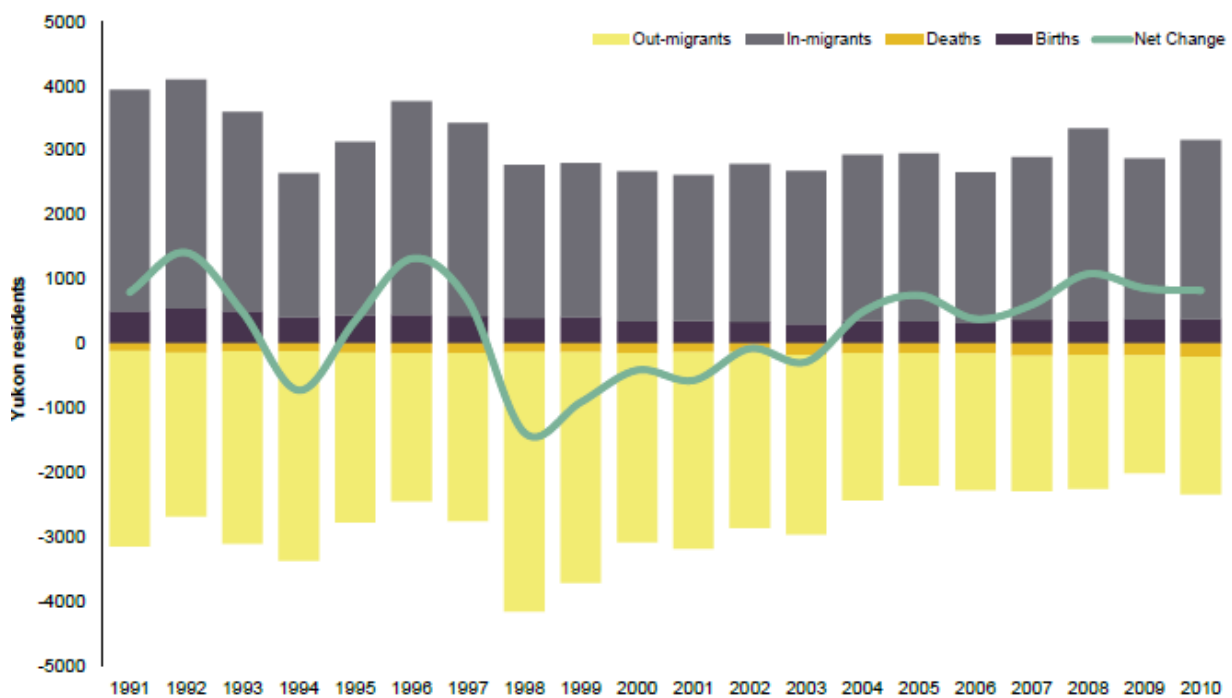
<sup>12</sup> Total number of private households by household size.

### 3.4.4 Mobility

Populations within the Yukon Territory have demonstrated a consistent upward growth trend, which has been influenced broadly by migration and immigration. YBS (2011a) indicated population change is influenced mostly by migration in response to economic opportunities as opposed to births and deaths (**Figure 3-7**):

Yukon's population is more sensitive to migration compared with some of the larger Canadian provinces, and to Canada as a whole. Unlike birth and death rates, migration is driven by economic conditions, and is more volatile and less predictable than birth or death rates (YBS 2011b).

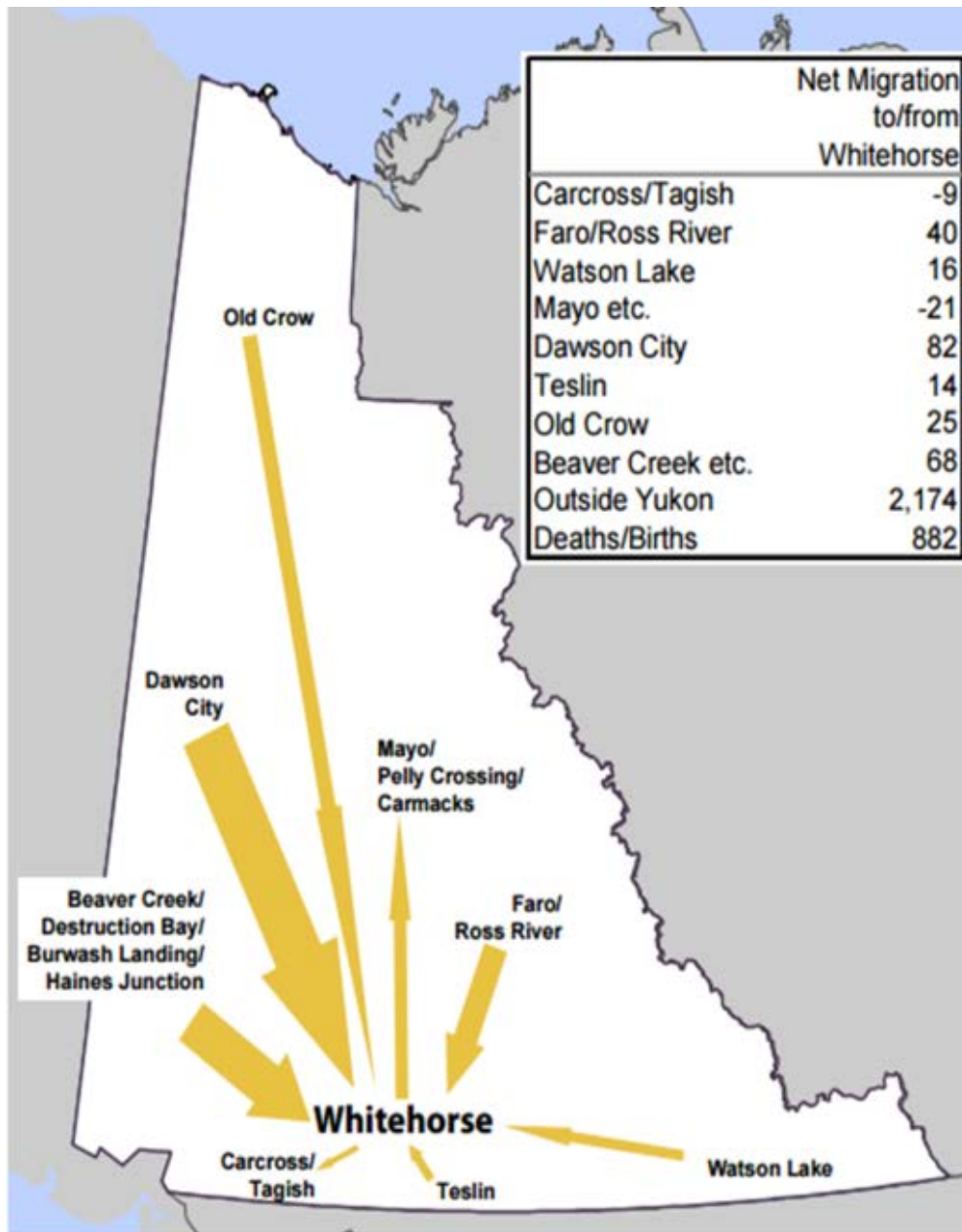
This influence of economics is evident in both primary and secondary data within the LSA and RSA.



Source: YBS 2011a

**Figure 3-7 Components of June Population Change, 2005 – 2010**

Most migration to, from, and within Yukon happens between Whitehorse and another area (YBS 2011a). A high percentage of population turnover happens in Yukoners between ages 25 and 35 (YBS 2011a). Net in-territory migration is illustrated in **Figure 3-8**.



Note: net migration is represented by width, not area, of arrow.

Source: YBS 2011a

Figure 3-8 Migration Between Whitehorse and Communities, 2005 - 2010



### **3.4.4.1 Migration**

Statistics Canada defines three categories of population movement:

- Movers are defined by Stats Canada either as migrants who leave their place of habitual residence to move to a different city, town, township, village, or Indian reserve, irrespective of citizenship; or as non-migrants, people who move to a different address within the same city or town (Statistics Canada 2013a);
- Non-movers are individuals who remain at the same address as the previous Census date.

#### **Local Study Area**

Within the LSA, migration trends were described in primary data which were supported by secondary data **Figure 3-9**. Specifically, two migration trends were identified from primary data gathered from within the LSA:

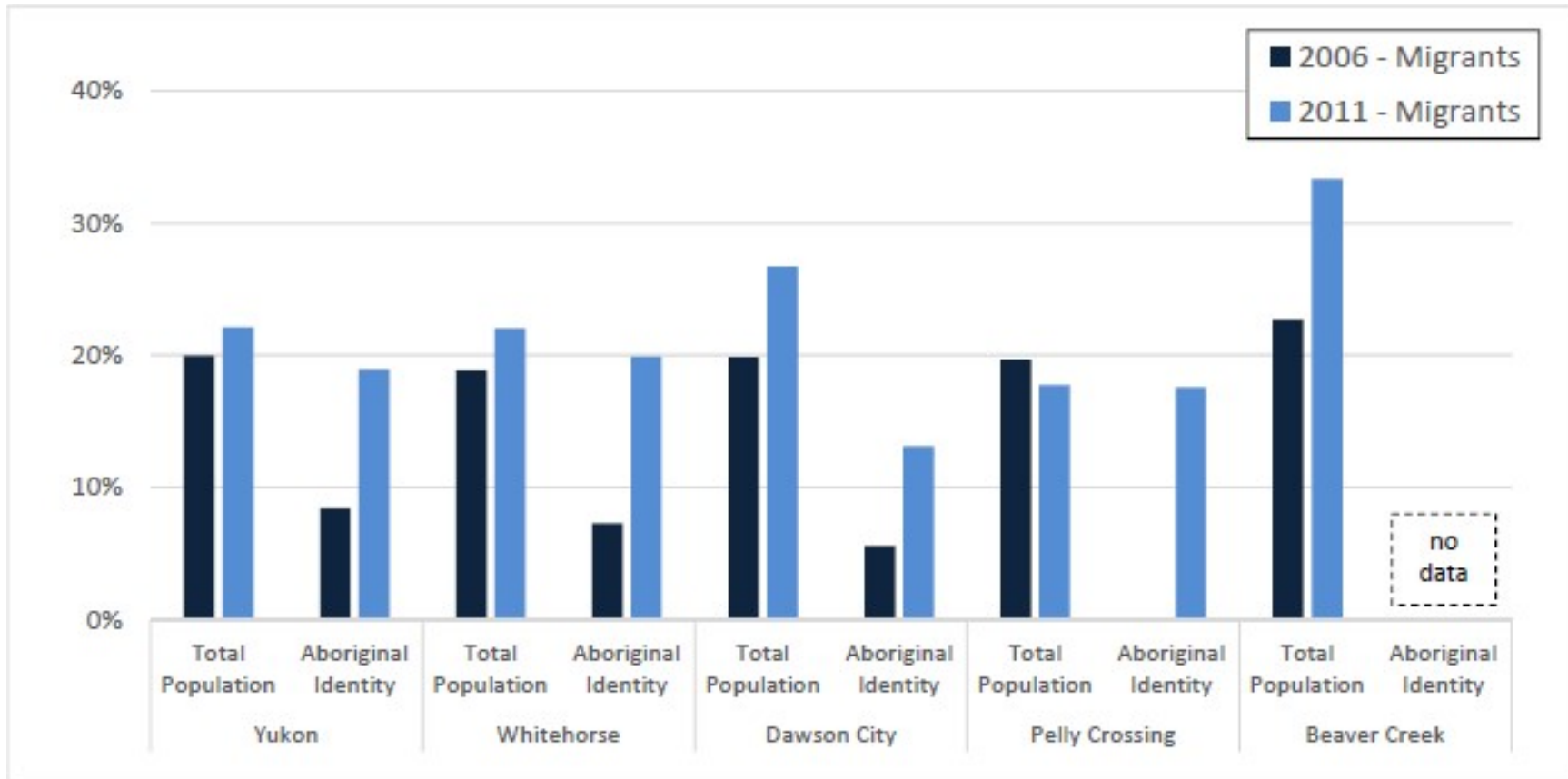
- Migration occurs on an annual basis due to seasonal employment
- Migration is more prominent amongst specific age groups.

Interviewees stated that people are drawn to Dawson for the landscape and lifestyle, or to start a business or take over a business (Interview 21 Pers. Comm., 2016). Quality of life and seasonal employment are the main drivers of migration; yet housing remains a barrier to retaining people in the community over the long term (Interview 19, Pers. Comm., 2016). The Klondike Development Organization (KDO) provides additional insight into migration into and out of the LSA:

Typical residents move to the Klondike when they are young for employment, or older for the quality of life. Given the locale, secure employment is understandably a strong factor for both. Over time, the range of employment opportunities and the high cost of living begin to create doubt but quality of life is still good. Irrespective of age, quality of life is eventually reduced sufficiently that a decision to leave is made. The young remain in the Yukon for its quality of life while older groups choose elsewhere in Canada for improved employment opportunities and the reduced cost of living. (KDO 2011a)

#### **Regional Study Area**

Mobility within the RSA is summarized in **Figure 3-9**.



Source: Statistics Canada 2007b, 2013a.

Figure 3-9 Summary of Local Study Area and Regional Study Area Mobility Status During Year Prior to Census

### 3.4.4.2 Immigration

Immigrants are defined by Statistics Canada as people who are or who have been landed immigrants in Canada (Statistics Canada 2013a). Immigration into the RSA and LSA is driven by economic opportunities supported by federal and territorial programs such as the Yukon Nominee Program and the Temporary Foreign Worker Program. Individuals from outside of Canada can work in Yukon to fill employer needs, through federal and territorial programs such as the Yukon Nominee Program, Temporary Foreign Worker Program, and Foreign Qualifications Recognition.

#### Regional Study Area

The Yukon Nominee Program is designed to fill permanent full-time jobs, with 388 nominees brought in to the territory between 2006 and early 2010. In terms of the Temporary Foreign Worker Program, individuals receiving permits for Yukon as their destination comprised 88 in 2015 and 77 in 2014 (Citizen and Immigration Canada 2016).

#### Local Study Area

Yukon Education conducted a survey in 2010 of the Yukon Nominee Program. Of nominees surveyed (265 or 68% of total nominees), 91 lived in Whitehorse, compared to 35 in Dawson (Yukon Education 2010). The KDO (2014a) describes the Yukon Nominee and the Yukon Temporary Foreign Worker Programs as being utilized by local businesses to satisfy labour needs. Further, the KDO's goal is to increase appropriate utilization of immigration programs by regional businesses in enabling the purchase and retention of key businesses (KDO 2014a).

Recent immigration<sup>13</sup> (Statistics Canada 2012c) into the LSA and RSA is summarized in **Table 3-5**.

**Table 3-5 Recent Immigrants to the Local Study Area and Region Study Area**

Location	2011 Population	Recent Immigrants by Selected Place of Birth				
		Asia	Americas	Europe	Africa	Oceania and Other
<b>RSA</b>						
Yukon (Total)	35,563	565	95	160	45	20
<b>LSA</b>						
Whitehorse	27,212	555	55	95	35	0
City of Dawson	1,973	0	15	55	0	0
Pelly Crossing	344	0	0	0	0	0
Beaver Creek	117	0	10	0	0	0

<sup>13</sup> Recent immigrants are immigrants who landed in Canada between January 1, 2006 and May 10, 2011.

## 4.0 ECONOMIC CONDITIONS

This section describes the economic conditions in the LSA, and RSA of the Project, with a focus on the following topics:

- Income and income distribution
- Labour market
- Sustainable economic development.

Where possible, economic and employment trends are identified and discussed. The baseline discussion of local economic activity and the value of sustainable economic development support the analysis of labour force and employment.

### 4.1 ECONOMIC CONDITIONS OVERVIEW

Economic conditions are an important socio-economic value. The economy was identified as a dimension of sustainability in the Integrated Community Sustainability Plan for the City of Dawson and TH (City of Dawson and Tr'ondëk Hwëch'in n.d.). The sub-sections below include discussions of important values such as sustainable economic development (**Section 4.4.3**), and the Boom and Bust Economy (**Section 4.4.3**).

### 4.2 ECONOMIC CONDITIONS STUDY AREA

The study areas for economic conditions consist of a LSA and RSA, as defined below and in **Table 4-1**.

**Table 4-1 Summary of Spatial Boundaries for Economic Conditions**

Component	Local Study Area	Regional Study Area
Economic Conditions	Whitehorse Area <sup>1</sup> , City of Dawson, Beaver Creek, Pelly Crossing, Mayo, WRFN, SFN, and FNNND.	Includes the LSA and Yukon Territory

**Note:** 1 - For consistency between Statistics Canada and Yukon Bureau of Statistics (YBS) data sets for Whitehorse, the Statistics Canada Whitehorse Census Agglomeration data is provided, which corresponds with YBS census data for the Whitehorse Area, rather than the City of Whitehorse.

#### 4.2.1 Local Study Area

The LSA corresponds to the area closest to Project activities (**Figure 4-1**). The economic conditions LSA includes the communities of Whitehorse, Dawson, Beaver Creek, Pelly Crossing, and Mayo, reflecting the availability of economic data at the community scale. The LSA also encompasses the communities of the WRFN, SFN, and FNNND, respectively. Not all the communities in the LSA have administrative boundaries; accordingly, the LSA boundaries were approximated based on the apparent physical boundaries of the communities. The LSA boundaries selected do not necessarily exclude from the assessment entities that may be located immediately adjacent to but outside those communities.

#### **4.2.2 Regional Study Area**

The RSA encompasses the LSA and Yukon, reflecting the broader labour market and economy of the territory (**Figure 4-1**). The RSA is expected to function primarily as context for the economic conditions within the LSA.

# COFFEE GOLD MINE

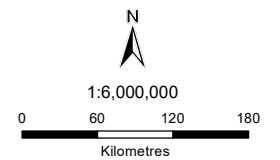
## Economic Conditions Study Area

### Legend

- Highway
- National/International Border
- Project Footprint
- Local Study Area
- Regional Study Area

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



NAD 1983 UTM Zone 8N

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Figure 4-1

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DP



### 4.3 ECONOMIC CONDITIONS INFORMATION SOURCES

Baseline conditions were identified through desktop research, as well as through primary research activities, including a focus group, survey, and interviews with key informants. The following subsections describe these methods in detail.

#### 4.3.1 Desktop Research

Existing economic conditions in the LSA and RSA were documented from statistical data sources including Statistics Canada (2001, 2006, and 2011 Census of Population and 2011 NHS), and various published reports from the YBS. Refer to **Section 2.6.1** regarding data limitations for statistical data. Local published reports prepared by organizations provided detailed existing economic conditions information for communities in the LSA and RSA; this included surveys, reports, and presentations from such sources as the KDO (**Table 4-2**).

**Table 4-2 Summary of Key Economic Conditions Secondary Data Sources**

Economic Conditions
<ul style="list-style-type: none"> <li>• Klondike Business Retention and Development Survey 2011 (KDO 2011)</li> <li>• Regional Economic Development Fund Contribution Agreement REDF – 164, Local Procurement (Final Project Activity Report, Period Ending March 31, 2013) (KDO 2013)</li> <li>• Dawson Employer Labour Market Survey Report (July 2013) (KDO 2013a)</li> <li>• Regional Economic Development Plan Traditional Territory of the Tr'ondëk Hwëch'in: Community Based Projects Implementation 2012-14 (Project 6, Regional Labour Market Development Strategy: 2013-14 VN (CED Activities) Final Project Activity Report (#ZOBM). (KDO 2014)</li> <li>• Dawson Seasonal Worker Survey Report 2014 (KDO 2014a)</li> <li>• Klondike Development Organization (KDO). 2011a. Klondike Development Organization Strategic Plan 2011-2015. <a href="http://www.klondikedevlopment.com/wp-content/uploads/2011/03/forum_1strategicplan.pdf">http://www.klondikedevlopment.com/wp-content/uploads/2011/03/forum_1strategicplan.pdf</a>. Accessed April 2016.</li> <li>• Government of Yukon (YG). 2016. Economic Development. Accessed April 4, 2016. <a href="http://www.economicdevelopment.gov.yk.ca/index.html">http://www.economicdevelopment.gov.yk.ca/index.html</a>.</li> <li>• Government of Yukon (YG). 2015. Economic Sectors. <a href="http://www.gov.yk.ca/aboutyukon/industry.html">http://www.gov.yk.ca/aboutyukon/industry.html</a>. Accessed April 2016.</li> <li>• Mining Industry Human Resources Council (MIHR). 2012. Yukon Hiring Requirements and Available Talent Forecast, 2013. <a href="http://www.education.gov.yk.ca/pdf/yukon_hiring_requirements_talent_forecasts_2013.pdf">http://www.education.gov.yk.ca/pdf/yukon_hiring_requirements_talent_forecasts_2013.pdf</a>. Accessed August 28, 2015.</li> <li>• City of Dawson and Tr'ondëk Hwëch'in. n.d. After the Gold Rush: The Integrated Community Sustainability Plan, Volume I: The City of Dawson and Tr'ondëk Hwëch'in Community Vision. <a href="http://www.infrastructure.gov.yk.ca/pdf/icsp_dawson.pdf">http://www.infrastructure.gov.yk.ca/pdf/icsp_dawson.pdf</a>. Accessed April 2016.</li> </ul>

#### 4.3.2 Primary Research

##### 4.3.2.1 Local Business and Economic Development Survey

A survey was conducted with local businesses in Dawson from January 26, 2016 to March 24, 2016. Local businesses were identified by contacting members of the Dawson City Chamber of Commerce and those who were listed in the City of Dawson's Business Directory. In total, the survey was sent to 196 businesses, which included 150 businesses who received a link to complete the survey online via an email, and 46 businesses who received a letter with a paper copy of the survey enclosed. As of April 22, 2016,

14 letters had been returned to sender as undeliverable. In total, as of March 24, 2016, 23 businesses completed the survey (12% response rate).

For details regarding focus group methodology, please see **Section 2.3**. The survey asked a total of 24 questions, which included multiple choice and Likert scale<sup>14</sup> questions. Several questions provided a field that allowed contributors to add additional detail and comments with respect to the question asked. The objective of the survey was to gain a better understanding of the local economic setting by learning more about the existing local economy, labour market conditions, the seasonal boom and bust economy in Dawson, and economic development. A copy of the survey and summarized results are presented in **Appendix B Local Business and Economic Development Survey**.

#### **4.3.2.2 Local Business Focus Group**

A local business focus group for businesses in the Dawson area was held on February 9, 2016 at the Curling Club in Dawson, from 1:00 p.m. to 3:00 p.m. Local businesses were identified by contacting members of the Dawson City Chamber of Commerce and those who were listed in the City of Dawson's Business Directory. In total, the invitation to attend the focus group was sent to 196 businesses. A total of 14 people representing a variety of local businesses attended the focus group.

For details regarding focus group methodology, please see Section 2.2. The three main topics explored during the focus group included: the existing business environment, existing employment conditions, and sustainable economic development (including boom and bust cycles).

#### **4.3.2.3 Interviews**

Semi-structured informational interviews were conducted with representatives from various agencies and organizations to enhance the understanding of and confirm desktop research findings. For details regarding interview methodology, please see **Section 2.1**. Information related to the local labour market, boom and bust economy, economic development, and cost of living were discussed, in addition to related socio-economic factors that influence economic conditions. This discussion included the availability of housing and accommodations in the Klondike Region. **Table 4-3** identifies the interviews related to economic conditions that were conducted by the Project team.

**Table 4-3 Summary of Economic Conditions Interviews**

No.	Organization	Date of Interview	Method of Contact
1	Dawson City Chamber of Commerce	February 11, 2016	In-person Interview
2	Klondike Development Organization	February 23, 2016	Phone Interview
3	Coldwell Banker Redwood Realty	March 4, 2016	Phone Interview

<sup>14</sup> Likert scaling involves measuring positive or negative responses to a statement (i.e., presenting options from strongly disagree to strongly agree).



#### **4.4 ECONOMIC CONDITIONS RESULTS AND DISCUSSION**

The following describes the baseline economic conditions within the LSA and RSA. Depending on the topic and availability of data, information is either presented by study area, or described together to provide context and discuss any apparent differences or similarities between the economic conditions of the various study areas. In this section, total refers to data reflecting both Aboriginal and non-Aboriginal populations for a community or location.

##### **4.4.1 Income and Income Distribution**

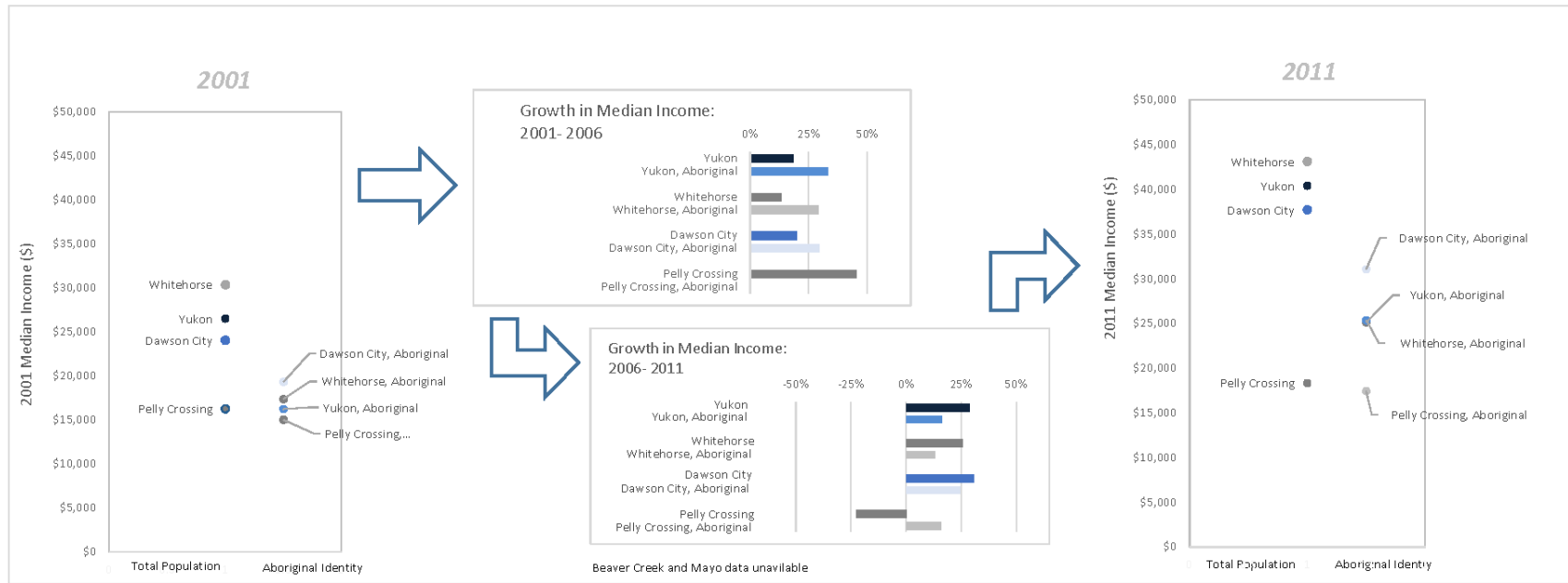
There is variability in income levels and distribution across communities in the LSA, as well as in the context of the broader territory (**Table 4-4**). Of the LSA communities with available data, Whitehorse had the highest median individual income in 2011 (\$43,237), although the highest median individual income for those of Aboriginal identity was in Dawson (\$31,075). Results of the local business survey indicate that average wages paid to employees across various industries in Dawson range between \$15 and over \$25 per hour. The opinion of most survey participants (52 percent (%)) indicated that average wages have increased over the last two years. This result reflects income data reported to Statistics Canada between 2001 and 2011, as well as to the Canada Revenue Agency between 2004 and 2013 **Figure 4-2** and **Figure 4-3**, and demonstrates increasing values for median and average incomes in Dawson (Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b, YBS 2016c). Decent wages were identified through primary data collection as a component of retaining staff and growing a healthy business community in Dawson (Interview 20, Pers. Comm. 2016, Interview 23, Pers. Comm. 2016).

**Table 4-4 Median Individual and Household Income in the Local and Regional Study Areas**

Location	Median Individual Income for Population 15+ (\$)			Median Household Income for Population 15+ (\$)
	Total	Male	Female	Total
<b>RSA</b>				
Yukon (total)	\$40,391	\$42,867	\$37,899	\$75,944
Yukon (Aboriginal identity)	\$25,113	\$22,674	\$28,311	\$58,551
<b>LSA</b>				
Whitehorse (total)	\$43,237	\$46,745	\$40,580	\$82,345
Whitehorse (Aboriginal identity)	\$25,407	\$23,633	\$28,646	\$70,318
Pelly Crossing (total)	\$18,328	\$17,517	\$18,920	\$50,829
Pelly Crossing (Aboriginal identity)	\$17,411	\$16,154	\$18,387	\$50,081
Mayo	Data for this area have been suppressed for data quality or confidentiality reasons.			
Beaver Creek	Data for this topic has been suppressed to meet confidentiality requirements of the <i>Statistics Act</i> .			
Dawson (total)	\$37,705	\$41,107	\$34,697	\$60,072
Dawson (Aboriginal identity)	\$31,075	\$46,666	\$31,025	\$55,002

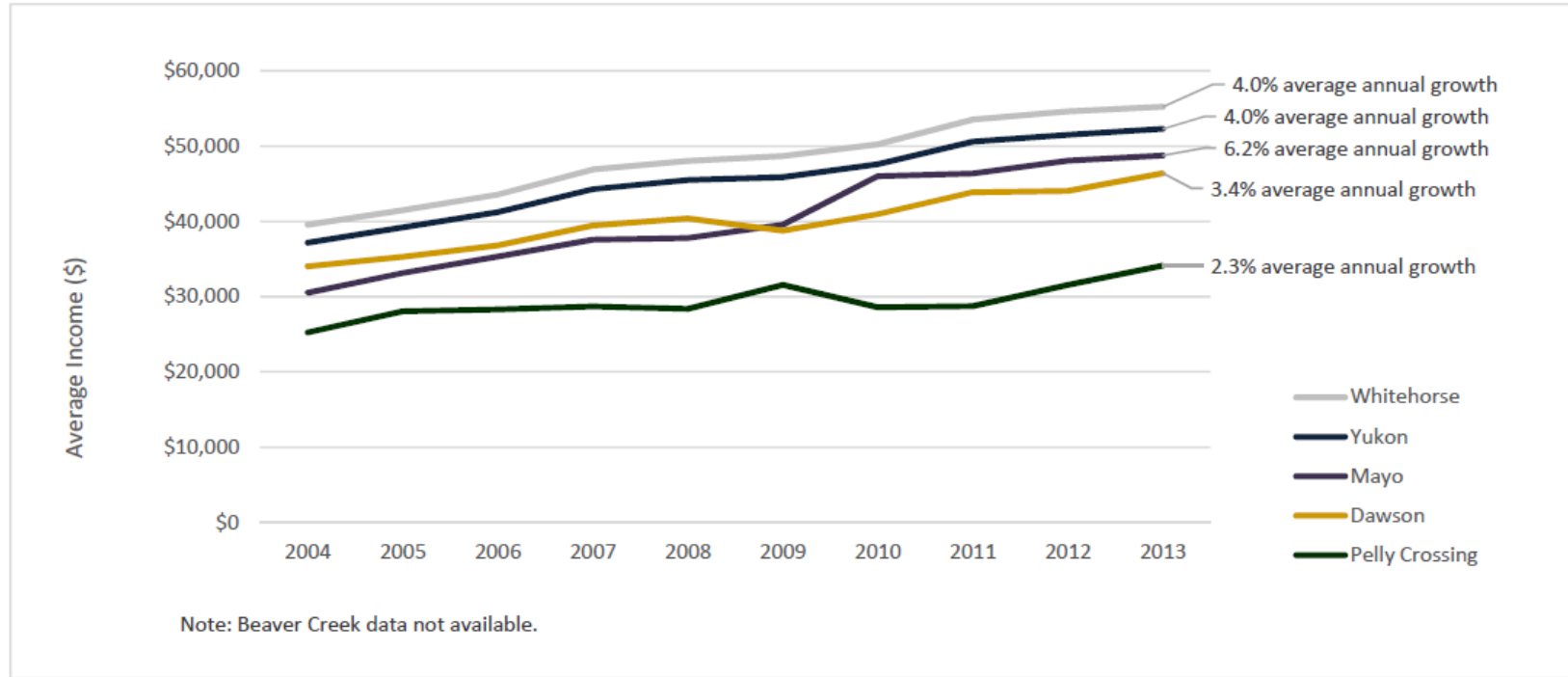
**Source:** Statistics Canada 2013b, 2013a

**Notes:** Yukon total and Aboriginal identity includes all data for the territory, including LSA communities. Total includes Aboriginal identity populations.



Sources: Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b

Figure 4-2 Change in Median Income 2001 to 2011 in the Local and Regional Study Areas



Source: YBS 2016a

Figure 4-3 Change in Average Income between 2004 to 2013 in the Local and Regional Study Areas

Gender differentials in median individual incomes were identified in LSA communities. In general, all median incomes for males in LSA communities (total population) were approximately \$5,000 to \$6,000 greater than incomes for females in 2011. The gender differential for Yukon was approximately \$5,000. However, in contrast with the total population, median female incomes were greater than the income for males for the Aboriginal population, except for Dawson. Dawson demonstrated the greatest discrepancy between male and female median income (\$46,666 for males and \$31,025 for females); however, all female incomes for Aboriginal populations in the other LSA communities were approximately \$2,000 to \$6,000 greater than incomes for males. Between 2001 and 2011, all LSA communities experienced overall increases in median individual income, ranging from 12.6% in Pelly Crossing to 56.9% in Dawson (Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b).

Median household income for adult populations (aged 15 years and over) also varied across communities in the LSA (**Figure 4-4.**)

Reflecting median individual income, median household income in 2011 for the total population of communities was greater than the median household income for Aboriginal populations. Of the LSA communities with available data, Whitehorse had the greatest median household income in 2011 (\$82,345), followed by Dawson (\$60,072). As Whitehorse's adult population (aged 15 years and over) comprises a large proportion of Yukon's total adult population (76.7% in 2011), this influences Yukon's median household income, which was \$75,944 in 2011 (Statistics Canada 2013b, 2013a).

Individuals who worked full-time for a full year with employment income for 2010 comprised 20.7% to 42.5% of the adult population (aged 15 years and over) of LSA communities (**Figure 4-4.**)

For Yukon as a whole, the proportion was 39.3% of the total adult population. The greatest incomes for full-time, full year employment were for Whitehorse's total adult population (\$61,942) and Dawson's Aboriginal identity population (\$61,868). Although a smaller proportion of Dawson's Aboriginal population worked a full year with full-time employment income for 2010 (18.9% compared to 33.8%), the median income was greater than the total population for Dawson (\$49,921) (Statistics Canada 2013b, 2013a). Except for Pelly Crossing, all median full year, full-time incomes for males in communities were approximately \$11,000 to \$15,000 greater than incomes for females in 2010. The gender differential for Yukon was approximately \$9,000 greater for males. This compares to Aboriginal populations that demonstrated greater median full year, full-time income in 2010 for females for all communities surveyed (approximately \$5,000) except Dawson (Statistics Canada 2013b, 2013a).

The composition of total income sources for the adult population (aged 15 years and over) varied across the communities (**Table 4-5.**) Income sources are presented by employment income (e.g., wages and salaries), other market income (e.g., investment income and retirement income), and government transfer payments (i.e., benefits received from federal, provincial, territorial, or municipal governments). Income from employment in 2011 was above 70% for all communities, with the greatest proportions in Dawson for

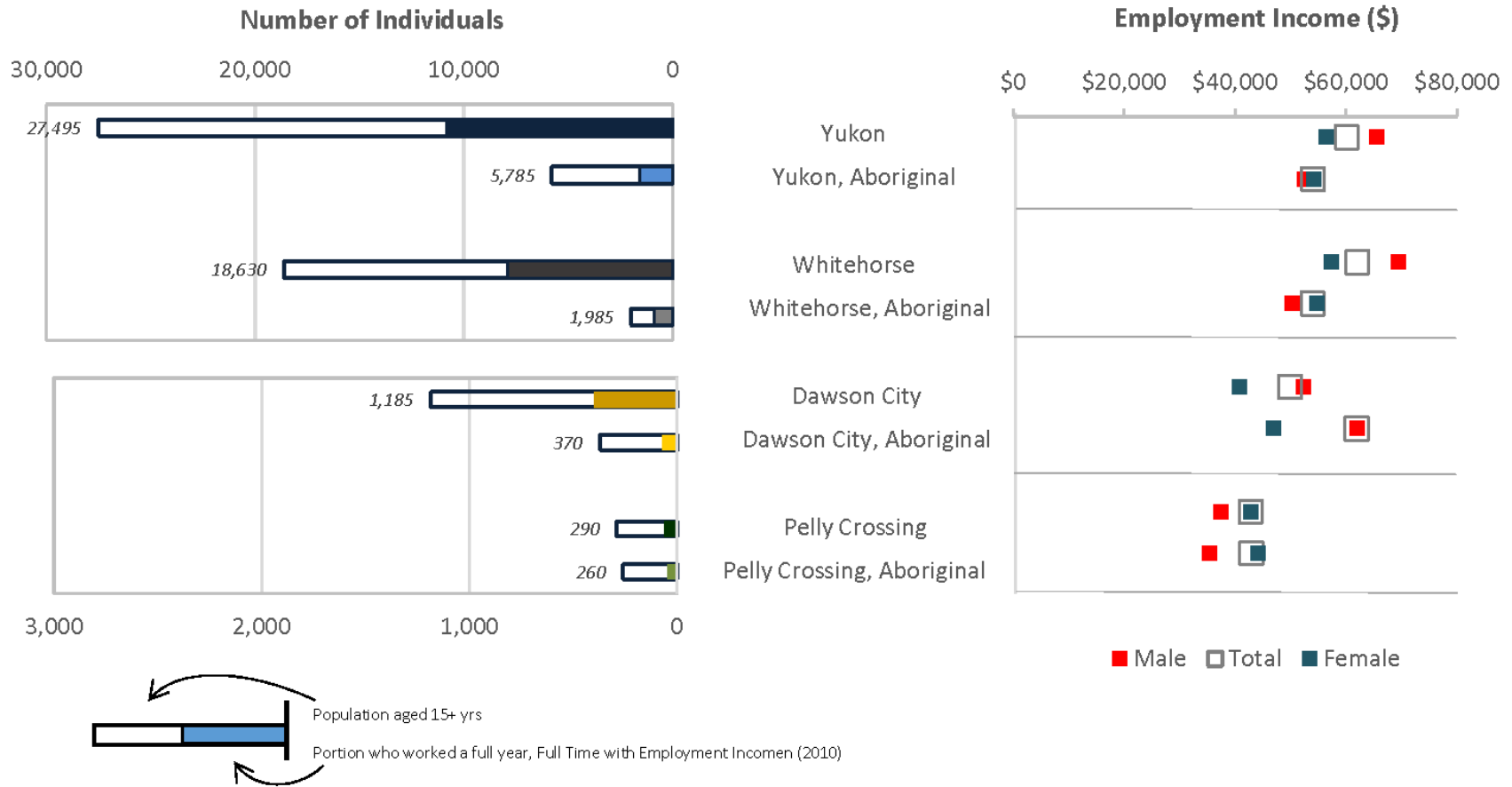
both total and Aboriginal populations (85.5% and 83.7%, respectively). Employment income for Aboriginal populations in 2011 was 2% to 7% less than the corresponding proportions for the total populations in communities. The composition of government transfer payments as a proportion of total income for Aboriginal populations was greater than total populations in the LSA and RSA. In 2011, Whitehorse's adult population (aged 15 and over) had the least proportion of their income from government transfer payments (7.8%), while the Aboriginal population of Pelly Crossing had the greatest (25.4%) (Statistics Canada 2013b, 2013a).

**Table 4-5 Income Sources in the Local and Regional Study Areas**

Location	Market Income		Government Transfer Payments (%)
	Employment Income (%)	Other Market Income (%)	
<b>RSA</b>			
Yukon (total)	81.8	9.0	9.2
Yukon (Aboriginal identity)	76.6	5.6	17.8
<b>LSA</b>			
Whitehorse (total)	82.8	9.5	7.8
Whitehorse (Aboriginal identity)	84.9	5.9	15.2
Pelly Crossing (total)	74.7	5.5	21.5
Pelly Crossing (Aboriginal identity)	70	3.4	25.4
Mayo	<i>Data for this area have been suppressed for data quality or confidentiality reasons.</i>		
Beaver Creek	<i>Data for this topic has been suppressed to meet confidentiality requirements of the Statistics Act.</i>		
Dawson (total)	85.5	5.1	9.3
Dawson (Aboriginal identity)	83.7	5.2	11

**Source:** Statistics Canada 2013b, 2013a

**Notes:** Yukon total and Aboriginal identity includes all data for the territory, including LSA communities. Total includes Aboriginal identity populations.



Sources: Statistics Canada 2013b, 2013a

Figure 4-4 Population 15+ with Employment Income, and Median Individual Incomes in the Local and Regional Study Areas (2010)

#### 4.4.2 Labour Market

This section provides information on the labour force and employment characteristics of the LSA, and RSA, including labour force size, participation rates (employed or actively seeking employment), unemployment rates, occupations and industries, employment type and tenure, and identification of future labour force trends.

##### 4.4.2.1 Labour Force

The labour force includes the adult population (aged 15 years and older) that is working, looking for work, or willing to work, including both those employed or unemployed. It does not include adults who have opted out of seeking wage employment (i.e., adults that are either unable to work or unavailable for work). Labour force data for Yukon and Whitehorse are available for 2015, and identify high participation rates and low unemployment rates (**Table 4-6**) (YBS 2016d). **Table 4-6** and **Figure 4-5** provide an overview of 2011 labour force activity in the RSA. In 2011, the total labour force comprised 21,245 workers in Yukon Territory, with 16,520 workers in Whitehorse, 960 workers in Dawson, and 265 workers in the remaining LSA communities (Statistics Canada 2013b, 2013a). Generally, consistently low unemployment rates and high participation rates present challenges to the Yukon labour force's ability to fill employer needs.

**Table 4-6 Summary of 2015 Labour Force Activity in the Regional Study Area**

Location	Population Aged 15+	Labour Force	Participation Rate (%)	Employment Rate (%)	Unemployment Rate (%)
<b>RSA</b>					
Yukon (total)	28,100	20,700	73.7	69.0	6.3
Yukon (Aboriginal identity)	N/A	3,700	69.8	62.3	10.8

**Source:** YBS 2016d

**Note:** Total includes Aboriginal identity populations.

Unemployment rate is expressed as a percentage of the total labour force, whereas employment rate is expressed as a percentage of the population aged 15+; therefore, unemployment and employment rates will not add up to 100%.



**Table 4-7 Key Labour Force Characteristics for the Local and Regional Study Areas**

Location	2011 Census Population (no.)	Population 15+ by Labour Force Status (no.)	In the Labour Force (no.)	Participation Rate (%)	Employment Rate (%)	Unemployment Rate (%)
<b>RSA</b>						
<b>Yukon (total)</b>	33,320	27,495	21,245	77.3	69.7	9.8
<b>Yukon (Aboriginal identity)</b>	7,705	5,785	4,050	70	54	22.7
<b>LSA</b>						
<b>Whitehorse (total)</b>	25,570	20,920	16,520	79.0	72.7	7.9
<b>Whitehorse (Aboriginal identity)</b>	4,100	2,900	2,130	73.4	59.0	19.7
<b>Pelly Crossing (total)</b>	335	290	185	63.8	34.5	45.9
<b>Pelly Crossing (Aboriginal identity)</b>	305	260	170	65.4	30.8	50
<b>Mayo (total)<sup>1</sup></b>	248 <sup>1</sup>	195	150	76.9	64.1	16.7
<b>Beaver Creek (total)</b>	100	85	80	94.1	82.4	0
<b>Beaver Creek (Aboriginal identity)</b>	<i>An Aboriginal population profile is not available for this area.</i>					
<b>Dawson (total)</b>	1,295	1,185	960	81	72.2	10.9
<b>Dawson (Aboriginal identity)</b>	430	370	285	77	56.8	28.1

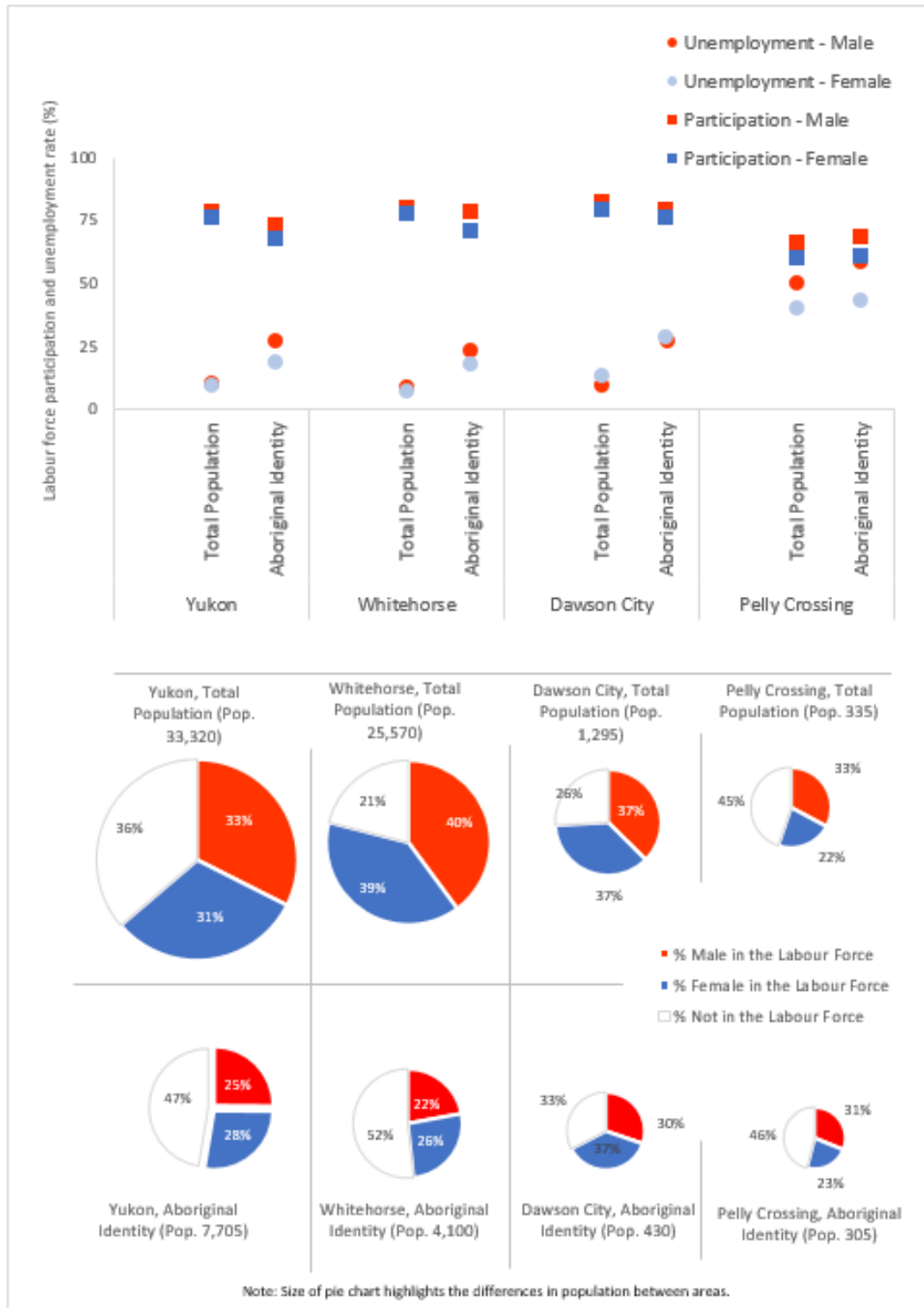
**Source:** Statistics Canada 2007b, 2013a, 2013b

**Notes:** Yukon total and Aboriginal identity includes all data for the territory, including LSA communities.

Total includes Aboriginal identity populations.

Unemployment rate is expressed as a percentage of the total labour force, whereas employment rate is expressed as a percentage of the population aged 15+; therefore, unemployment and employment rates will not add up to 100%.

<sup>1</sup> 2011 data for this area (Mayo) have been suppressed for data quality or confidentiality reasons. Therefore, 2006 data are presented.



Source: Statistics Canada 2013b, 2013a

Figure 4-5 Key Labour Force Characteristics for the Local and Regional Study Areas – Gender Differentials

### **Regional Study Area**

Between 2005 and 2015, Yukon's labour force increased from 18,000 to 20,700 **Figure 4-6** (YBS 2013, 2014, 2015b, 2016d). This is representative of a general upward trend in total labour force numbers for the territory since 2000 (YED 2015). Divergent data on the territory's labour force were provided in the NHS; however, the Yukon labour force was identified as 21,245 in 2011 (Statistics Canada 2013b, 2013a). The Aboriginal labour force comprised 3,700 workers in 2015, representing approximately 18% of the total Yukon labour force (YBS 2016d). Like total population data provided, the NHS identifies that Yukon's Aboriginal labour force was 4,050 workers in 2011, representing approximately 19% of the total Yukon labour force (Statistics Canada 2013b, 2103a). With a population of 23,900 and a labour force of 17,800 in 2015, Whitehorse represents approximately 86% of the Territory's total labour force, and consequently often reflects data at the territory scale (YBS 2016c). In 2015, of the 7,400 Yukon adults not in the labour force, approximately 95% did not want work or were not available. Approximately 5% of adults in Yukon not in the labour force did want work, but cited illness, personal or family reasons, attending school, awaiting recall or reply, and discouragement (believed no suitable work was available), among others, as reasons for not searching for work (YBS 2016d).

Yukon's 2015 participation rate was 73.7%; though this marked a decrease from the territory's 2011 participation rate of 77.3%, it was the second highest rate observed in Canada in 2015 (YBS 2016d). The participation rate for Whitehorse in 2015 was 74.5%, which was greater than the rest of Yukon (69%) (YBS 2016d). The participation rate of Yukon's Aboriginal adult population was 69.8% in 2015, reflecting an increase from 2014, but minor change from 2011 (70%) (Statistics Canada 2013b, 2013a; YBS 2016d). Between 2001 and 2011 however, Yukon's Aboriginal labour force participation rate decreased from 71.9% to 70% **Figure 4-7**.

Yukon's total labour force experienced a similar decrease in participation, from 79.8% to 77.3% between 2001 and 2011 (Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b). Of note, in 2015, Yukon's Aboriginal labour force aged 25 to 54 had a higher participation rate (66.7%) than the non-Aboriginal labour force of the same age (59.4%) (YBS 2016d). In terms of gender differentials, participation rates for Yukon in 2011 were slightly greater for males (78.6%), compared to females (76%) (Statistics Canada 2013b, 2013a). In 2011, the participation rate balance between males and females in Whitehorse was 81.5% and 78.3%, respectively, both of which decreased in 2015 (77.2% and 71.6%, respectively) (Statistics Canada 2013b, 2013a; YBS 2016d).

Yukon's 2015 employment rate of 69.0% was the highest in Canada, which is consistent with Yukon's employment rate over the last 10 years (YBS 2016d). Between 2006 and 2015, Yukon's average employment rate was 70.5% in comparison to Canada's average rate of 62.1% during the same period (**Figure 4-6**) (YBS 2016d). In 2015, the employment rate in Whitehorse was 70.3%, a decrease from the 73.9% reported in the 2011 NHS (Statistics Canada 2013b, 2013a; YBS 2016d). The employment rate of

the Aboriginal labour force in 2015 for Yukon was 62.3%, an increase from 54% reported in the 2011 NHS (Statistics Canada 2013b, 2013a; YBS 2016d). The employment rate for the Aboriginal labour force in Whitehorse was 59.2% in 2011 (Statistics Canada 2013b, 2013a). The 2015 demographics of Yukon's Aboriginal labour force indicate that the employment rate is lowest for those aged 55+ (46.7%) and greatest amongst individuals between the ages of 25 to 54 (73.1%) (YBS 2016d). Of note, higher employment rates were observed for Yukon's Aboriginal labour force between 15 and 24 (58.3%), when compared to the non-Aboriginal labour force (53.1%) (YBS 2016d).



Sources: YBS 2013, 2014, 2015, 2016b

Figure 4-6 Key Labour Force Characteristics for the Regional Study Area: 2005 to 2015



Source: Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b

Figure 4-7 Key Labour Force Characteristics for the Local and Regional Study Areas: 2001 to 2011

Yukon's 2015 unemployment rate was 6.3%, an increase since 2014 (4.3% unemployment) (YBS 2016d). The increased unemployment rate between 2014 and 2015 can be attributed to falling commodity prices and production and employment cutbacks in Yukon's mining industry, although it is anticipated that a positive employment trend will continue (Government of Canada 2015a). In 2015, Yukon's unemployment rate was below the national average of 6.9%, reflecting a trend observed over the last 10 years, where Yukon has had an average unemployment rate (5.7% between 2006 and 2015) below that of the national average (7.1% between 2006 and 2015) (YBS 2016d, YED 2015). The consistently low unemployment rate represents a challenge for the territory to meet skilled labour needs. It is anticipated that the Yukon labour force will not be able to meet expected skilled labour needs in the mining sector (Herkes et al 2013). Other challenges identified for Yukon's labour force are an aging population and decreasing birth rate, accompanied by population loss via interprovincial migration (Government of Canada 2015b). Yukon's 2015 Aboriginal unemployment rate was 10.8%, an increase since 2014 (8.8% unemployment) (YBS 2016d). The NHS identified 9.8% and 22.7% unemployment rates for Yukon's total and Aboriginal populations in 2011 (Statistics Canada 2013b, 2013a).

The Yukon Government's Labour Market Framework for Yukon identifies five strategies to diversify the economy and address labour market issues, including: comprehensive skills and trades training strategy; immigration strategy; labour market information strategy; national recruitment strategy; and employee retention strategy (YG 2008). Per the 2014 Yukon Labour Market Supply and Migration Study, Yukon's population, labour force, and employment are expected to grow between 2013 and 2021. By using a projection model, the authors anticipate that Yukon's unemployment rate will slightly decline, and the participation rate will slightly increase. To fill labour force needs, a positive net-migration is assumed over this period, reflecting migration trends from 2003 to 2013. It is noted in the report that interprovincial migration was a key factor in supplying workers to Yukon (Millier Dickinson Blais 2014). Refer to **Section 3.4.4** for a detailed discussion of population migration in the LSA and RSA.

Individuals from outside of Canada can work in Yukon to fill employer needs, through federal and territorial programs such as the Yukon Nominee Program, Temporary Foreign Worker Program, and Foreign Qualifications Recognition Program. The Yukon Nominee Program is designed to fill permanent full-time jobs, with 388 nominees brought in to the territory between 2006 and early 2010. Yukon Education conducted a survey in 2010 of the Yukon Nominee Program: of nominees surveyed (265 or 68% of total nominees), 35 lived in Dawson, compared to 91 in Whitehorse (Yukon Education 2010). In terms of the Temporary Foreign Worker Program, individuals receiving permits for Yukon as their destination comprised 88 in 2015 and 77 in 2014 (Citizen and Immigration Canada 2016). Refer to **Section 3.4.4** for a detailed discussion of immigration in the LSA and RSA.

Much of the mining labour force in Yukon does not permanently reside in Yukon (MIHR 2012). 2013 work force data from three mines operating at that time demonstrate that the mining industry in the territory relies heavily on fly-in / fly-out labour. Of approximately 624 employees working at the Minto, Bellekeno, and Wolverine mines and contractors working at the Wolverine Mine in 2014, 67% resided outside of Yukon. The data also demonstrate a disproportionate gender and Aboriginal balance: approximately 88% of total employees and contractors were male, and 18% had First Nation status (Herkes et al. 2013).

### **Local Study Area**

With a population of 23,900 and a labour force of 17,800 in 2015, Whitehorse represents approximately 86% of Yukon's total labour force, and consequently often reflects data at the territory scale (YSB 2016d). The participation rate for Whitehorse in 2015 was 74.5%, which was greater than the rest of Yukon (69%) (YBS 2016d). In 2011, the participation rate balance between males and females in Whitehorse was 80.2% and 77.7%, respectively, both of which decreased in 2015 (77.2% and 71.6%, respectively) (Statistics Canada 2013b, 2013a; YBS 2016d). In 2015, the employment rate in Whitehorse was 70.3%, a decrease from the 72.7% reported in the 2011 NHS (Statistics Canada 2013b, 2013a; YBS 2016d). The employment rate for the Aboriginal labour force in Whitehorse was 59.0% in 2011 (Statistics Canada 2013b, 2013a).

Current and frequent labour market data between Census years are not available for Dawson or other LSA communities, although secondary and primary data indicate that access to labour force in Dawson is considered one of the largest constraints to business and economic expansion in the area (KDO 2011b, 2014a; Interview 28, Pers. Comm. 2016). The Regional Labour Market Development Strategy (Regional Economic Development Plan: Traditional Territory of the Tr'ondëk Hwëch'in) identifies a targeted regional labour market development strategy, in the context of the local economic characteristics (KDO 2014a). Goals centre on the following key areas: immigration, current labour market information, recruitment and retention strategies, programs and services awareness, and partnerships and communication (KDO 2014a).

### **Labour Force**

The total labour force in LSA communities with available data for 2011 was 17,895, which represents 84.2% of the total labour force in Yukon. The LSA Aboriginal identity labour force however, comprises approximately 63.8% of the total Aboriginal labour force in the territory. Dawson represents 5.4% of the LSA communities' total labour force, with 960 adults (aged 15 years and over) in 2011 (Statistics Canada 2013b, 2013a). Comparing LSA communities to the RSA using 2011 NHS data reveal that the Aboriginal labour force represents a smaller proportion of the total labour force in the broader territory (19.1%) than in Dawson (29.69%) and Pelly Crossing (91.89%) (**Table 4-7** and **Figure 4-4**). (Statistics Canada 2013b, 2013a). Dawson's labour force, as identified through various surveys and reports (KDO 2011b, 2013a, 2014a), is restricting the community's local economic and business development. It is anticipated that Dawson's population will not be able to fill labour force needs related to economic expansion (Kishchuk



2008). The Yukon Nominee Program and federal Temporary Foreign Worker Programs are used in Dawson to fill labour needs (KDO 2014a). In response to the local business and economic development survey, business owners identified that the availability of workers was reasonably good, although approximately 28.6% of respondents identified that they have specific positions that they could fill if qualified workers were available. Most respondents (77.3%) do not believe that their ability to hire workers has changed in the past five years. Most business owner respondents (73.7%) are most likely to hire local residents (i.e., within 50 km of Dawson).

### ***Participation and Employment***

In 2011, Beaver Creek had greater participation and employment rates (94.1% and 82.4%, respectively) than Pelly Crossing (63.8% and 34.5%, respectively) **Table 4-7** and **Figure 4-6** (data for the community of Mayo was suppressed). From 2001 to 2011, Pelly Crossing reflected RSA trends of decreased participation and employment rates, however these rates both increased over the same period for the Beaver Creek labour force **Figure 4-6** (Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b). Pelly Crossing's Aboriginal population had similar participation and employment rates (65.4% and 30.8%, respectively) as the total population, likely due to the large proportion of adults self-identifying as Aboriginal in the total labour force (91.9%). Pelly Crossing's gender differentials reflect a higher proportion of males in the labour force for both total and Aboriginal populations, but higher employment rates for females in both populations (Statistics Canada 2013b, 2013a). Though community level data were not available for 2015, key labour force characteristics for Yukon communities (excluding Whitehorse) include: 69.0% participation rate; 61.9% employment rate; and 6.9% unemployment rate (YBS 2016d).

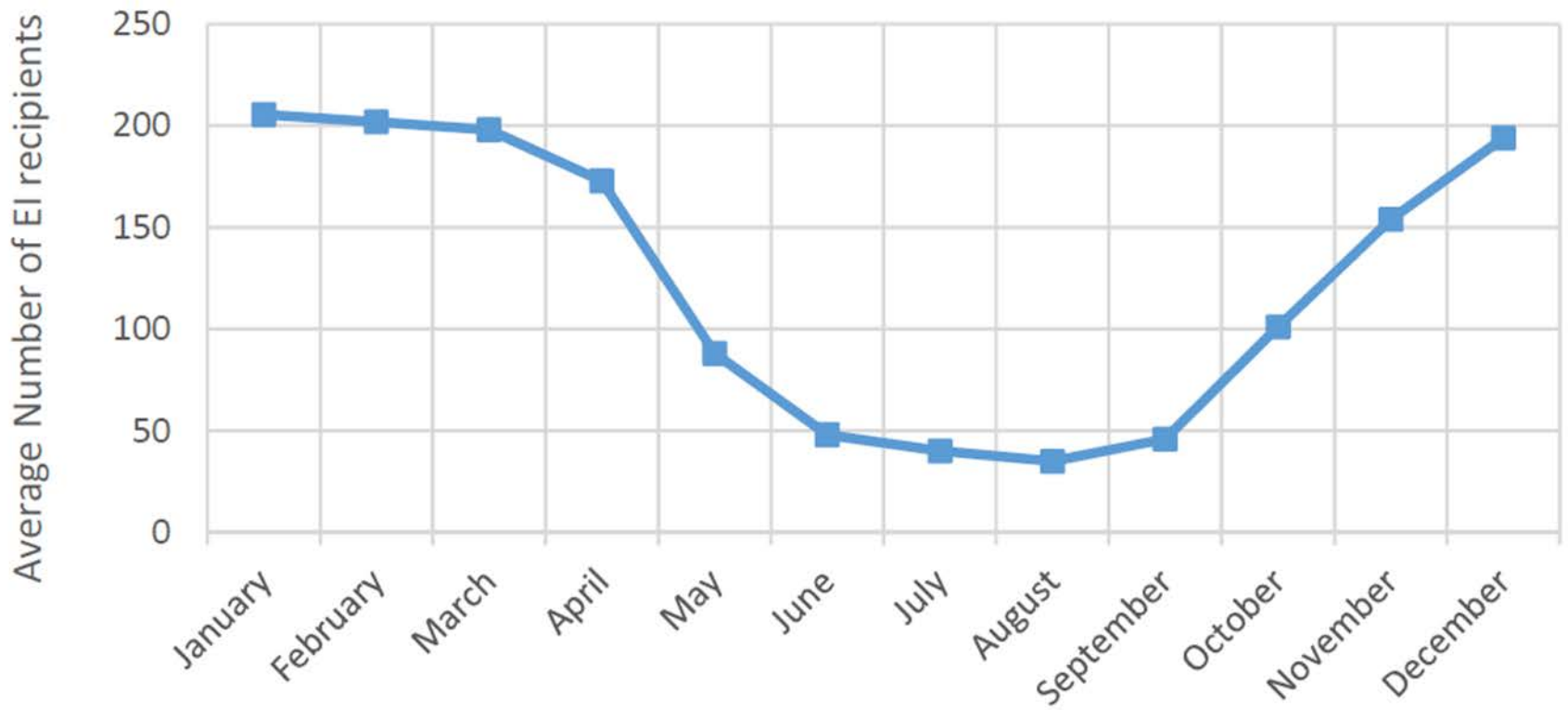
In 2011, Whitehorse and Dawson had greater participation rates (79.0% and 81%, respectively) compared to the territory as a whole (77.3%), which demonstrate constraints on economic expansion (**Table 4-7** and **Figure 4-6** (Statistics Canada 2013b, 2013a, KDO 2014a, Interview 28, Pers. Comm. 2016). Whitehorse and Dawson also had higher employment rates than the territory as a whole in 2011 (72.7% and 72.2%, respectively, compared to 69.7% in Yukon) (**Table 4-7** and **Figure 4-6**).

High employment rates for Dawson are particularly evident in the summer (Interview 28, Pers. Comm. 2016). The employment rate of Dawson's Aboriginal population was comparable to the territory; however, the participation rate was greater (79% and 77%, respectively, compared to 70%). Both the participation and employment rates of the Aboriginal populations of Whitehorse and Dawson were lower than those of the total population for the communities in 2011. In terms of gender balance, males exhibited greater participation and employment rates for both total and Aboriginal populations in Whitehorse and Dawson. This reflects the gender balance in both labour market characteristics for the RSA. From 2001 to 2011, the participation and employment rates for Dawson's total and Aboriginal populations decreased, which reflects a similar trend in the RSA **Figure 4-6** (Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b).

### ***Unemployment***

The unemployment rate in Whitehorse in 2011 was 7.9%, which is lower than Yukon overall (9.8%) and an improvement from 2006 (**Figure 4-7**). Dawson's unemployment rate in 2011 was 10.9%, which represents an improvement from 2006, but is greater than the 2001 rate (9.9%) (**Figure 4-7**).

The Aboriginal population's unemployment rate has increased each Census year from 15% in 2001 to 28.1% in 2011 (**Figure 4-7**) (Statistics Canada 2003, 2007a, 2007b, 2013a, 2013b). Pelly Crossing and Beaver Creek exhibited divergent unemployment rates in 2011: 45.5% and 0.0%, respectively (refer to **Section 2.6.2.1** regarding statistical data limitations) (Statistics Canada 2013b, 2013a). Through primary data collection it was identified that the unemployed labour force in Dawson is small, and is mostly seasonal or by choice (Interview 19, Pers. Comm. 2016). This observation is reinforced by Employment Insurance beneficiaries data, which demonstrate strong fluctuation in seasonal employment, with higher unemployment in winter months (**Figure 4-8**) (KDO 2014a, YBS 2016d). In Dawson, the KDO provides free advice to entrepreneurs and businesses, as well as employment services including: providing physical and online job boards; assisting job seekers to prepare for employment (i.e., resume support, mock interviews, cover letters, etc.); providing use of computer and internet, fax, telephone, and resource library; acting as a resource for employment-related programs; providing a message service for job seekers; and storing client resumes (Interview 23, Pers. Comm. 2016, Interview 28, Pers. Comm. 2016).



Source: YBS 2016c

Figure 4-8 Cyclical Unemployment: Employment Insurance Beneficiaries for Dawson, Average 2006 to 2016

#### 4.4.2.2 Occupation

Occupations are defined as collections of jobs, and are organized and defined in the National Occupational Classification (NOC), which provides a framework of occupations in the Canadian labour market, consisting of 10 broad occupation categories as well as major, minor, and unit groups. In 2015, sales and service occupations employed the most Yukoners with 3,800 workers or approximately 22.9% of the labour force. This was followed by the business, finance, and administrative occupations, as well as occupations in education, law, and social, community, and government services categories (3,100 workers each, 18.7% of the Yukon labour force). From 2014 to 2015, there was a 4.5% decrease in the trades, transport, and equipment operators and related occupations, from 3,200 to 2,100 workers (YBS 2016d). The 2011 NHS identified sales, trades, and business occupations as the most prevalent for the Yukon labour force, representing 19.1%, 17.3%, and 17.1%, respectively (**Table 4-8**). The Yukon's 2011 Aboriginal labour force consisted of occupations primarily in trades, transport and equipment operators, and related occupations (875 workers, 22.9% of the Aboriginal Yukon labour force), followed by sales and service occupations (810 workers, 21.2% of the Aboriginal Yukon labour force), and business, finance, and administration occupations (660 workers, 17.3% of the Aboriginal Yukon labour force) (Statistics Canada 2013b, 2013a). In 2015, Yukon's total and Aboriginal labour forces were represented in all 10 NOC categories, which can indicate a diverse labour force. According to the 2014 Yukon Labour Market Supply and Migration Study, the occupations expected to experience the largest employment gains from 2011 to 2021 are: administrative and financial supervisors and administrative occupations; middle management occupations in retail and wholesale trade and customer services; professional occupations in law and social, community, and government services; para-professional occupations in legal, social, community and education services; and transport and heavy equipment operation and related maintenance occupations (Millier Dickinson Blais 2014).

The balance of occupations for Yukon was similar for Whitehorse's total and Aboriginal labour force in 2011 (**Table 4-8**). Dawson's total labour force was represented in 9 of the 10 NOC categories, compared to the Aboriginal labour force, which was represented in 5 of 10 categories. The Aboriginal population of Dawson evidenced stronger representation in fewer occupations, specifically in trades (28.1%), business (26.3%), and education, law and government services (22.8%). Pelly Crossing's prevalent total labour occupations included trades (21.6%), sales (18.9%), and education, law, and government services (13.5%), these numbers are similar to the community's Aboriginal labour force, which included trades (23.5%), sales (17.6%), and education, law, and government services (8.8%). Selkirk First Nation's Integrated Community Sustainability Plan identified the addition of workers with building trades skills would be an asset for the community (Inukshuk Planning & Development 2007). Beaver Creek's total labour force was focused on business (31.3%), followed by trades and education, law and government services (both 18.8%) (Statistics Canada 2013b, 2013a). The concentration of the LSA labour force in fewer occupations reflects small labour forces, which makes it difficult to support a large range of occupations. **Figure 4-9** provides a summary of the top three occupations in LSA and RSA communities.

**Table 4-8 Distribution of Occupations in the Local and Regional Study Areas**

Location	2011 Census Labour Force (no.)	Management Occupations (%)	Business, Finance, and Administration Occupations (%)	Natural and Applied Sciences and Related Occupations (%)	Health Occupations (%)	Occupations in Education; Law and Social; Community and Government Services (%)	Occupations in Art; Culture; Recreation and Sport (%)	Sales and Service Occupations (%)	Trades; Transportation and Equipment Operators and Related Occupations (%)	Natural Resources; Agriculture and Related Occupations (%)	Occupations in Manufacturing and Utilities (%)
<b>RSA</b>											
Yukon (total)	21,245	11.8%	17.1%	7.6%	4.4%	14.2%	3.4%	19.1%	17.3%	1.8%	1.4%
Yukon (Aboriginal identity)	4,050	7.3%	16.3%	4.2%	1.9%	15.2%	3.0%	20.0%	21.6%	4.0%	0.9%
<b>LSA</b>											
Whitehorse (total)	16,520	12.2%	18.5%	8.5%	4.6%	14.3%	3.2%	19.9%	16.1%	1.2%	1.4%
Whitehorse (Aboriginal identity)	2,130	7.2%	17.4%	4.7%	2.7%	14.9%	3.5%	25.6%	20.3%	3.2%	0.0%
Pelly Crossing (total)	185	8.1%	13.5%	5.4%	0.0%	16.2%	0.0%	18.9%	21.6%	5.4%	0.0%
Pelly Crossing (Aboriginal identity)	170	5.9%	8.8%	5.9%	0.0%	11.8%	0.0%	17.6%	23.5%	5.9%	0.0%
Mayo (total) <sup>1</sup>	195 <sup>1</sup>	7.7%	17.9%	5.1%	0.0%	10.3%	0.0%	15.4%	10.3%	7.7%	0.0%
Mayo (Aboriginal identity)	<i>An Aboriginal population profile is not available for this area.</i>										
Beaver Creek (total)	80	12.5%	31.3%	0.0%	0.0%	18.8%	0.0%	12.5%	18.8%	0.0%	0.0%
Beaver Creek (Aboriginal identity)	<i>An Aboriginal population profile is not available for this area.</i>										

Location	2011 Census Labour Force (no.)	Management Occupations (%)	Business, Finance, and Administration Occupations (%)	Natural and Applied Sciences and Related Occupations (%)	Health Occupations (%)	Occupations in Education; Law and Social; Community and Government Services (%)	Occupations in Art; Culture; Recreation and Sport (%)	Sales and Service Occupations (%)	Trades, Transportation and Equipment Operators and Related Occupations (%)	Natural Resources; Agriculture and Related Occupations (%)	Occupations in Manufacturing and Utilities (%)
Dawson (total)	960	9.9%	15.1%	3.1%	10.4%	11.5%	6.3%	19.8%	19.3%	4.7%	0.0%
Dawson (Aboriginal identity)	285	0.0%	26.3%	3.5%	0.0%	22.8%	0.0%	12.3%	28.1%	0.0%	0.0%

**Source:** Statistics Canada 2007b, 2013a, 2013b

**Notes:** Yukon total and Aboriginal identity includes all data for the territory, including LSA communities.

Total includes Aboriginal identity populations.





Data may not add due to rounding.

<sup>1</sup> 2011 data for this area (Mayo) have been suppressed for data quality or confidentiality reasons; therefore, 2006 data are presented.

# COFFEE GOLD MINE

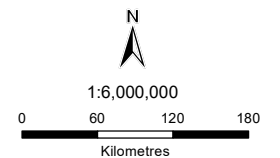
## Top Occupations for total and Aboriginal Population in the Local Study Area and Regional Study Area

### Legend

-  National/International Border
-  Project Footprint
-  Local Study Area
-  Regional Study Area

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



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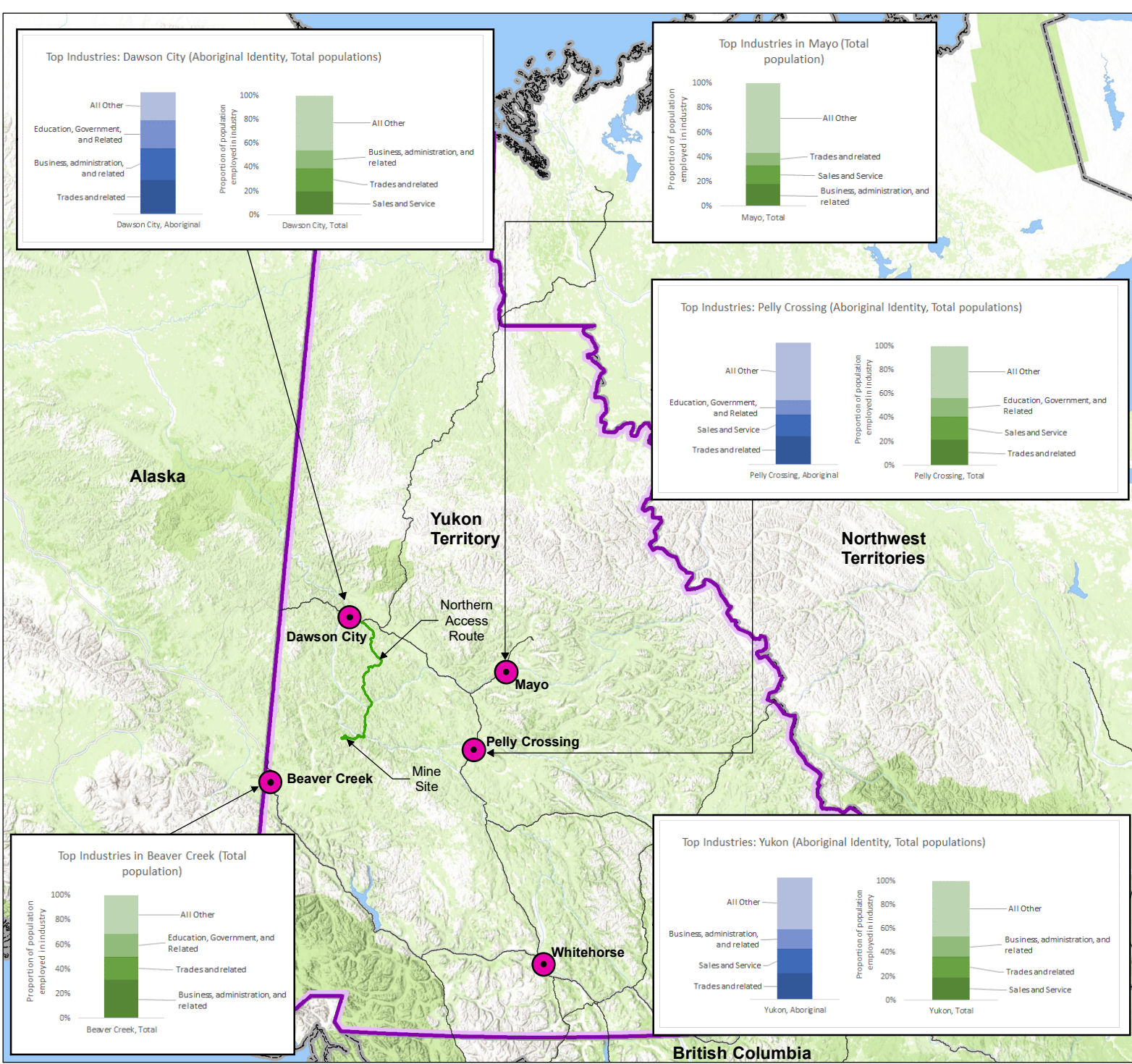
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Figure 4-9

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DP



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Occupations typical of mine operations (e.g., drillers, shovel operators, haul truck drivers) and mine maintenance (e.g., mechanics, electricians, labourers) are classified in the NOC under trades, as well as transportation and equipment operators and related occupations, in addition to natural resources and agriculture and related occupations. As described, trades comprise one of the largest occupation categories in the LSA and RSA in 2011. These occupations are represented under the management and natural and applied sciences NOC categories, which comprised a smaller proportion of the 2011 LSA and RSA labour force (Statistics Canada 2013b, 2013a).

In Yukon, workers in the mining industry are generally younger or older, with a gap in the 25 to 34-year age group. The mining workforce can be presented in the following sectors: mineral exploration, mineral extraction, and support services. In Yukon in 2012, the mining workforce comprised a larger proportion of the mineral exploration sector (41%), when compared to Canada (22%). Conversely, Yukon's mining workforce comprised a smaller proportion of the mining extraction sector (35%), when compared to Canada (60%) (MIHR 2012). Various labour market forecasts (by Mining Industry Human Resources Council (MIHR), Centre for Northern Innovation in Mining and Yukon Economic Development) for the mining industry and related occupations needed to support the mining industry in Yukon have identified gaps in terms of skills and available labour force (MIHR 2012; Herkes et al 2013). The MIHR analysis identified key hiring requirements in the following occupations: machine operators, mineral and metal processing; heavy equipment operators (except crane); underground mine service and support workers; underground production and development miners; and production workers in mineral and metal processing (MIHR 2012). The Centre for Northern Innovation in Mining analysis identified mining engineers, underground production and development miners, underground mine service and support workers, and mining and quarrying supervisors as occupations that would be the most in demand by 2023, while the Yukon Occupational Modelling System identified heavy equipment operators (except crane), underground production and development miners, and primary production managers as the most common occupations anticipated for 2015 (Herkes et al 2013).

Occupations that support mining operations are anticipated to focus in the sales and service occupations NOC category, which comprised a strong representation of the LSA and RSA 2011 labour force. Examples of sales and service occupations that could result in indirect or induced employment as a result of the Project include: travel and accommodation services; retail sales; and food and beverage services. Other occupation categories, such as business and management, could also experience indirect or induced employment opportunities as a result of the Project. Through a survey conducted in 2011 by KDO, critical labour force and skill shortages were identified in occupations directly and indirectly related to mining, including: cooks, electricians, equipment mechanics, equipment operators, and mechanics (KDO 2011b). In a 2013 survey, trades (mechanics, carpenters, etc.), kitchen and serving staff, office managers, book keepers, and highly skilled positions were identified as positions that are difficult to fill (KDO 2013a). In the Dawson area, it was noted that mining-related work in the summer changes from year to year. It was also



noted that in 2014, equipment operators from Alberta were seeking employment in the Dawson area (Interview 23, Pers. Comm. 2016). As a result of discussions with mine developers and operators, labour force skills, access to housing, and transportation challenges were identified as key concerns in the Dawson region for the mining sector (KDO 2013b). In particular, “labour market and skills shortages greatly inhibit business development viability” (KDO 2013b, p. 13).

The Yukon mining labour force forecasts also predicted anticipated occupation needs and gaps. The MIHR analysis predicted cumulative hiring requirements for 2023 ranging from 1,360 to 4,260 (depending on the economy scenario), and the Yukon Occupational Modelling System analysis predicted 1,400 jobs in the mining sector for 2020 (MIHR 2012; Herkes et al 2013). Based on a talent gap analysis (comparing hiring requirements and available talent), MIHR predicted talent gaps of 745, 1,630, and 2,515 workers for 2015, 2018, and 2023, respectively. The largest talent gap was identified for the technologist and technician occupation category, although negative talent gaps were identified for all occupation categories, both for primary and support sectors. For most occupation categories, the existing talent pool in Yukon does not contain enough workers to meet anticipated industry demands in the mining sector (MIHR 2012).

Yukon Work Futures forecasts employment prospects based on how the economy is expected to perform between 2012 and 2018. Very high demand is anticipated for six careers in the following occupations:

- Management
- Business, finance and administration
- Education, law and social and community and government
- Sales and service occupations (Yukon Work Futures 2016).

High demand is anticipated for 22 careers in the following occupations, in addition to those listed above: health; and trades, transport, and equipment operators. Heavy equipment operators (except crane), transport truck drivers, and construction trades helpers and labourers are anticipated to have high demand, ranking 10, 11, and 20, respectively, of Yukon Work futures expected employment demand (2016).

#### **4.4.2.3 Industry**

The majority (86%) of Yukon’s work force were employed in the service sector in 2014, with the non-commercial services (e.g., public administration and health care) comprising almost one-third of the territory’s work force. Although mining contributes substantially to the territory’s economy, the industry is not a major employer for the Yukon work force. Between 2009 and 2014, employment increases were focused in the services-producing sector (e.g., retail trade, transportation, professional services, and accommodation services), while the goods-producing sector (e.g., forestry, mining, construction) did not perform as well, a result of low global mineral commodity prices (Government of Canada 2015b). Of note, in 2011, Dawson’s labour force comprised a larger proportion in goods-producing industries (22.4%), compared to the total for the territory (15.6%) (Statistics Canada 2013b, 2013a).

The three industry sectors that employed the majority of the total and Aboriginal Yukon labour force in 2011 were public administration (28.4% and 35.1%), retail trade (10.7% and 7.3%), and construction (9.1% and 10.9%) (**Table 4-9** and **Figure 4-10**) (Statistics Canada 2013b, 2013a). Whitehorse total and Aboriginal labour forces exhibited a similar balance in the same three industry sectors, which reflects the community's strong representation of the territory's total labour force (approximately 86% in 2015) (YBS 2016c). The substantial representation in public administration, including territorial, Aboriginal, federal, and municipal public administration services, can be attributed to administration headquarters and the large component of the total labour force located in Whitehorse. The Yukon total labour force exhibited representation across all North American Industry Classification System (NAICS) industry sectors, which is also reflected in Whitehorse, except for the management of companies and enterprises sector (**Figure 4-10**).

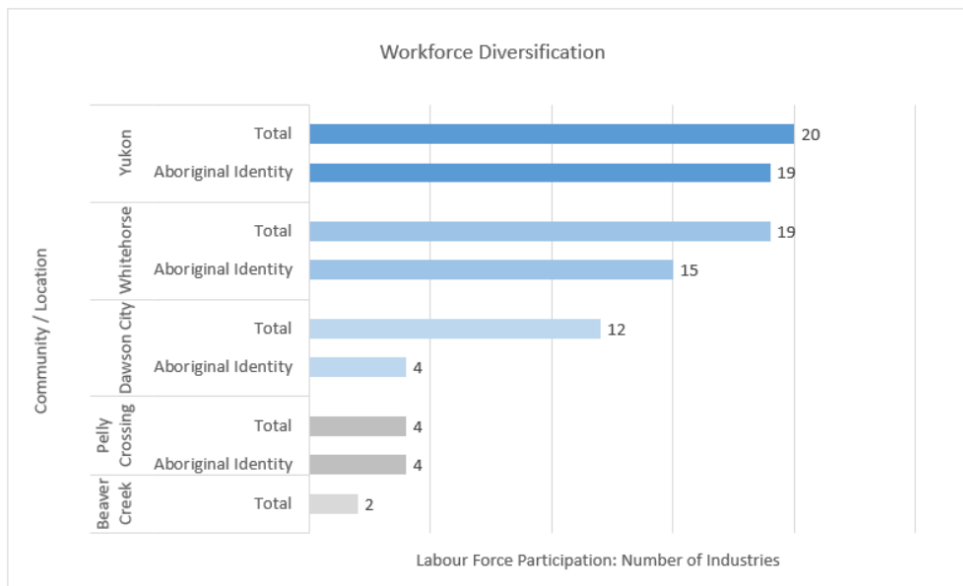
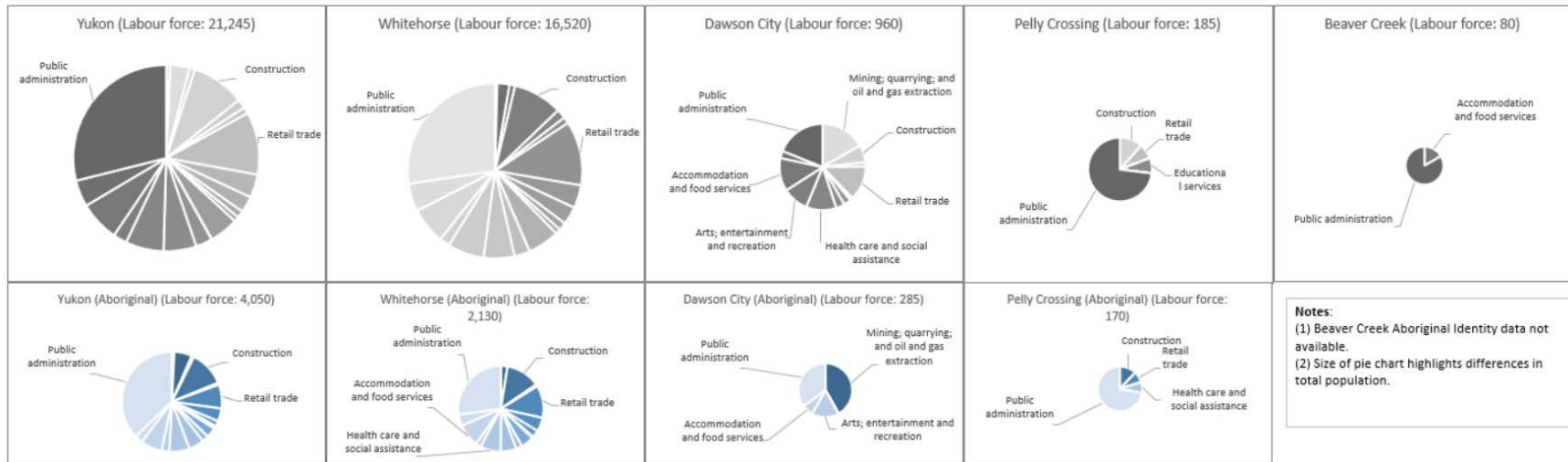
The Yukon and Whitehorse labour forces comprised a greater proportion of service-producing, or supporting industries, when compared to goods-producing industries (**Table 4-10**). This can indicate a more diversified economy, able to offer services to basic industry activities. Per the 2014 Yukon Labour Market Supply and Migration Study, the industries expected to experience the largest employment gains from 2011 to 2021 are: public administration; health care and social assistance; retail trade; accommodation and food services; and educational services (Millier Dickinson Blais 2014).

**Table 4-9 Industries Represented in the Local and Regional Study Area Labour Forces**

Location	2011 Census Labour Force (no.)	Agriculture; Forestry; Fishing and Hunting (%)	Mining; Quarrying; and Oil and Gas Extraction (%)	Utilities (%)	Construction (%)	Manufacturing (%)	Wholesale Trade (%)	Retail Trade (%)	Transportation and Warehousing (%)	Information and Cultural Industries (%)	Finance and Insurance (%)	Real Estate and Rental and Leasing (%)	Professional; Scientific and Technical Services (%)	Management of Companies and Enterprises (%)	Administrative and Support; Waste Management and Remediation Services (%)	Educational Services (%)	Health Care and Social Assistance (%)	Arts; Entertainment and Recreation (%)	Accommodation and Food Services (%S	Other Services (Except Public Administration) (%)	Public Administration (%)
RSA																					
<b>Yukon (total)</b>	21,245	0.7%	3.3%	0.9%	9.1%	1.6%	1.1%	10.7%	4.0%	2.8%	1.2%	0.8%	4.9%	0.1%	2.8%	5.6%	6.5%	2.4%	6.9%	4.5%	28.4%
<b>Yukon (Aboriginal identity)</b>	4,050	0.7%	5.4%	0.7%	10.9%	0.2%	0.4%	7.3%	4.0%	1.6%	0.4%	0.5%	3.1%	0.0%	2.0%	4.7%	6.2%	2.3%	6.5%	2.5%	35.1%
LSA																					
<b>Whitehorse (total)</b>	16,520	0.4%	2.3%	1.0%	9.14%	1.7%	1.2%	11.9%	4.2%	3.3%	1.4%	1.0%	5.9%	0.0%	2.9%	5.7%	6.8%	1.9%	7.0%	5.2%	27.3%
<b>Whitehorse (Aboriginal identity)</b>	2,130	0.0%	2.5%	0.0%	12.9%	0.0%	0.7%	12.1%	5.2%	2.7%	0.5%	0.0%	5.0%	0.0%	2.2%	5.9%	7.7%	2.0%	8.7%	4.2%	27.0%
<b>Dawson (total)</b>	960	0.0%	16.1%	0.0%	6.3%	0.0%	1.6%	12.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	3.1%	10.9%	9.4%	12.0%	2.6%	18.2%
<b>Dawson (Aboriginal identity)</b>	285	0.0%	31.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.3%	5.3%	0.0%	26.3%
<b>Pelly Crossing (total)</b>	185	0.0%	0.0%	0.0%	8.1%	0.0%	0.0%	5.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.4%	0.0%	0.0%	0.0%	0.0%	51.4%
<b>Pelly Crossing (Aboriginal identity)</b>	170	0.0%	0.0%	0.0%	8.8%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	52.9%
<b>Mayo</b>	<i>Data for this area have been suppressed for data quality or confidentiality reasons.</i>																				
<b>Beaver Creek (total)</b>	80	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	62.5%
<b>Beaver Creek (Aboriginal identity)</b>	<i>An Aboriginal population profile is not available for this area.</i>																				

Source: Statistics Canada 2013b, 2013a

Notes: Yukon total and Aboriginal identity includes all data for the territory, including LSA communities.  
Total includes Aboriginal identity populations.



Source: Statistics Canada 2013b, 2013a

Figure 4-10 Distribution of Labour Force across Industries

In 2011, Pelly Crossing and Beaver Creek's labour forces were heavily focused in the public administration sector (51.4% and 62.5%, respectively). Other representative industries were construction in Pelly Crossing (8.1%) and accommodation and food services (12.5%) in Beaver Creek (**Table 4-9** and **Figure 4-10**). Pelly Crossing's labour force was represented in four industry sectors, while Beaver Creek's labour force was represented in two industry sectors (**Figure 4-10**). Both communities' labour forces are more focused in service-producing industries (62.2% and 75.0%, respectively) (**Table 4-9**) (Statistics Canada 2013b, 2013a). Like findings for occupations, the concentration of the labour force for these communities in fewer industries reflects the small labour forces, which makes it difficult to support a large range of industries.

Dawson's labour force in 2011 was focused in the public administration (18.2%), mining, quarrying, and oil and gas extraction (16.1%), and retail trade (12.5%) industry sectors, and represented 12 of the 20 NAICS industry sectors (**Table 4-9** and **Figure 4-10**).

This representation across 60% of industry sectors differs from the labour force in the RSA. The Aboriginal labour force in Dawson was primarily employed in mining, quarrying, and oil and gas extraction (31.6%), public administration (26.3%), and arts, entertainment, and recreation (12.3%) (**Table 4-9** and **Figure 4-10**). Dawson's Aboriginal labour force was represented in only four industry sectors (**Figure 4-10**).

Compared to the RSA, Dawson's total and Aboriginal labour forces were more focused in fewer industry sectors, and exhibited a greater representation in goods-producing industries (22.4% and 31.6%, respectively) (**Table 4-10**) (Statistics Canada 2013b, 2013a). Dawson's labour force reflects the broader territory's reliance on public administration industry for employment, as well as local economic activity focused on mineral exploration and mine development and tourism. Feedback indicates that recently the Dawson labour force has not been able to supply the hospitality and tourism industry's demand in summer months (Interview 23, Pers. Comm. 2016). It was noted that the tourism industry is often more competitive than other industries, by offering better wages, but this industry is largely dependent on the strength of the U.S. dollar (Interview 23, Pers. Comm. 2016). High labour demands in the construction industry were experienced in Dawson associated with two major capital projects between 2009 and 2012 (KDO 2013b). In 2013, a slowdown in the mining and exploration industry related to decreasing commodity prices was anticipated to decrease activity levels, and scale back employment needs in the sector for the Dawson labour force, a situation that was also experienced in 2015 (KDO 2013b; Interview 23, Pers. Comm. 2016).

**Table 4-10 Labour Force Distribution across Goods- and Service-producing Industries**

Location	2011 Census Labour Force (No.)	Goods-producing Industries (% of Labour Force)	Service-producing Industries (% of Labour Force)
<b>RSA</b>			
Yukon (total)	21,245	15.6%	82.7%
Yukon (Aboriginal identity)	4,050	18.0%	76.4%
<b>LSA</b>			
Whitehorse (total)	16,520	13.5%	86.5%
Whitehorse (Aboriginal identity)	2,130	15.3%	84.6%
Dawson (total)	960	22.4%	74.0%
Dawson (Aboriginal identity)	285	31.6%	43.9%
Pelly Crossing (total)	185	8.1%	62.2%
Pelly Crossing (Aboriginal identity)	170	8.8%	64.7%
Mayo	<i>Data for this area have been suppressed for data quality or confidentiality reasons.</i>		
Beaver Creek (total)	80	0.0%	75.0%
Beaver Creek (Aboriginal identity)	<i>An Aboriginal population profile is not available for this area.</i>		

**Source:** Statistics Canada 2013b, 2013a

**Notes:** Yukon total and Aboriginal identity includes all data for the territory, including LSA communities. Total includes Aboriginal identity populations.

#### 4.4.2.4 Employment Type and Tenure

Large proportions of the LSA and RSA populations worked full time in 2010, which is also reflected in more recent (2015) data for the territory. Recruitment and retention of employees is a challenge for Yukon, as well as Dawson, particularly in the context of boom and bust cycle economies reliant on the mining industry.

**Section 4.4.3.3** provides a detailed discussion of boom and bust economies. In Dawson, recruiting labour has consistently been identified as a constraint to local business development. Dawson experiences a highly seasonal work force, reflecting key industries of mineral exploration and tourism, which exhibit short-tenure labour needs in summer months (KDO 2014a).

#### Full-Time and Part-Time

Approximately 87.6% of employed Yukoners were full-time workers, and 12.4% were part-time workers, in 2015. This represents a slight decrease in the proportion of Yukon's part-time workers, as over the last 10 years (2006 to 2015), approximately 13.9% of Yukon's labour force were part-time (YBS 2016d). Moreover, the 2011 NHS identified approximately 84.3% of Yukon's labour force who worked in 2010 were full time, compared to 15.7% part-time (**Figure 4-11**) (Statistics Canada 2013b, 2013a). In 2015, Yukon

had the second lowest proportion of part-time workers (13.1%) in comparison to the rest of Canada. The top five reasons identified for working part-time in 2015 were: personal preference (41.7%); going to school (20.8%); business conditions (12.5%); caring for children (8.3%); and other reasons (16.7%) (YBS 2016d).

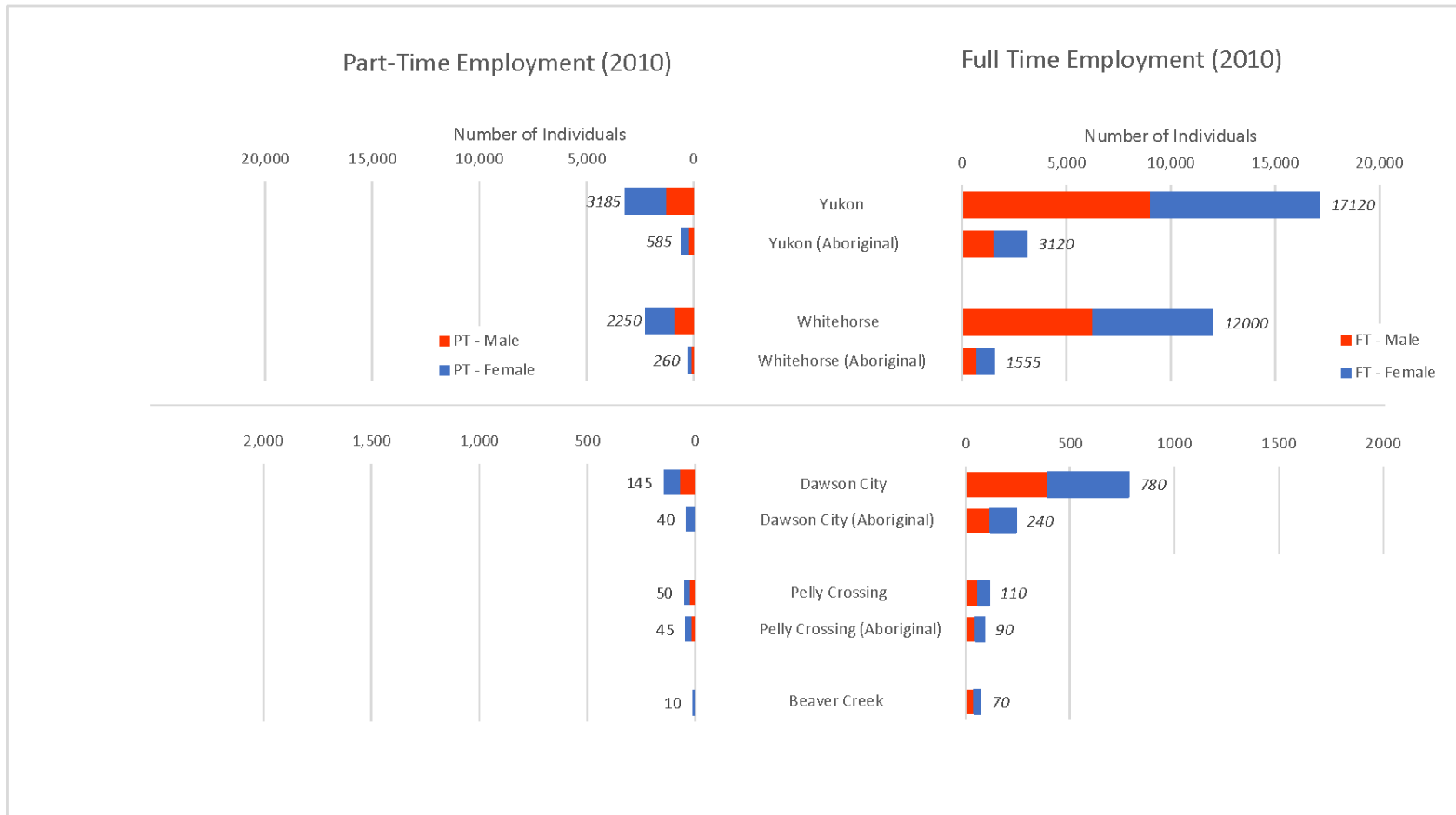
Dawson's total and Aboriginal labour forces who worked in 2010 reflected the RSA labour force's balance of full-time compared to part-time work (85.2% and 15.3%, and 83.9% and 14.3%, respectively) (**Figure 4-11**). The balance was also similar for Beaver Creek (86.7% and 13.3%). Data for Pelly Crossing's total and Aboriginal labour forces demonstrated a stronger representation of part-time work in 2010 (32.3% and 35.7%, respectively), when compared to the LSA communities (Statistics Canada 2013b, 2013a). Through the local business and economic development survey, business owners in Dawson identified that approximately 56.5% of their employees were full time, and 34.8% were part time. For several businesses, their employees were a mix of full time, part time, and seasonal or temporary.

### ***Average Hours***

Though the average number of hours worked varies by occupation, the average number of hours worked per week by Yukoners in 2015 was 35.5 hours per week, which is similar to the national average of 35.6 hours per week (YBS 2016d). Occupations with the highest reported average hours worked were supervisors and technical occupations in natural resources, agriculture, and related production with 53.5 hours per week, and the occupations with the lowest reported average hours worked were trade helpers, construction labourers, and related occupations with 25.0 hours per week (YBS 2016d).

### ***Job Tenure***

Job tenure can be defined as "the number of consecutive months or years that a person has worked for the current (or most recent) employer" (YBS 2016d). In 2015, the average job tenure of Yukoners was 91.3 months (approximately 7.6 years), compared to a national average of 103.6 months (approximately 8.6 years) (YBS 2016d). Both the Yukon (4.9%) and the Canadian average job tenure length (0.7%) increased between 2014 and 2015 (YBS 2016d). Males working in Yukon were found to have longer average job tenure (93.8 months or 7.8 years) than females (88.5 months or 7.4 years) (YBS 2016d). Occupations with the longest average job tenures in Yukon were middle management occupations in trades, transportation, production, and utilities occupations (182.8 months or 15.2 years); maintenance and equipment operation trades (159.5 months or 13.3 years); and retail sales supervisors and specialized sales occupations (146.8 months or 12.2 years) in 2015.



Source: Statistics Canada 2013b, 2013a

Figure 4-11 Aboriginal and Non-aboriginal Labour Force by Full-or Part-Time Work in 2010 - Gender Differentials

Note: No data for Mayo due to suppression; Yukon total and Aboriginal identity includes all data for the territory, including LSA communities.



Occupations with the shortest average job tenures in Yukon were sales support occupations (19.6 months or 1.6 years); trades helpers, construction labourers, and related occupations (27.5 months or 2.3 years); and other installers, repairers and servicers, and material handlers (37.0 months or 3.1 years) in 2015 (YBS 2016d). This reflects the seasonality of industries, in particular the tourism sector (YG 2010a). Communities other than Whitehorse typically have more seasonal work, resulting in retention challenges, and movement of workers to the capital (YG 2010a). Refer to **Section 3.3.2** for a detailed discussion of population migration in the LSA and RSA.

Dawson witnesses a highly seasonal regional economy, reflecting key industries of mineral exploration and tourism, which exhibit short tenure labour needs in summer months (KDO 2014a). Approximately 40% of the Dawson labour force is recruited each year (KDO 2014b). A 2014 survey of seasonal workers in Dawson identified that May and September were the most common arrival and departure dates (71% and 60% of respondents, respectively), and that close to 50% of workers were employed at a bar or restaurant (KDO 2014b). This reflects other feedback received, that there are limited work opportunities available in the winter, with seasonable work available from May to September (Interview 23, Pers. Comm. 2016). It was noted that the cost of having a turnover of staff is expensive for local businesses (Interview 28, Pers. Comm. 2016).

A review of Yukon's 2015 labour force revealed that approximately 81.9% of workers (13,600 people) were permanent employees and approximately 18.1% were temporary (YBS 2016d). In comparison to Canada's national average, Yukon had fewer permanent workers (86.6% national average) and more temporary workers (13.4% national average) in 2015. Further, males were slightly more likely to work as a temporary employee (53.3%) than females (46.7%) in 2015 (YBS 2016d).

### ***Recruitment and Retention***

Findings from research conducted in 2010 identified employee recruitment and retention as a challenge faced by municipalities in Yukon (YG n.d.c). Yukon's historic boom and bust cycle has been identified as a contributing factor to fluctuations in the territory's labour market (YG 2010a). Salary, quality of life, recognition, housing, modern technologies, and sophisticated human resources strategies were identified as approaches to address recruiting and retention challenges (YG n.d.c; 2010a). Strong labour market demands from an upswing in the mining or construction sector can result in employee recruitment and retention challenges, particularly in the context of the size of Yukon's labour force (YG 2010a).

In Dawson, recruiting labour has consistently been identified as a constraint to local business development, as evidenced in 2006, 2011, and 2013 survey responses (KDO 2014a). For the Dawson area, lack of affordable housing, qualified workers, competitive wages, and full-time permanent employment in the context of seasonal economic fluctuations were identified as contributors to employee recruitment and retention challenges (KDO 2011b, 2013a, 2014a; Interview 23, Pers. Comm. 2016, Interview 21, Pers. Comm. 2016). Generational differences were also identified as an employment recruitment challenge

(KDO 2014a). Per the Dawson Employer Labour Market Survey Report (KDO 2013a), 58% of respondents reported regular and occasional difficulty recruiting employees, and 63% of respondents experience regular and occasional difficulty retaining employees. A 2014 survey of seasonal workers in Dawson identified that enjoyment and the wilderness were key reasons to return to Dawson, and that settling down elsewhere, travel interests, expensive living conditions, and access to housing were key reasons not to return for future employment (KDO 2014b). Of note, 40% of survey respondents were provided with staff accommodation, which is a benefit to employees in a community with housing capacity issues (KDO 2014b; Interview 23, Pers. Comm. 2016).

#### **4.4.3 Sustainable Economic Development**

Sustainable economic development is a persistent theme throughout community and economic development plans in Yukon and the communities in the Project's study areas. The Yukon Economic Development Department's mandate is to: "develop a sustainable and competitive Yukon economy to enrich the quality of life of all Yukoners; to pursue economic initiatives with a shared vision of prosperity, partnerships and innovation; and to forge partnerships with First Nations in the economic development of the territory" (YG 2016b). With territorial and local economies largely reliant on outside events (e.g., global commodity prices, U.S. dollar, international tourism trends), pursuing sustainable economic development is an attractive and useful goal, but not without challenges. The dominance of the mining industry for communities results in an unstable cyclical economy based on commodity production (Southcott and Walker 2009). Note, federal transfer payments are captured as revenue from grants in section 8.4.3.6 - Government Revenues.

##### **4.4.3.1 Local Economy**

###### **Regional Study Area**

Yukon's economic sectors include: agriculture, energy, film and sound, fishing, forestry, hunting, mining and exploration, tourism, and trapping. Agriculture comprises a small portion of Yukon's economy, with key agricultural areas near Whitehorse, Dawson, Watson Lake, and Mayo. The film and sound recording industries exist in Yukon due to the territory's scenic location and availability of recording facilities. Fishing and hunting are important industries to residents and visitors, both in terms of subsistence and sport. Trapping is a valuable industry, particularly as a winter revenue source. Approximately 81,000 km<sup>2</sup> of land in Yukon can support timber harvesting activities, predominantly by small operators (YG 2015a). Further detail on these industries can be found in **Section 8.0**.

The mining and mineral exploration industry is reflective of the geological composition of Yukon, and primarily comprises gold mining; however, activity has expanded in other commodities, including lead and zinc, silver, tungsten, iron, molybdenum, nickel, copper, and coal (YG 2015a). The global economy plays a key role in Yukon's economy and demand for goods and services, in particular mineral prices, which are a key determinant of mineral exploration, development, and production in the territory (YED 2015). Due to

Yukon's relatively small economy, influences from global markets and events are strong (YED 2015). Yukon Economic Development's 2012 to 2017 strategic goals include: attracting investment; growing Yukon's economy; building Yukon's competitive advantage; and providing quality public service (YED 2012). Expenditures in mineral exploration peaked in 2011, although increased spending was anticipated for 2014 and 2015 (YED 2015). Weaker mineral prices and global mineral demand implicate mineral exploration work in the territory, resulting in efforts by mining companies to lower costs and raise capital (YED 2015). In 2015, the mining sector in Yukon experienced uncertainty regarding future demand and price performance (YED 2015). In addition, Yukon's geology positions the territory for future mineral development (YED 2015).

Tourism in Yukon is the largest private sector employer, and comprises the following categories: accommodations; food and beverage; transportation; adventure tourism; wildlife viewing and recreation; events and conferences; travel trade; attractions; and tourism services (YG 2015a). Tourism and related industries and services such as retailers, accommodation providers, and restaurants comprised approximately 4% of Yukon's total gross domestic product (GDP) in 2012, contributing to the territory's economic diversity (YED 2015). Greater reliance of Yukon's economy on tourism typically occurs when the mining sector is weaker (YED 2015). In 2012, it was estimated that 11.3% of employment in Yukon was in the tourism sector. Low oil prices and a weaker Canadian dollar were anticipated to result in increased visitation numbers for Yukon in 2015 (YED 2015).

The predominant energy source in Yukon is hydro, followed by diesel combustion and wind (YG 2015a). Yukon's hydrocarbon resources include onshore and offshore conventional natural gas and oil. Interest in the territory's oil and gas development includes exploration. Similar to the mining industry, the development of Yukon's oil and gas resources depends on global prices and demand, as well as decisions related to hydraulic fracturing. Generally, Yukon's outlook for oil and gas development remains uncertain as of 2015 (YED 2015).

The construction industry is expected to grow in terms of the value of building permits, particularly for health and social services institutional buildings (YED 2015). Retail sales, linked closely to the mining sector and general economy of the territory, are expected to fall in 2015, but grow in 2016 (YED 2015).

### **Local Study Area**

Key economic drivers for the Whitehorse area include government services, tourism, and mining. Government services are predominant as Whitehorse is the territory's capital city, and tourism largely results from visitors via the Alaska Highway. Whitehorse also services mineral exploration companies (City of Whitehorse 2010). Whitehorse's community economic development strategy includes goals associated with the local business climate, inclusive economy, infrastructure development, entrepreneurship, attracting residents to live in Whitehorse, and creating a vibrant downtown (City of Whitehorse 2015).

The local economy of Dawson has been shaped by its history: from the TH's use of the land and resources to fur trading between the 1700s and 1840s, to the discovery of gold in 1896 and the ensuing Klondike gold rush. After the Klondike gold rush declined, a subsequent mining boom occurred in the area in the 1930s, ceasing in the 1960s. Dawson's local economy is driven by placer mining, and tourism, highlighting Dawson and TH's heritage (City of Dawson and Tr'ondëk Hwëch'in n.d.). This relatively narrow economic focus results in seasonal fluctuations and reliance on outside factors (e.g., global commodity prices and value of the U.S. dollar), and is limiting the community's economic development and potential. From TH's perspective, it is noted that tourism and other development can create meaningful economic opportunities (Tr'ondëk Hwëch'in 2012a).

Sustainable economic development is a key component of the City of Dawson and TH's vision for the community, as identified in the Integrated Community Sustainability Plan: "[h]onouring the past, sharing the present, embracing the future" (City of Dawson and Tr'ondëk Hwëch'in n.d., p. 13). Specifically, the community looks to diversify the local economy through development of heritage, arts, and culture. This aligns with KDO's vision, which is identified in its Strategic Plan 2011 to 2015: "[a] resilient Klondike where highly engaged citizens, networks and organizations collaborate to build a sustainable economy" (KDO 2011c p.2). The Integrated Community Sustainability Plan also identifies the following community objectives related to the local economy: stable economy; tourism development; retaining a sustainable year-round population; affordable cost of living; employment opportunities; no franchises; and the volunteer economy (City of Dawson and Tr'ondëk Hwëch'in n.d.). In the Dawson area, the KDO works with Chief Isaac Inc. (Tr'ondëk Hwëch'in's development corporation), the City of Dawson, and local organizations to build "a resilient Klondike where highly engaged citizens, networks, and organizations collaborate to build a sustainable economy" (KDO n.d.). Chief Isaac Inc.'s mission is to "operate a for-profit corporation to create sustainable wealth for our First Nation" (Chief Isaac Inc. 2016).

The Regional Economic Development Plan for the TH Traditional Territory, reflecting findings from Vector Research 2008, states that several actions are required to expand and diversify the region's economy, including:

- Addressing and overcoming perceived barriers to economic development (e.g., housing, labour market supply, among others)
- Building on existing and unique strengths of the Dawson Region, as well as focusing on niche opportunities by expanding tourism and establishing a knowledge economy
- Remaining open to development activities that are primarily driven by global forces (e.g., non-renewable resources), than by local influences (Tr'ondëk Hwëch'in 2011).

The other communities in the LSA share common goals related to diversifying economic and employment opportunities to support the development of sustainable local economies (FNNND 2016c; SFN 2007). Challenges such as small populations and lack of capital are experienced in Mayo, Pelly Crossing, and Beaver Creek. As these communities' populations are strongly represented by First Nations, balancing traditional and modern economies is a focus in developing sustainable local economies (see **Section 5.0** for a detailed discussion of Social Economy). The local economy in Mayo consists of government services from all levels of governments, mining, construction, transportation, energy, and service sectors (YG 2014c). The mining sector exhibits the greatest demand for labour and services, and Yukon Energy Corporation investments in hydroelectric energy infrastructure may provide employment opportunities for skilled labour (YG 2014c). Mining and energy developments provide opportunities for local businesses in Mayo to expand the local economy. The Na-Cho Nyäk Dun (NND) Development Corporation advances economic and employment opportunities for the First Nation, and sees opportunities for local economic diversification in the following areas: tourism; local service sector; local construction projects; and mineral exploration and development support (YG 2014c). The NND Development Corporation plans to maximize local economic interests through investment and development in: mining and reclamation; renewable energy; and real estate (FNNND 2016c). The FNNND has previously expressed that the community recognizes the importance of balancing resources with economic development and jobs (InterGroup 2009; FNNND 2008a).

Pelly Crossing's local economy is small, and centred on government services, health, and education, with SFN as the primary employer. In 2007, SFN anticipated that development of the Minto Mine Project would substantially improve employment opportunities in the community (SFN 2007). As stated in SFN's Integration Community Sustainability Plan:

[w]e value an economy that supports traditional lifestyle options and new economic opportunities. We want an economy that supports lifestyle choice and allows our local government to raise own source revenue to meet existing and emerging needs (SFN 2007, p.7).

Sustainable development for SFN identifies respect for Mother Earth as the cornerstone in the development of traditional and modern lifestyles (SFN 2007). Through its Development Corporation, SFN seeks to develop Pelly Crossing's local economy to ensure stability, local business opportunities related to goods and services provision, and employment opportunities (SFN 2007). The SFN Development Corporation works with SFN to develop business ventures to maximize opportunities for the community (SFN Development Corporation n.d.).

Similar to Mayo and Pelly Crossing, Beaver Creek's local economy centres on government services and tourism, with potential for growth associated with mineral exploration activities (YG 2014a). Beaver Creek's government services include the Canadian Border Services Agency (YG 2014a). White River First Nation is also the community's primary employer, exemplifying the local economy's reliance on government

services. Economic development in the WRFN is led through the WRFN Economic Development Corporation. The community's small population and reliance on Alaska Highway traffic presents challenges in terms of diversifying the local economy and providing full-time, year-round employment (Inukshuk Planning & Development 2009). In addition, the community has a strong reliance on the federal government to fund capital projects (Inukshuk Planning & Development 2009). Developing a strong, diversified local economy is the key to community growth (Inukshuk Planning & Development 2009).

As of 2009, Beaver Creek witnessed a downward trend in private sector employment and businesses, resulting from retirement, a downturn in the Alaska Highway-based economy, and lack of new capital (Inukshuk Planning & Development 2009). As stated in the WRFN's Comprehensive Community Development Plan: "[f]uture success for White River will require finding the proper balance between the First Nation's traditional economy and lifestyles with the demands and opportunities of the modern economy" (2009, p.7). As of 2009, Beaver Creek was anticipating several long-range opportunities related to mining, energy, and rail projects, although concerns related to impacts from boom and bust projects were identified, such as access to housing and social problems linked to increases in income (Inukshuk Planning & Development 2009). A key goal for the community's local economy is identified as: "help[ing to] build a viable and sustainable local economy in Beaver Creek to the extent possible for a small community of our size so Beaver Creek is a good place to live, work and play" (Inukshuk Planning & Development 2009, p.8).

#### **4.4.3.2 Local Businesses**

Sustaining local businesses is a key component of developing and maintaining a sustainable local economy. Local businesses in Dawson tend to be owned and operated by an older demographic, with concerns regarding succession planning (KDO 2011b). It is acknowledged that portions of the local and regional economy can be expanded, but require additional organized capacity to retain businesses and services in the community (KDO 2011b). Services such as regional information, permitting assistance, and data are anticipated to be developed by KDO to facilitate development and investment planning (KDO 2011b). It was noted that TH recently hired a full-time business advisor to support business development in Dawson, which will provide a dedicated focus to this area (Interview 23, Pers. Comm. 2016). In addition, it was identified that the KDO supports the development of a sustainable local economy through many different initiatives and services, including: KDO's website; organizing forums on different topics related to economic development; fielding inquiries from people that are interested in doing business in Dawson, and acting as a source of information for people; and working to address the housing issue in Dawson (Interview 20, Pers. Comm. 2016).

Communicating and building awareness of local businesses and services in Dawson with larger regional business operators in the mining sector was identified as an area of focus to ensure local opportunities are realized (KDO 2013a). According to a 2013 survey, several respondents felt that housing in Dawson should be addressed before recruiting employees to the community (KDO 2013a). This reflects KDO's 2011 to 2015 strategic plan, which identified development of the housing sector as a key to strengthening the local economy (KDO 2011a). It was noted through feedback that KDO will be undertaking a re-visioning exercise to re-confirm priorities in the current economic climate (Interview 28, Pers. Comm. 2016).

The current lack of housing availability in Dawson is a challenge that limits the ability of local businesses to bring in additional staff to the community, even with grants available for some builders (Interview 21, Pers. Comm. 2016, Interview 28, Pers. Comm. 2016). Through primary data collection, feedback was received regarding potential benefits to housing in Dawson as a result of the Project. Specifically, the Project may be the needed incentive to build additional housing capacity in the community (Interview 21, Pers. Comm. 2016). Even after mine closure, the potential housing legacy would be beneficial to the community (Interview 21, Pers. Comm. 2016).

Per the 2013 Yukon Business Survey, Dawson had the second largest number of businesses (determined by office address) in the territory, behind Whitehorse. Even so, Dawson's businesses comprised only 8.2% of the total for Yukon, with Whitehorse representing 76.7%. Across the territory, the sectors with the greatest number of businesses included: accommodation and food services; retail trade; construction; professional, scientific, and technical services; mining, quarrying, and oil and gas extraction; and transportation and warehousing (YBS 2014).

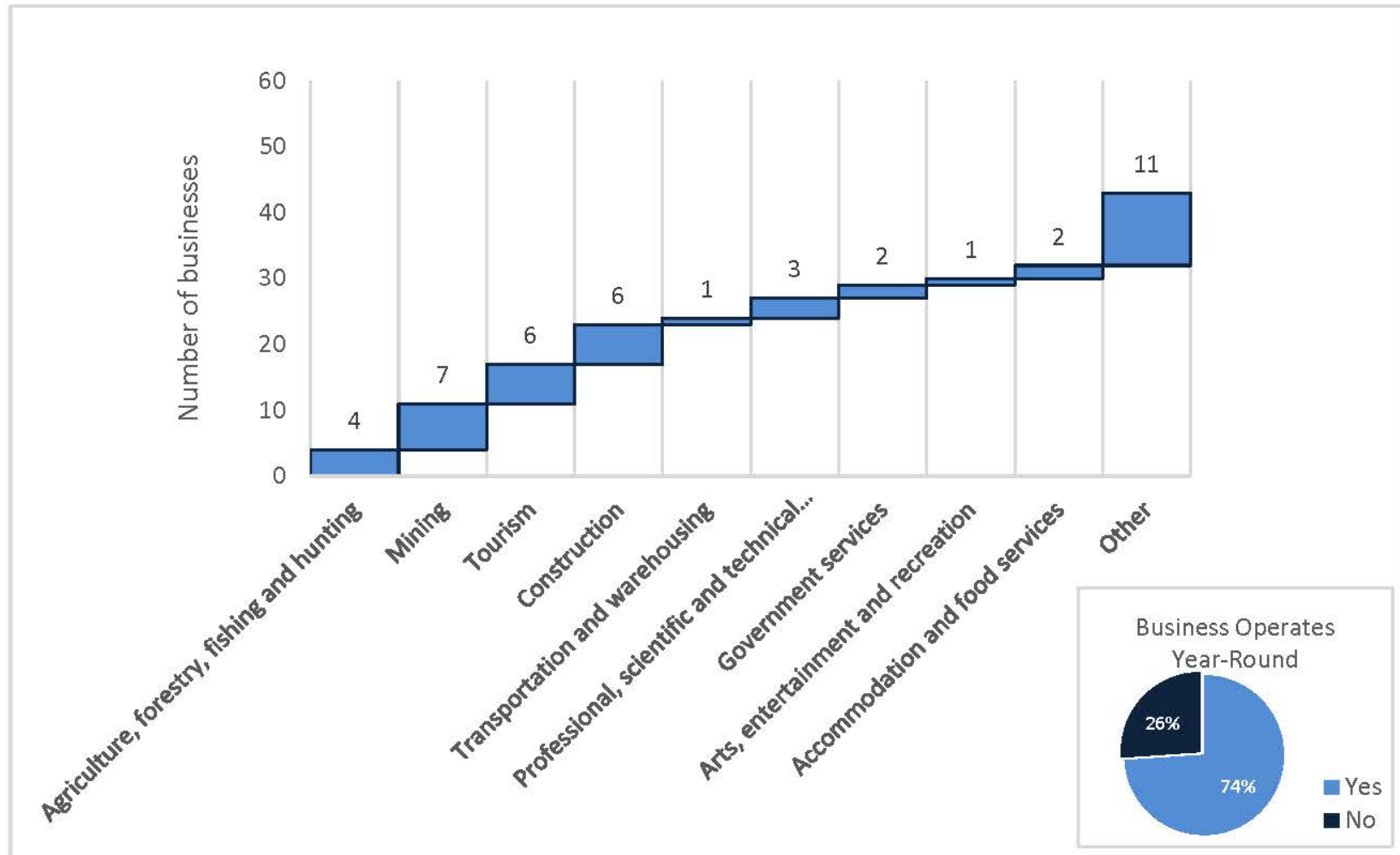
Results from the local business and economic development survey indicate that various sectors are represented by businesses in Dawson (**Figure 4-12**). (Local Business Focus Group, Pers. Comm., 2016). A large proportion of businesses (59.4%) identified as belonging to the mining, tourism, and construction sectors, which reflects the community's local economy. Almost half of respondents identified 'other' as their business sector, for example; office services, windshield repair, welding, and retail. Of note, many businesses (43.5%) have been operated for more than 20 years, and most respondents (86.4%) consider their business to be family owned. Regarding seasonality, approximately one-quarter of respondents identified that their businesses were open between April and October, and 73.9% of total employees were seasonal or temporary (**Figure 4-12**). Most respondents (52.2%) indicated that their main customer base is located locally, within the Dawson region. In terms of the mining industry, a majority (78.3%) of respondents believe that the industry has positively affected their business operations and activities in the past 5 years, with approximately 82.6% of businesses currently providing goods and services to the industry. Goods and services provided to the mining industry by Dawson businesses identified in the survey include but are not limited to: notary services; windshield repair; bulk water delivery; road grading; welding; environmental products; equipment rentals; entertainment; accommodations; restaurants and catering; and

retail. Generally, respondents (69.6%) believe that economic development in the Klondike region in the last 5 years has had a positive effect on their business.

A study by Vector Research indicated that mining firm spending on the supply chain is largely driven by price and value, although initiatives to encourage the use of local suppliers and services supported by various organizations in Yukon have been successful (Herkes et al. 2013). Challenges identified by mineral exploration companies that conduct business in the Klondike region include: short field seasons; transportation costs; lack of road infrastructure to access properties; and limited banking services (KDO 2013b). It was identified that local businesses in Dawson were generally able to service and provide supplies for mineral exploration companies; however, considerations such as selection and price were factors in soliciting business elsewhere (KDO 2013b).

Initiatives at the local and territorial scale have occurred to encourage the use of local businesses and service providers. Specific to the mining sector, a local website was developed to advertise and promote local goods and services available in Dawson and the region (KDO 2013b). The Contracting and Procurement Regulation and Contracting and Procurement Directive by the Yukon Department of Highways and Public Works requires that procurement authorities “make reasonable efforts to support community-based businesses” (YG 2013f, p. 18). The KDO has been active in several strategic initiatives (e.g., website development and attending promotional events) to encourage local business development and facilitate local economic resilience (KDO 2011c, 2013b). The final draft regional economic development plan includes a strategy to maximize local procurement opportunities associated with major industrial developments in the Dawson area (KDO 2013b).





Source: Local Business Focus Group, Pers. Comm., 2016

Figure 4-12 Dawson Local Business Survey Results: Business Categories and Seasonality

Results of a survey by KDO indicate that a strong majority (89% of sample size) of Klondike businesses deliberately seek local suppliers. Moreover, few (7.5% of sample size) businesses are considering relocation outside of the area (KDO 2011b). It was also identified that numerous businesses experience strong service or product demand, potentially opening opportunities for growth (KDO 2011b). A range of business opportunities was identified as an important component of building a sustainable local economy (KDO 2011b). Business support services, such as counselling and training, were identified as a need to ensure sustainable business retention and expansion (KDO 2011b, 2011c). It was identified through general observations that many people moved to Dawson to start businesses or to take over businesses (Interview 21, Pers. Comm. 2016).

#### **4.4.3.3 Boom and Bust Economy**

Yukon's historical boom and bust cycle presents challenges in terms of labour supply, and contributes to the expectation that the territorial labour market will continue to fluctuate in the future (YG 2010a). Yukon has long experienced boom and bust economic cycles associated with resource development and global commodity prices. In the past, economic development planning focused on boom opportunities, ignoring or misunderstanding key characteristics of the Yukon economy that can sustain itself through bust downswings (Staples 1988). Flexibility, diversity, and self-reliance, exhibited through varied work tenure (e.g., seasonal) and subsistence through non-wage economies, demonstrates adaptability and self-sufficiency of Yukon's economy (Staples 1988). Focusing on boom opportunities associated with the mining industry can also result in unrealistic and exaggerated expectations (Staples 1988). This was reflected in primary data collection, which identified cautious feedback regarding a community being overly reliant on a project, and needing to ensure that changes that occur during operations of projects are sustainable (Interview 28, Pers. Comm. 2016).

Dawson's local economy is subject to annual boom and bust cycles associated with seasonality, as well as longer-term boom and bust cycles relating to the mining sector that reflect commodity prices. As a result of heightened construction and mineral industry activities experienced in the Dawson area in 2011 and 2012, it was identified that servicing anticipated developments could encourage increases in employment and local economy diversification (KDO 2013b). Following this period in 2013, however, major mineral exploration and development activities experienced a slowdown, which is typical of the industry's cyclical activity levels (KDO 2013b). This reinforced the need to consider local procurement and economic readiness in a broader way, over a longer period, and across multiple industries, rather than a short-term focus on the mining sector (KDO 2013b). Focusing on broader industries can also lessen Dawson's challenge of cyclical recruitment and retention associated with seasonal boom and bust cycles (KDO 2014b).

Dawson exhibits an annual seasonal boom and bust economic cycle, with high unemployment rates in winter months (KDO 2011b; Vector Research 2008; Interview 19, Pers. Comm. 2016). Driven by the local economy's focus on mining and tourism, the community's population triples each summer, relying on bringing workers in from outside of the region to meet the summer season's employment needs (City of Dawson and Tr'ondëk Hwëch'in n.d.; Vector Research 2008; Interview 28, Pers. Comm. 2016). In Dawson, the small current permanent population is the primary barrier to expansion of the local economy, which can be attributed to high costs of living, limited access to housing, and availability of year-round services (KDO 2011c; City of Dawson and Tr'ondëk Hwëch'in n.d.; Interview 21, Pers. Comm. 2016, Interview 28, Pers. Comm. 2016). Employee recruitment and retention is a challenge in the community; however, diversifying economic development into sectors that generate full-time permanent employment opportunities is a proposed means to address this issue (KDO 2011b).

The three largest employers of year-round work in Dawson are the Yukon Government, TH, and the City of Dawson (Interview 23, Pers. Comm. 2016). Through primary data collection, it was identified that if year-round employment is available for people in Dawson, it may increase overall population numbers and result in more winter and year-round economic activity, reducing the community's seasonal boom-bust cycle (Interview 21, Pers. Comm. 2016, Interview 28, Pers. Comm. 2016). The KDO is actively engaged in various strategies to expand the local economy, including: enterprise retention and development; research; key sector development; investment capital pool; partnership forum; community marketing; and social enterprise (KDO 2011c). Strategies for businesses to stay open year-round include: reduction of hours; winter schedule; and service diversification (Interview 23, Pers. Comm. 2016). It was noted that both seasonal and year-round businesses have their own strategies for success, although seasonal businesses in the Klondike Region struggle to manage and stay afloat in winter (Interview 23, Pers. Comm. 2016, Interview 19, Pers. Comm. 2016).

#### **4.4.3.4 Cost of Living**

The cost of living in Yukon is generally higher than living in southern Canada, and even higher for those living in Yukon communities outside of Whitehorse (YG 2014d). Influencing the cost of living is the price of goods and services. Although the Consumer Price Index (CPI) is not a cost-of-living index, it can be used as an indicator of price changes over time (YBS 2016e). The major components of the CPI include: 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. Between 2006 and 2014, the CPI for Whitehorse increased annually. In 2015, the CPI decreased by 0.2%. Between 2006 and 2014, the smallest increase was in 2009 (0.4%), and the largest increase was in 2008 (3.6%) (YBS 2016e). In Whitehorse and Mayo, average regular self-serve fuel prices were under 100.0¢ per litre as of March 30<sup>th</sup> 2016. At the same time, average fuel prices were 104.9¢ per litre in Pelly Crossing, 116.0¢ per litre in Dawson, and 129.9¢ per litre in Beaver Creek. Since March 2015, these prices have decreased by 5.3% to 16.0%, depending on the community. Diesel and premium fuel prices demonstrated similar

changes (YBS 2016e). The average prices for residential heating fuels (furnace oil, arctic stove oil, and propane) varied between communities, with the greatest prices in Mayo, and the lowest prices in Whitehorse. Other than propane fuel for all communities except Whitehorse, residential heating fuel average prices decreased from March 2015 to March 2016 (YBS 2016e).

High costs of living, in particular fuel and resources costs, were identified as a local challenge for Dawson and TH, particularly in terms of retaining a larger permanent population (City of Dawson and Tr'ondëk Hwëch'in n.d.). Dawson's cost of living is slightly higher than Whitehorse and other areas of Canada. Specifically comparing Dawson to Whitehorse, the average ratio for goods such as gas, fuel, cigarettes, groceries, personal care items, and household cleaning supplies in 2012 was 1:1.17 (YG 2014e). Primary data collection indicates that affordability and the cost of living as well as operating a business is becoming a challenging to those living in Dawson, including the cost of housing and food (Interview 28, Pers. Comm. 2016). Moreover, the majority (73.9%) of respondents to the local business and economic development survey identified that their business' operating costs (e.g., rent, taxes) have increased in the past five years. Feedback regarding the costs of renting in Dawson identified a range from \$500 for a room in a shared house to \$2,500+ for a four-bedroom house. The costs of buying a detached home in Dawson range from cabins in West Dawson for \$125,000 (no running water), to executive-style homes for approximately \$350,000 to \$500,000 (Interview 21, Pers. Comm. 2016). Refer to **Section 7.4.1.4** for a detailed discussion of housing and shelter costs in the LSA and RSA.

#### **4.4.3.5 Gross Domestic Product**

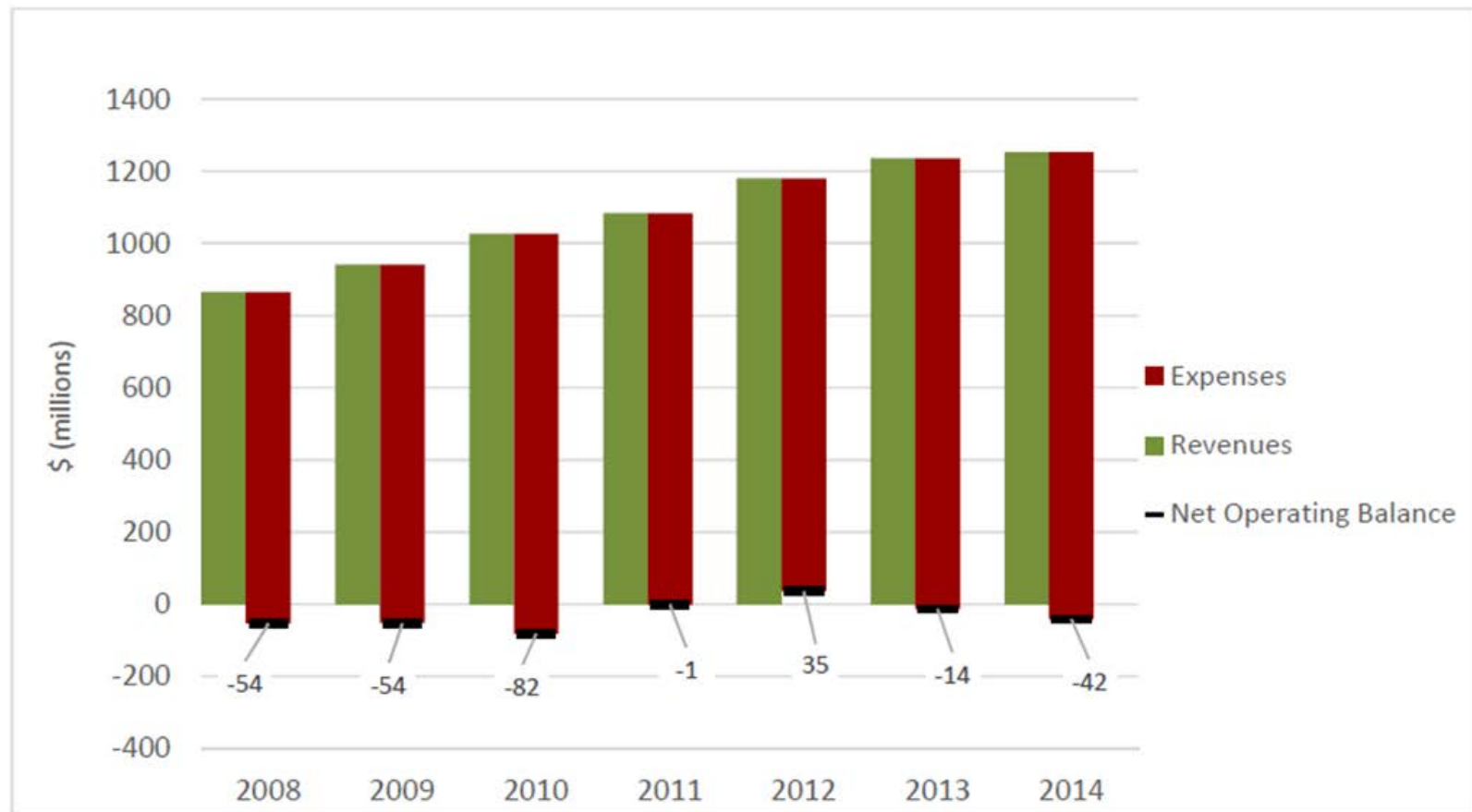
Between 2005 and 2012, Yukon's GDP grew on average 6% per year, however after strong increases between 2006 and 2008, the growth rate declined to -0.8% in 2014. From 2013 to 2014, Yukon's real GDP contracted by 1.2% to \$2.2 billion (2007\$), largely due to a decline in mineral commodity prices and associated mineral production, a trend that was anticipated for 2015 (Government of Canada 2015b; YBS 2016f; YED 2015). Specifically, the mining, quarrying, and oil and gas extraction sector experienced the largest contraction in 2014 (by 10.7% from 2013) (YBS 2016f). Examples include suspension of production at the Wolverine Mine in January 2015, and lack of production at the Bellekeno Mine (YED 2015). Reflecting the mining industry, Yukon's GDP in goods-producing industries contracted by 5.1% in 2014, compared to services-producing industries, which increased by 0.6% (YBS 2016f). In 2015, Yukon Economic Development forecasted a 3.5% growth in real GDP, primarily due to anticipated mineral production levels at the Minto Mine (YED 2015). However, it was announced in January 2016 that mining and operations at the Minto Mine would be suspended in 2017 until market conditions improved (Capstone Mining Corp 2016). Generally, slow economic growth is predicted to continue for the territory in 2016 and 2017 (Government of Canada 2015a). Yukon's economy is expected to grow by approximately 3.4% in 2016, largely due to continued strength in Yukon's dominant public sector (Government of Canada 2015b).

In 2014, public administration accounted for the greatest contribution to Yukon's GDP (23.3%), followed by real estate and rental and leasing (14.0%). Yukon's mining, quarrying, and oil and gas extraction industry accounted for 13.2% of the territory's real GDP, and was valued at \$437.1 million in 2014 (YBS 2016f). Public administration routinely comprises the greatest percentage share of Yukon's GDP, with construction and mining, quarrying, and oil and gas extraction industries demonstrating the greatest fluctuations between years (YBS 2016f). Federal transfer payments do not contribute to the Yukon's GDP and are captured below as revenue from grants in Section 4.4.3.6 - Government Revenues.

#### **4.4.3.6 Government Revenues**

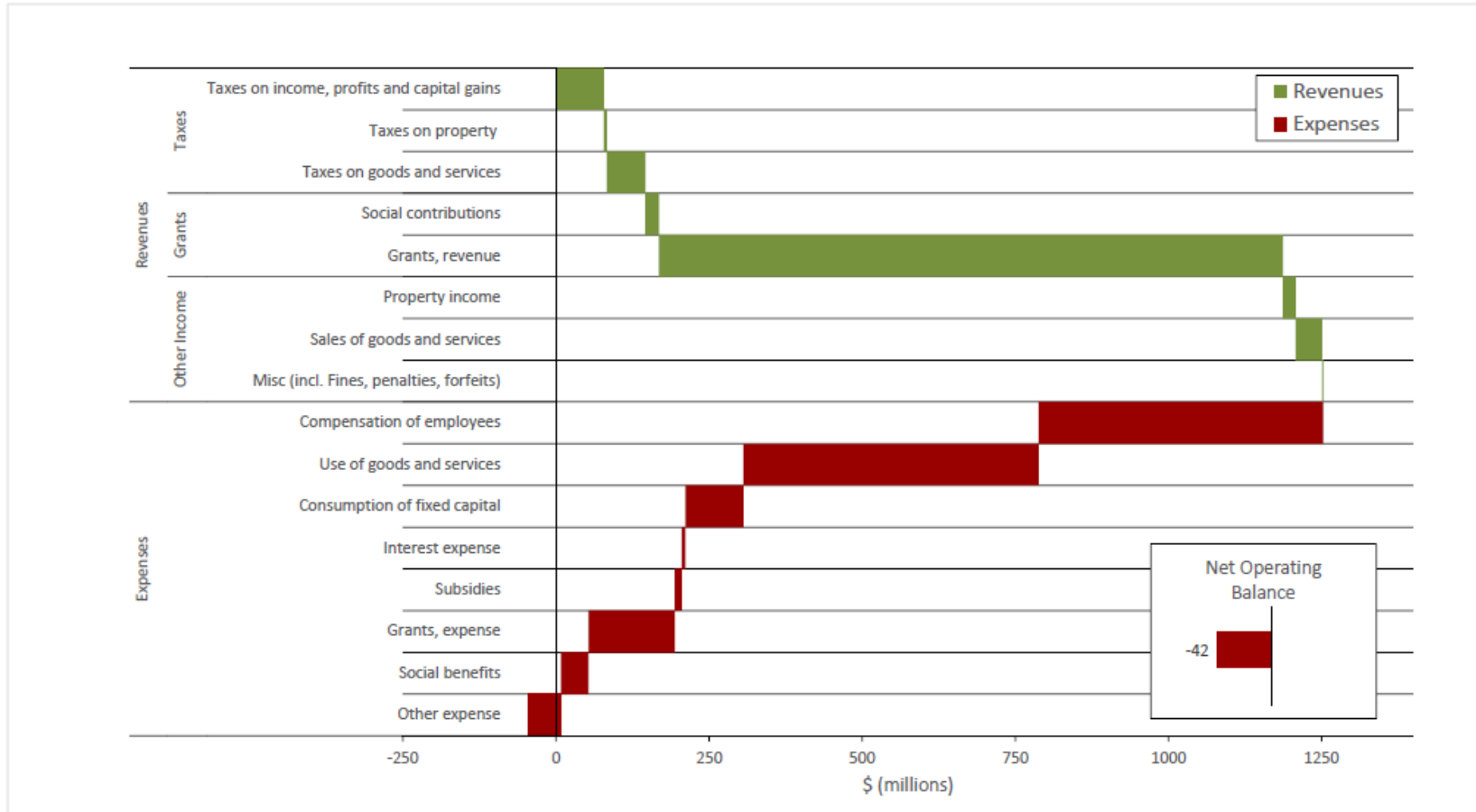
Yukon Government revenues and expenditures are reported annually. Between 2008 and 2014, both revenues and expenditures have increased (**Figure 4-13**).

Other than 2012, which saw a net surplus of \$35 million, the territorial government had net deficits between 2008 and 2014. According to Statistics Canada, Yukon Government revenue from grants comprised the largest proportion of revenue sources (**Figure 4-14**). Rents, including mineral royalties, comprised less than 1% of annual total revenue between 2008 and 2014. Most Yukon Government expenditures comprise compensation of employees and use of goods and services (**Figure 4-14**) (Statistics Canada 2016a).



Source: Statistics Canada 2016a

Figure 4-13 Yukon Revenues, Expenses, and Net Operating Balance, 2008 to 2014



Source: Statistics Canada 2016a

Figure 4-14 Yukon Operating Budget by Category, 2014

The Yukon Government reports on annual royalties paid associated with three operating mines: Minto, Bellekeno, and Wolverine (**Table 4-11**). Under the *Quartz Mining Act*, SY 2003, c. 14, the Yukon Government receives a royalty, or share of profits, from mine operators. Between 2007 and 2013, the peak of mine royalties received was almost \$6 million in 2009, solely from the Minto Mine. Royalty values of \$0 for each mine indicate their first commercial production year (YG 2015h). Overall, royalties decreased between 2011 and 2013 due to decreased production, as well as amendments to the *Quartz Mining Act Royalty Regulation Guidelines*, which caps the annual royalty rate for any profit more than \$35 million at 12% (YG 2010b).

**Table 4-11 Annual Royalties Paid by Yukon Mines: 2007 to 2013**

Mine	Royalty Paid						
	2007	2008	2009	2010	2011	2012	2013
Minto Mine (Capstone Mining Corp.)	\$0	\$1,503,491	\$5,917,904	\$3,806,550	\$1,680,398	\$391,661	\$215,773
Bellekeno Mine (Alexco Resources)	-	-	-	\$0	\$351,525	\$372,588	\$0
Wolverine Mine (Yukon Zinc)	-	-	-	-	-	\$0	\$0

Source: YG 2015h



## 5.0 SOCIAL ECONOMY

This section describes the existing social economy in the social economy LSA and RSA, with a focus on the following topics:

- Non-wage economy
- Traditional economy.

For the non-wage economy, a discussion regarding non-profit and non-governmental organizations, the volunteer sector, informal social economic activities, and subsistence activities collectively provide context for the local non-wage economy. For the traditional economy, a discussion about what types of activities are included in each First Nations' understanding of the traditional economy is presented. This discussion will help to identify the level of engagement and value of the traditional economy to each respective First Nation.

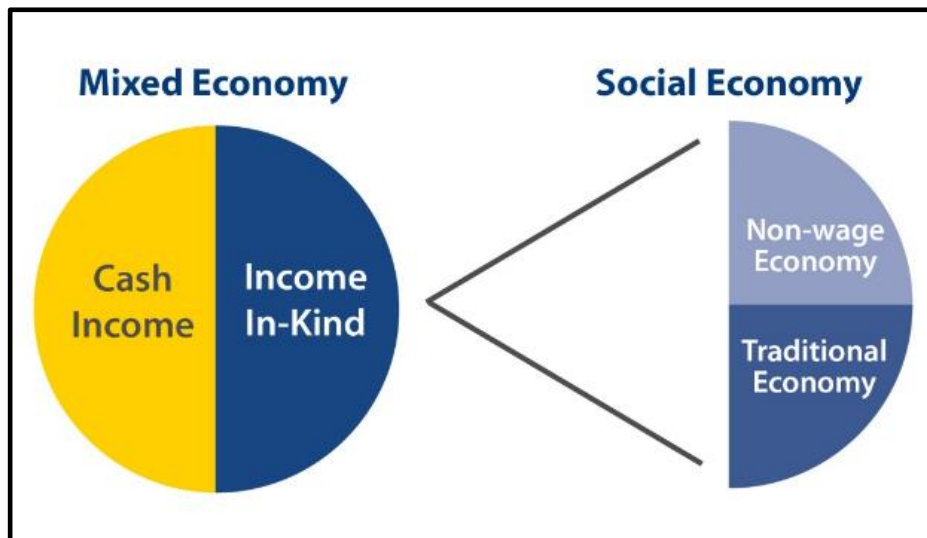
### 5.1 SOCIAL ECONOMY OVERVIEW

No universal definition of social economy exists (Southcott 2009; Restakis 2006); however, in Yukon the term is becoming more widely used, in part because of the work of the Social Economy Research Network of Northern Canada (SERNNNoCa 2012a). As stated by Southcott 2009, though the term may not be widely used, the "ideas and relationships that are the foundation of what others are now referring to as the social economy are prevalent throughout the [Canadian] North" (Southcott 2009, p.4). This study uses the following definition of the social economy.

The social economy refers to the grassroots voluntary or non-profit sector outside both the government (public) and private for-profit sectors. In addition to non-governmental organizations, informal collectives, societies, associations, cooperatives, and charitable foundations, the social economy of the North also embraces many of the traditional economic activities of Aboriginal societies given its focus on democratic values that enhance community life. (SERNNNoCa 2011, p.1)

The social economy supports the quality of life experienced in many Yukon communities, and fosters services and activities that otherwise may not be available or affordable (Staples 1988). Staples (1988) identifies the social economy as being a strength of the Yukon economy, which allows Yukoners to be more self-reliant and more resilient to the fluctuations of the industrial economy (YG 1987).

In addition to its intrinsic value, the social economy is an important component of the mixed economy. As seen in **Figure 5-1**, the mixed economy can be described as an economic basis that relies both on cash income and income in-kind (Southcott and Walker 2009; Staples 1988; YG 1987). Social economic activities are used in this study as a proxy to describe those activities that provide or support income in-kind (**Figure 5-1**).



**Figure 5-1 Components of the Mixed and Social Economy**

The mixed economy is predominantly used to describe the economic foundation of Canada's northern Aboriginal communities, and was identified by Staples et al. 1998 (p.1) as being a “distinctive feature of Yukon First Nation communities” (Natcher 2009; Southcott and Walker 2009; Mishler and Simeone 2004; Usher et al. 2003; Staples 1988); however, non-Aboriginals can adopt the practices of the mixed economy as well (Abele 2009). The Yukon *Economic Development Act*, RSY 2002, c. 60, explicitly identifies that Yukon comprises a mixed economy. Further, in Section 6.2 (h) of the Act it states, “[A Minister shall]...promote the role of the subsistence economic activities in the Yukon economy” and in Section 6.2(i), “...promote the role of non-wage economic activities in the Yukon economy”. This study acknowledges that both Aboriginal and non-Aboriginal Yukoners may participate in the mixed economy, though the unique influences that characterize each do differ.

The traditional economy is recognized in YESAA as one of the purposes of the Act. More specifically, Section 2 states: “the purposes of this Act are...to recognize and, to the extent practicable, enhance the traditional economy of Yukon Indian persons and their special relationship with the wilderness environment” (p.9).

Through desktop research the role of the mixed economy, the traditional economy, and the volunteer economy were identified as important socio-economic values in the LSA. In **Table 5-1**, a summary of terms used in this report to discuss different aspects of the social economy is presented.

**Table 5-1 Summary of Terms Used to Discuss Social Economy**

Term	Definition
Social Economy	“The social economy refers to the grassroots voluntary or non-profit sector outside both the government (public) and private for-profit sectors. In addition to non-governmental organizations, informal collectives, societies, associations, cooperatives, and charitable foundations, the social economy of the North also embraces many of the traditional economic activities of Aboriginal societies given its focus on democratic values that enhance community life.” (SERNN0Ca 2011, p.1)
Mixed Economy	The mixed economy can be described as an economic basis that relies both on cash income and income in-kind (Southcott and Walker 2009, Staples 1988, Yukon Government 1987). The economy of Yukon is characterized as a mixed economy.
Non-wage Economy	The non-wage economy “recognizes the value of non-monetary productiv[ies]” (Staples 1988). In this study, this includes: non-profit and non-governmental organizations; the volunteer sector; informal social economic activities, and subsistence activities.
Traditional Economy	While individual First Nations may have adopted their own unique definition, and understanding of the term traditional economy, this term generally refers to the subsistence-based economy, which is intrinsically linked to the culture, traditions, language, values, and land and resource use of each First Nation.

## 5.2 SOCIAL ECONOMY STUDY AREA

The study areas for the social economy consist of the spatial boundaries defined with respect to the non-wage economy and the traditional economy (**Table 5-2**).

**Table 5-2 Summary of Spatial Boundaries for the Social Economy**

Component	Topic(s)	Local Study Area	Regional Study Area
Social Economy	Non-wage Economy	Includes Dawson City and a 1 km extent on either side of the Project, inclusive of any land-use designations (for example, trap line concessions, game management areas or placer claims) that overlap with this area.	Includes the LSA and Yukon Territory
	Traditional Economy	The established or asserted Traditional Territory of First Nations located within a 1-km area of the Project. These First Nations include TH, SFN, FNNND, and WRFN.	The area that encompasses the entire established Traditional Territory of the TH, SFN, FNNND, and the entire asserted Traditional Territory of the WRFN.

## 5.2.1 Non-wage Economy

### 5.2.1.1 Local Study Area

The non-wage economy LSA was delineated to encompass the communities and people who reside in the area. The non-wage economy LSA includes Dawson and a 1-kilometre (km) area extent on either side of the Project footprint (**Figure 5-2**). This LSA includes an area generally bounded by the city limits of the City of Dawson (Dawson), but does not necessarily exclude from the assessment entities immediately adjacent to but outside of those boundaries. Due to Dawson's geographic location in relation to the Project, it is anticipated that the community will provide a source of labour, goods, and services associated with the Project. The community is also anticipated to experience a population influx from Project workers, labour to fill indirect and induced opportunities, as well as speculative workers.



Photo provided by Tr'ondëk Hwëch'in

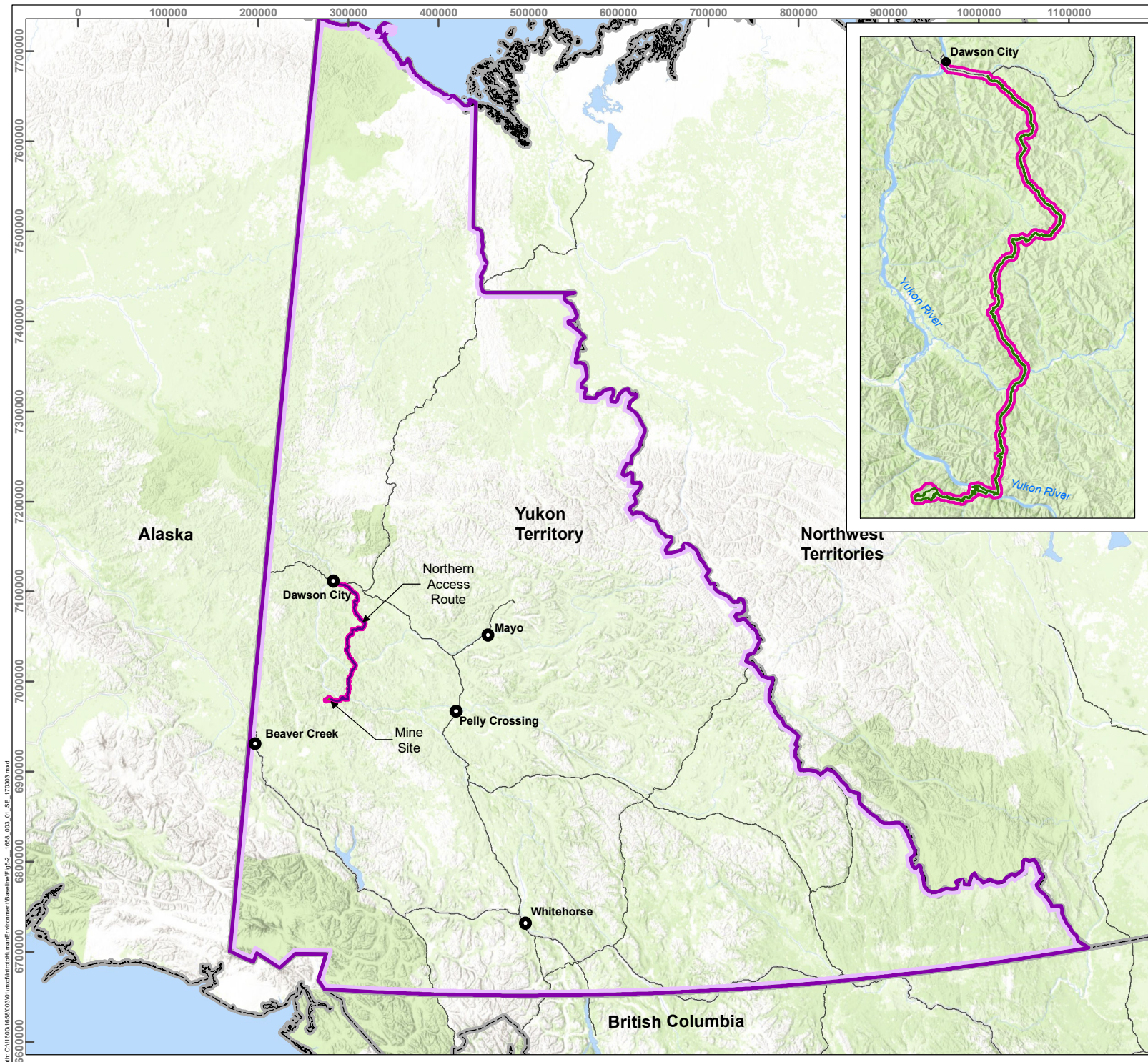
**Photo 5-1 Traditional economy – Tr'ondëk Hwëch'in Elder teaching salmon processing at First Fish**



**Photo 5-2 Non-wage economy in action – Volunteers play a central role in supporting and enabling such community events in Dawson as the Yukon Quest.**

### ***5.2.1.2 Regional Study Area***

The non-wage economy RSA is defined as Yukon Territory. The RSA reflects the broader social economy of the territory, and provides regional context for the findings in the LSA.



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## COFFEE GOLD MINE

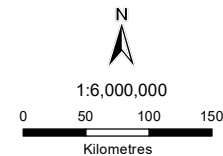
### Social Economy Local and Regional Study Areas for the Non-wage Economy

#### Legend

- Highway
- Project Footprint
- Local Study Area
- Regional Study Area
- National/International Border

#### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



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Figure 5-2	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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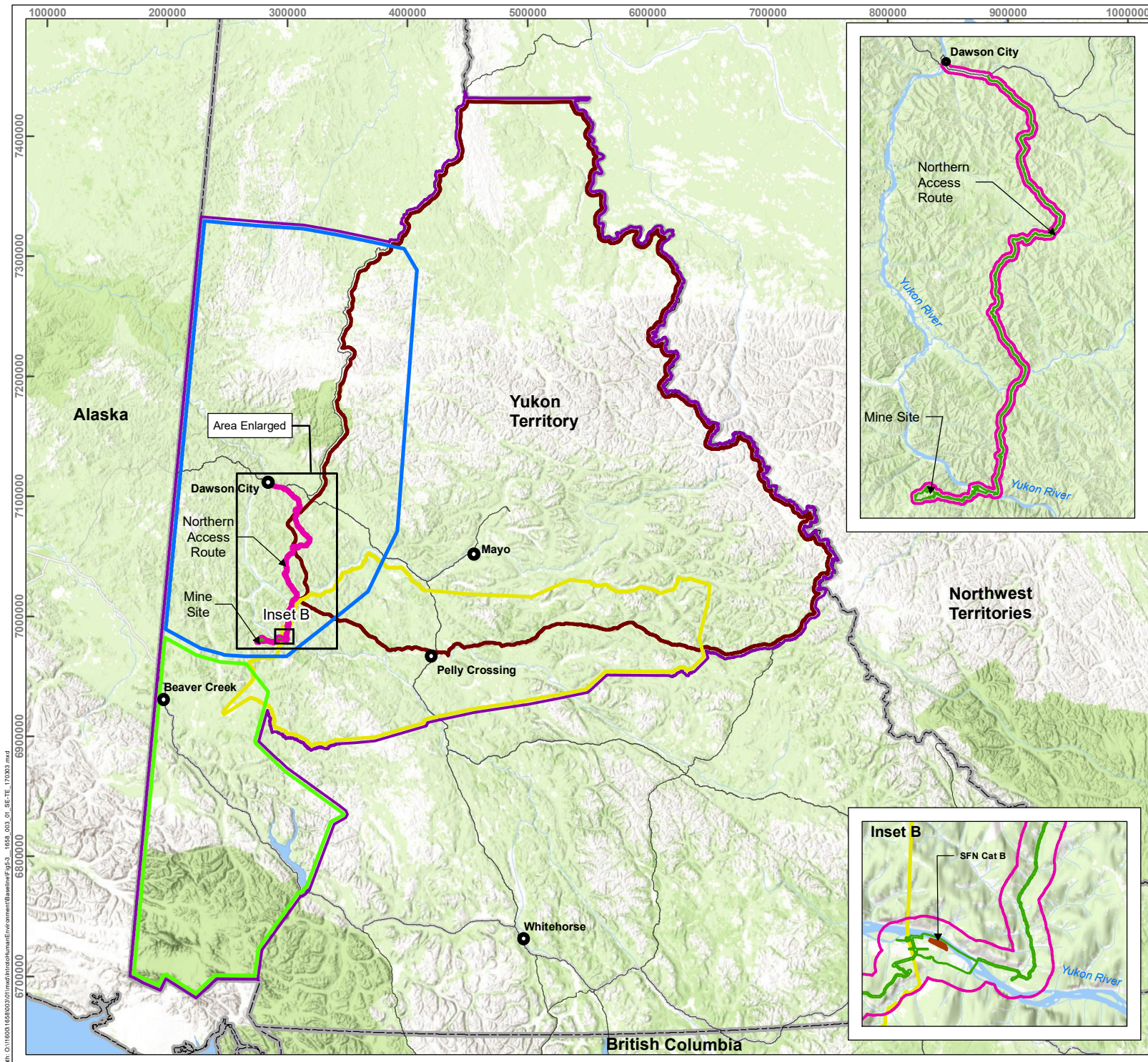
## **5.2.2 Traditional Economy**

### **5.2.2.1 Local Study Area**

The LSA for the traditional economy is defined as the established or asserted Traditional Territory of First Nations located within a 1km area extent of the Project. These First Nations include the TH, Selkirk First Nation (SFN), First Nation of Na-cho Nyäk Dun (FNNND), and the White River First Nation (WRFN) (**Figure 5-3**).

### **5.2.2.2 Regional Study Area**

The RSA for the traditional economy is defined as the entire established Traditional Territory of the TH, SFN, FNNND, and the entire asserted Traditional Territory of the WRFN. RSA provides important regional context for the traditional economy in the LSA.



**COFFEE GOLD MINE**

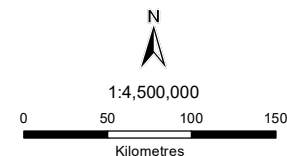
**Social Economy Local and Regional Study Areas for the Traditional Economy**

**Legend**

- Highway
- National/International Border
- Project Footprint
- Local Study Area
- Regional Study Area
- White River First Nation<sup>2</sup>
- Tr'ondék Hwëch'in
- Selkirk First Nation
- First Nation of Na-cho Nyäk Dun
- SFN Category B Lands

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. The WRFN traditional territory boundary represented in this figure presents the recognized traditional territory under the UFA. This is not the WRFN asserted territory which WRFN recognizes.



NAD 1983 UTM Zone 8N

Page Size: 8 1/2" x 11"

Figure 5-3

Date: Mar 22, 2017

Drawn by: JS

Reviewed: DP



### 5.3 SOCIAL ECONOMY INFORMATION SOURCES

#### 5.3.1 Desktop Research

The existing condition of the social economy in the LSA was informed through secondary data sources summarized in **Table 5-3**. In addition to the sources summarized in **Table 5-3**, the Project's TK database was also used as a data source to identify relevant traditional economic information for each of the LSA First Nations. The TK database presented information from 35 TK and traditional land use-related references.

**Table 5-3 Summary of Key Social Economy Secondary Data Sources**

Social Economy
<ul style="list-style-type: none"> <li>• Calliou Group. 2012a. Baseline Community Harvest Study 2011 – 2012 Foothills (TransCanada) Alaska Highway Pipeline Project, White River First Nation (Final Report, August 2012).</li> <li>• Natcher, D.C. 2009. Subsistence and the Social Economy of Canada's Aboriginal North. <i>The Northern Review</i> 30: 83-98.</li> <li>• Southcott, C. 2009. Introduction: The Social Economy and Economic Development in Northern Canada. <i>The Northern Review</i> 30: 3-11.</li> <li>• Southcott, C., and V. Walker. 2009. A Portrait of the Social Economy in Northern Canada. <i>The Northern Review</i> 30: 13-36.</li> <li>• Social Economy Research Network of Northern Canada (SERNNOCa). 2011. Northwest Territories Newsletter 2011: Social Economy Research News. Available at: <a href="http://yukonresearch.yukoncollege.yk.ca/frontier/files/sernnoca/Newsletter2011.pdf">http://yukonresearch.yukoncollege.yk.ca/frontier/files/sernnoca/Newsletter2011.pdf</a>. Accessed March 30, 2016.</li> <li>• Social Economy Research Network of Northern Canada (SERNNOCa). Presentations and publications from 2009 to 2012.</li> <li>• Staples, L., Weick, E., Weinstein, M., Weihs, F., Usher, P., and A. Peter. 1998. Feasibility Study on the Design of a Harvesting Support Program in the Yukon (A report prepared for the Council of Yukon First Nations, Whitehorse, Yukon).</li> <li>• Tr'ondëk Hwëch'in (TH). 2012a. Tr'ondëk Hwëch'in Resource Report - Appendix "C". Submitted to the Dawson Regional Land Use Planning Commission. Available at: <a href="http://dawson.planyukon.ca/index.php/publications/resource-assessment-report/appendices/186-appendix-c-tr-ondek-hwechin-in-resource-report/file">http://dawson.planyukon.ca/index.php/publications/resource-assessment-report/appendices/186-appendix-c-tr-ondek-hwechin-in-resource-report/file</a>. Accessed October 5, 2015.</li> <li>• The City of Dawson and Tr'ondëk Hwëch'in. n.d. After the Gold Rush: The Integrated Community Sustainability Plan, Volume I: The City of Dawson and Tr'ondëk Hwëch'in Community Vision. <a href="http://www.infrastructure.gov.yk.ca/pdf/icsp_dawson.pdf">http://www.infrastructure.gov.yk.ca/pdf/icsp_dawson.pdf</a>. Accessed September 2, 2015.</li> <li>• Usher, P.J., and L. Staples. 1988. Subsistence in the Yukon, July 12, 1988. A Report Prepared for the Economic Development Department, Council for Yukon Indians.</li> <li>• Usher, P.J., Duhaime, G., and E. Searles. 2003. The Household as an Economic Unit in Arctic Aboriginal Communities, and its Measurement by Means of a Comprehensive Survey. <i>Social Indicators Research</i> 61: 175-202.</li> <li>• Yukon Environmental and Socio-economic Assessment (YESAB). 2012. Designated Office Evaluation Report: White River – Quartz Exploration Project no. 2012-0080.</li> </ul>

## 5.3.2 Primary Research

### 5.3.2.1 Traditional Knowledge and Land Use Studies Conducted

Several studies were specifically generated for the Project. The results from these studies were used to inform the historic and current traditional economic values reflected in the LSA and RSA by TH and the WRFN. These studies were conducted prior to this baseline study commencing, and are focused on the area around the Mine Site and Coffee Creek (**Table 5-4**).

**Table 5-4 Summary of Traditional Knowledge and Land Use Studies Conducted**

No.	Report
1	Bates, P., S. DeRoy, and The Firelight Group, with White River First Nation. 2014. White River First Nation Knowledge and Use Study (For Kaminak Gold Corporation).
2	Dobrowolsky, D. 2014. Compilation of Information relating to Coffee Creek / White River Areas. January 2014. Prepared for Kaminak Gold Corporation, Tr'ondëk Hwëch'in First Nation, White River First Nation.
3	Tr'ondëk Hwëch'in (TH). 2012b. Coffee Creek Traditional Knowledge Survey, Final Report. December 2012.

### 5.3.2.2 Local Business Focus Group

Please see **Section 4.3.2.2** for methodological details.

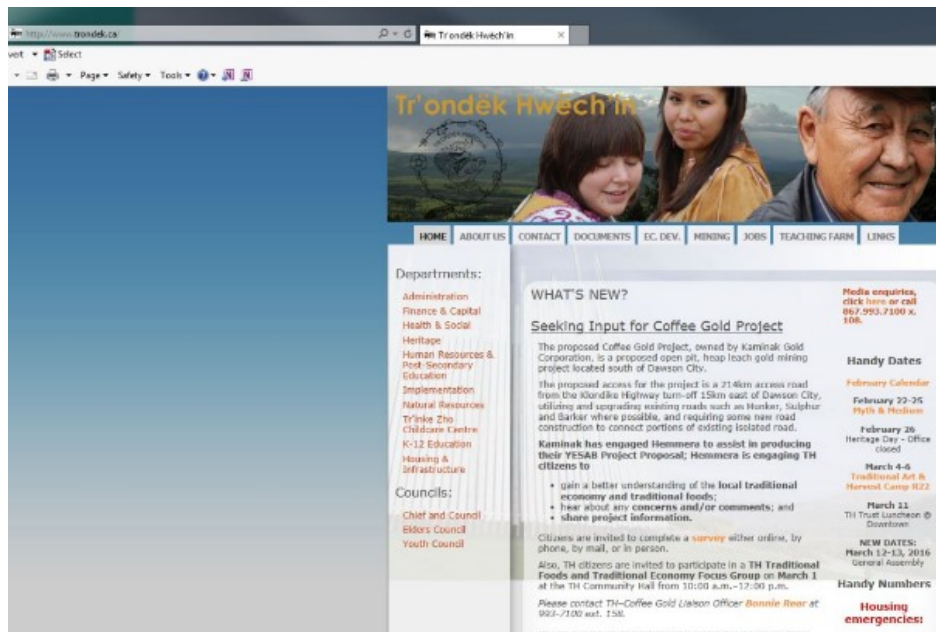
### 5.3.2.3 Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey

A survey was conducted with TH citizens from February 18, 2016 to March 18, 2016. The survey was developed with and supported by the TH Heritage Department and the TH-Coffee Gold Community Liaison Officer. All TH citizens were invited to complete this survey and attend the Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Focus Group in one letter sent to 395 TH citizens by mail; this included 373 citizens with Canadian mailing addresses and 22 citizens with other international mailing addresses, including 19 citizens with American mailing addresses<sup>15</sup>. Four options to complete the survey were provided. These were:

- Complete the survey by phone with the Tr'ondëk Hwëch'in-Coffee Gold Liaison Officer
- Complete the survey in person with the Tr'ondëk Hwëch'in-Coffee Gold Liaison Officer
- Complete the survey online
- Complete the survey on paper and submit to the Tr'ondëk Hwëch'in-Coffee Gold Liaison Officer.

Tr'ondëk Hwëch'in citizens were also able to access an online link to the digital survey through a posting about the survey and focus group on TH's website (**Photo 5-3**).

<sup>15</sup> 18 surveys were returned undeliverable.



**Photo 5-3** Tr'ondëk Hwëch'in website advertising the Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey and Focus Group

The survey posed a total of 35 questions, which included multiple choice, fill in the blank, and Likert scale<sup>16</sup> questions (**Appendix C Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey**). Several questions also included a field that allowed contributors to add additional detail and comments with respect to the question asked. The objective of the survey was to gain a better understanding of how TH citizens were using the lands and resources, with a focus on those uses related to traditional foods and the traditional economy. Twelve citizens completed the survey (3% response rate); this included two citizens who partially completed the survey and 10 citizens who completed the entire survey.

#### **5.3.2.4 Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Focus Group**

A Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy focus group was conducted in Dawson on March 1, 2016 at the TH Community Hall, from 10:00 a.m. to 12:00 p.m. The focus group was developed with and supported by the Tr'ondëk Hwëch'in-Coffee Gold Community Liaison Officer. All TH citizens were invited to attend this focus group and complete the Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy in one sent letter. Notices advertising the focus group were also posted around the community by the TH-Coffee Gold Community Liaison Officer, as well as on the Tr'ondëk Hwëch'in Website (**Photo 5-3**). A total of 12 citizens attended the focus group.

The objective of the focus group was to gain a better understanding of how TH citizens are using the land and resources across their Traditional Territory, and in the areas around the proposed Project Footprint, for

<sup>16</sup> The Likert scale is a social science research method which is commonly used in surveys to gain an understanding of how respondents rate or rank a particular topic area. Often respondents are asked to rate their response according to a numerical scale (i.e., 1 to 10) or scale based on preference (i.e., unsatisfactory to very satisfied; low to high, etc.).

traditional purposes including foods and traditional economy. The focus group was co-facilitated with the Tr'ondëk Hwëch'in-Coffee Gold Liaison Officer, and used a semi-structured group interview format where open-ended questions were posed to the group for discussion. The main topics of discussion were: traditional foods, changes being observed and experienced across the land, and the traditional economy. The Tr'ondëk Hwëch'in-Coffee Gold Liaison Officer documented the attendees' responses to the open-ended questions on a flip chart throughout the focus group. Detailed notes were also taken throughout the focus group to document the information being shared.

### 5.3.2.5 Interviews

Primary data were collected through semi-structured information interviews conducted with various participants who participate or contribute to the social economy; this included government departments, non-profit organizations, local social economy participants, and activities and events (**Table 5-5**). For details regarding interview methodology, please see **Section 2.1**.

**Table 5-5 Summary of Social Economy Interviews**

No.	Agency / Organization	Date of Interview	Method of Contact
1	Tr'ondëk Hwëch'in Heritage Department	February 10, 2016	In-person Interview
		March 18, 2016	Phone Interview
2	Registered Trapping Concession (RTC) Holder	February 10, 2016	In-person Interview
3	RTC Holder #54	February 29, 2016	In-person Interview
4	Conservation Klondike Society	February 10, 2016	In-person Interview
5	Klondike Institute of Art and Culture	February 10, 2016	In-person Interview
6	Klondike Outreach	March 1, 2016	In-person Interview
7	Klondike Visitors Association	March 2, 2016	In-person Interview
8	Klondike Development Organization	February 23, 2016	Phone Interview
		March 4, 2016	Phone Interview
9	Yukon River Quest	March 22, 2016	Phone Interview

### 5.3.3 Data Limitations and Constraints

#### 5.3.3.1 Data Availability

Primary research was not conducted with all First Nations in the LSA, and First Nation-specific secondary data related to the traditional economy were not readily available. The authors of this study were limited to publicly accessible secondary data, the data gathered through primary research activities, and data provided by respective First Nations; therefore, it is very important to note *that an absence of data does not necessarily indicate an absence of value*.

### **5.3.3.2 Low Response Rate**

As noted in **Section 5.3.2.3**, the Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey had a low response rate. A total of 395 TH citizens were mailed a letter inviting them to take the survey, in addition to a link being provided to the online survey on TH's webpage and Facebook Page. In total, 12 citizens completed the survey, which represents a 3% response rate. Though the data received were informative and useful to this report, it cannot be assumed that results are necessarily representative of TH citizens.

## **5.4 SOCIAL ECONOMY RESULTS AND DISCUSSION**

### **5.4.1 Non-Wage Economy**

The non-wage or subsistence economy plays an important role in the Yukon economy, even though it is not well documented in literature. The non-wage economy "recognizes the value of non-monetary productive activit[ies]" (Staples 1988). Similar to the Yukon Government's 1987 report, *The Things That Matter: A Report of Yukoners' Views on the Future of Their Economy and Their Society*, this study does not limit its focus of the non-wage economy to subsistence-related activities (YG 1987). This study also considers other contributing aspects of the non-wage economy, including: non-profit and non-governmental organizations; the volunteer sector; and informal social economic activities.

#### **5.4.1.1 Non-profit and Non-governmental Organizations**

Non-profit organizations are a component of Canada's northern social economy (Southcott 2009). In a 2003 National Survey of Non-profit and Voluntary Organizations conducted by Statistics Canada, it was found that Canada's territories had the highest percentage of non-profit or voluntary organizations focused on serving Aboriginal communities, in comparison to Canadian provinces (Southcott and Walker 2009).

The latest database of Northern Social Economy Organizations identified 591 non-profit organizations operating in Yukon Territory as of March, 2012 (SERNNNoCa 2012b). These organizations are located throughout Yukon in numerous communities, and offer several different types of services. From advocacy to sports and recreation, Yukon non-profit organizations provide a diverse array of services and activities to Yukoners.

Per the Government of Yukon, there are 11 active non-governmental organizations in Dawson (**Table 5-6**). The services that not-for-profit and non-governmental organizations provide to Dawson are diverse. Interviews were conducted with five non-governmental organizations in Dawson (**Table 5-6**). From these interviews, it was identified that in addition to enhancing the quality of life for Klondike Region residents, these organizations provide key services that otherwise would not be locally available.

**Table 5-6 Summary of Non-governmental Organizations in Dawson**

No.	Name	Focal Service Area(s)
1	Conservation Klondike Society <sup>1</sup>	Environmental
2	Dawson Arts Society / Klondike Institute of Art & Culture <sup>2</sup>	Arts and Culture; Tourism
3	Dawson Museum	Arts and Culture; Tourism
4	Dawson Shelter Society	Community Health and Wellness
5	Humane Society Dawson	Animal Welfare
6	Klondike Development Organization <sup>3</sup>	Sustainable Economic Development
7	Klondike Outreach Employment Services <sup>4</sup>	Employment
8	Klondike Placer Miners Association	Natural Resource Development (Placer Mining)
9	Klondike Visitors Association <sup>5</sup>	Arts and Culture; Tourism
10	Literary Society of the Klondike / Klondike Sun	Communications
11	Many Rivers Counselling and Support Services	Community Health and Wellness

**Source:** Government of Yukon 2014b

**Notes:** <sup>1</sup> Interview 11, Pers. Comm., 2016, <sup>2</sup> Interview 12, Pers. Comm., 2016, <sup>3</sup> Interview 28, Pers. Comm., 2016, <sup>4</sup> Interview 23, Pers. Comm., 2016, <sup>5</sup> Interview 25, Pers. Comm., 2016

#### 5.4.1.2 Voluntary Sector

Volunteering offers many benefits to the individuals volunteering their time, as well as to the community where they are contributing their volunteering efforts. In Johnston and Twynam (2009), it was found that incentives to volunteering include being able to work together with others, as well as contribute to wider community goals. According to volunteering and participating statistics, Yukon had a 49% volunteer rate in 2010 (Statistics Canada 2015d). One of the organizations responsible for promoting and supporting volunteering in Yukon is the Volunteer Bénévoles Yukon (VBY), a Yukon organization focused on nurturing and growing Yukon volunteerism (VBY n.d.). The vision of VBY is to encourage a strong volunteer spirit amongst Yukoners, and foster and promote volunteerism by “providing resources, training, consultation, and support for individuals and organizations” (VBY n.d.).

Volunteers play a key role in supporting community and regional economic development, as well as enhancing the overall quality of life in the region (City of Dawson and Tr’ondëk Hwëch’in n.d.). From the Dawson City Volunteer Fire Department to non-profit organizations and community events, volunteers provide support and incentives across the socio-economic landscape (The City of Dawson and Tr’ondëk Hwëch’in n.d.; Interview 4, Pers. Comm. 2016; Interview 11, Pers. Comm. 2016; Interview 12, Pers. Comm. 2016; Interview 23, Pers. Comm. 2016; Interview 25, Pers. Comm. 2016; Interview 30, Pers. Comm. 2016). Volunteering is prevalent in the Dawson region. One local business owner shared that “everyone volunteers” at the Local Business Focus Group (Local Business Focus Group, Pers. Comm. 2016). Volunteering is one of the strategies that the Dawson community uses to address existing service and funding gaps that may exist (KDO 2011c). Without volunteers, these services and activities may otherwise not be affordable (Staples 1988).

As members of the local business community shared, the support of volunteers is integral to conducting community events and activities, without whom these events and activities would not be possible (Local Business Focus Group, Pers. Comm. 2016). One contributor shared that community members are committed to making Dawson a place that they want to live, and volunteering is one of the ways that this is demonstrated (Interview 23, Pers. Comm. 2016). In addition to the value that volunteering contributes to the community's overall well-being, volunteer-supported events and activities contribute significantly to the local economy; they are estimated to generate millions of dollars each year (Interview 25, Pers. Comm. 2016).

Retaining and attracting volunteers can be a challenge given the high proportion of organizations, events, and activities that rely on volunteers and the current population size of the Klondike Region (Interview 11, Pers. Comm. 2016; Interview 23, Pers. Comm. 2016; Interview 25, Pers. Comm. 2016). Despite these challenges, contributors explained that they have established a core group of volunteers to support different annual events and activities each year (Interview 25, Pers. Comm. 2016). The availability of volunteers is not influenced by the annual population increase and decrease that the Klondike Region experiences each year. The Conservation Klondike Society explained that for their organization, even though everything slows down during the winter season and some volunteers may leave the region during this time of year, other volunteers may have increased availability and can contribute more time during this season (Interview 11, Pers. Comm. 2016).

#### **5.4.1.3 Informal Social Economy Activities**

Informal social economy activities are defined in this study as those activities that individuals informally conduct without the exchange of money, including bartering and cooperative buying. No available data were identified by the report authors to describe the status of informal social economic activities in Yukon. Social media supports informal social economic activities, such as the Dawson City Town Crier and Buyer Facebook page. Bartering includes individual-to-individual exchanges of goods or services without money. Bartering is active in the Klondike Region, and contributes to Dawson's social cohesion by promoting individuals to work together (Interview 11, Pers. Comm. 2016). Contributors share some personal examples of bartering in which they exchanged pigs for services, and vegetables for equipment (Interview 11, Pers. Comm. 2016).

Cooperative buying is used by some Dawson residents to decrease the cost of living in the Klondike Region (Interview 11, Pers. Comm. 2016). Examples of cooperative buying include: buying goods together to reduce and share shipping costs between individuals, and buying larger quantities to maximize buying potential (Interview 11, Pers. Comm. 2016).

#### **5.4.1.4 Subsistence Activities**

Subsistence activities are those land-based activities that provide goods and services to individuals and communities without the exchange of money; this can include both activities related to gathering wild or

country foods, as well as such activities as gathering firewood and using non-timber forest products. The types of activities considered to be subsistence activities are broad. Subsistence activities are conducted by both First Nation and non-First Nation Yukoners (March Tr'ondëk Hwëch'in TWG Meeting, Pers. Comm. 2016, Usher and Staples 1988). Subsistence activities are an important component of the social economy, and contribute significantly to the Yukon economy (Usher and Staples 1988). Further, it is recognized by both public and private institutions that subsistence should contribute to decision-making in Yukon (Usher and Staples 1988). Subsistence activities are closely related to other socio-economic values including culture, health, and wellness.

Subsistence activities constitute one of the strategies that LSA residents use to provide economic stability during periods of seasonal or market fluctuations (Abele 2009; Usher et al. 2003). Registered trapping Concession (RTC) Holder No. 54 explained that one of the ways that his trapping concession contributes to his and his family's economic well-being is that they know that they can always go out on the land to trap and hunt if they find themselves without employment (Interview 22, Pers. Comm. 2016). Usher et al. (2003) state that in this manner, subsistence activities can "act like a sponge" by absorbing and releasing individuals as employment opportunities come and go (p. 178).

Wild foods are consumed by over 50% of households in the Dawson area (CKS 2011). More specifically, the proportion of wild meat consumed by households (25.2%) reflects the continued importance of hunting and gathering activities by all Dawson residents, First Nation and non-First Nation alike (CKS 2011). Results of a 2011 survey conducted by the Conservation Klondike Society (CKS) identified that hunting and gathering was the third most commonly used practice by Dawson residents to access local foods out of the seven practices currently used; approximately 19.4% of meat consumed by Dawson residents is locally harvested wild meat (CKS 2011). In addition, CKS (2011) found that the local wild meat harvest was valued at \$285,000 based on the cost required to purchase the equivalent amount of meat from the store on a pound-for-pound basis (p.17).

#### **5.4.2 Traditional Economy**

The traditional economy is recognized in YESAA as one of the purposes of the Act. More specifically, Section 2 states "the purposes of this Act are...to recognize and, to the extent practicable, enhance the traditional economy of Yukon Indian persons and their special relationship with the wilderness environment" (p.9).

While individual First Nations may have adopted their own unique definition and understanding of the term traditional economy, this term generally refers to the subsistence-based economy that is intrinsically linked to the culture, traditions, language, values, and land and resource use of each First Nation. As noted by Usher et al. (2003), "...people do not choose between living in a 'traditional' economy or 'modern' economy, nor are they in transition between the two. The modern economy in northern communities is in fact a mixed, subsistence-based economy" (p.185; Mishler and Simeone 2004).



#### **5.4.2.1 Tr'ondëk Hwëch'in Traditional Economy**

The TH traditional economy has evolved over thousands of years, and reflects a sophisticated system that has adapted to complex environmental, social, and cultural changes over time (Tr'ondëk Hwëch'in 2012b). Tr'ondëk Hwëch'in's definition of traditional economy is consistent with the following definition from Kuokkanen (2011):

The Key principles of indigenous economies – sustainability and reciprocity – reflect land-based worldviews founded on active recognition of kinship relations that extend beyond the human domain. Sustainability is premised on an ethos of reciprocity in which people reciprocate not only with one another but also with the land and the spirit world. Indigenous economies are thus contingent upon a stable and continuous relationship between the human and natural world.

These systems include a variety of land based small-scale economic activities and practices as well as sustainable resource management. Indigenous economies are often characterized by a subsistence mode of production. At the center of the economic activity is not the exchange for profit or competition but the sustenance of individuals, families, and the community. Surplus is shared at numerous festivals and ceremonies that maintain the social cohesion of the community but also bring prestige to those who give and share their wealth. The subsistence-oriented economy – including various contemporary versions of mixed economies – also ensures the continuation of the traditional social organization (p.219).

The TH traditional economy plays a central role in supporting all aspects of TH citizen and community well-being. In addition to the economic well-being of TH citizens, the traditional economy is tied to such aspects of well-being as culture and heritage; health; and mental wellness. At the Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy focus group, participants shared that the traditional economy:

- Supports traditional practices and values such as reciprocity and sharing
- Promotes social cohesion by supporting family and community members to work together to provide goods and services to one another (e.g., taking care of children)
- Supports the economic well-being of citizens by alleviating the need to purchase food
- Supports TH citizens to get involved with traditional activities, thereby supporting the transmission of TK through such activities as preparing meat together, medicines and food
- Supports the health of TH citizens by providing a healthy food source
- Supports the mental wellness of TH citizens by alleviating such stresses as the cost of food.
- Supports spiritual well-being by promoting individuals to go out on the land where they can heal (Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Focus Group, Pers. Comm. 2016).

The economy of TH was not historically dependent on wealth accumulation. As TH members were nomadic, accumulating articles or food was impractical. As such, if one person or family was successful in their harvest, they would share it with those who had not been so fortunate. The understanding was present that

the following year, this sharing might be reciprocated if that originally successful group was not as successful that season. Again, this economy was one of equilibrium, as opposed to accumulation. Survey results support these values. When asked if they demonstrate reciprocity or giving back to the land and spirit world in appreciation of the resources that they use, 78% of respondents replied yes, 11% of respondents replied they sometimes demonstrated reciprocity, and 11% of respondents replied that said they did not know. Additional comments provided by respondents indicate that some TH citizens provide offerings to the land, including prayer, tobacco, and other gifts (Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey 2016).

### **Activities**

The TH Traditional Territory has always been and remains the basis for the TH traditional economy (Dobrowolsky and Hammer 2001). In addition to specific activities, the traditional economy involves a complex system of harvesting, processing, production, and technological adaptation (Tr'ondëk Hwëch'in 2012b). The types of activities (i.e., goods and services) involved in the traditional economy are diverse and varied.

According to survey<sup>17</sup> respondents, the three most common services that TH citizens conduct without pay are taking care of children (87.5%), taking care of Elders, seniors, family and friends (75%), and preparing harvested food from the land for food or meals (e.g., drying fish, cutting meat, drying berries, etc.). Focus group participants further explained that families commonly work together to share goods and materials harvested from the land. This may involve some members of a family hunting a moose, and others helping to process it in return for receiving some of the meat (Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Focus Group, Pers. Comm. 2016). Others added that instead of paying with money, TH citizens may give back to those who have shared goods or provided a service by giving them some berries, bannock, or tobacco; a specific example provided was that one attendee had people come to cut wood for them and in exchange made them a meal and bannock (Traditional Foods and Traditional Economy Focus Group, Pers. Comm. 2016).

Subsistence harvesting activities are also a major component of TH's traditional economy. In addition to selling furs, trapping contributes to the traditional economy through the meat and resources that this activity provides. Though the actual animal or resource may be harvested during a season, one interviewee shared that traditional use activities are conducted year-round as it is important to maintain one's connection to the land (Interview 10, Pers. Comm., 2016). Trapping was an example of a traditional use activity that contributes to family social cohesion as it promotes time spent on the land together with family members conducting traditional pursuits. Being able to teach one's children about different traditional use activities, such as trapping, is an activity that cannot be assigned a monetary value (Interview 14, Pers. Comm. 2016).

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<sup>17</sup> The Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey (2016).

Tr'ondëk Hwëch'in citizens shared that they will often trade, share, or exchange materials and food harvested from the land. For example, one citizen shared that they provide furs to their friend who in return provides finished goods such as mitts and hats (Interview 22, Pers. Comm. 2016). Another TH citizen explained that they smoke the fish that they catch and send it to family members who are far away; thus, the traditional economy is inclusive of all TH citizens, not just those who reside in the Dawson area (Interview 14, Pers. Comm. 2016).

### ***Level of Engagement***

On average, 57% of respondents indicate that they spend 0 to 5 hours per week doing jobs (or providing services) without pay (Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey, 2016). With regards to volunteering, 44% indicated that they do volunteer, 22% indicated that they do not volunteer, and 33% indicated that they sometimes volunteer (Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey, Pers. Comm. 2016). Examples of activities where respondents volunteer include: various community fundraisers and potlaches, Dawson events and activities (i.e., Dawson City Music Fest and Klondike Institute of Arts and Culture events), and well as TH events and activities (i.e., Moosehide Gathering) (Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey, 2016).

Elders at the Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Focus Group stated that though the level of participation in the traditional economy is decreasing in comparison to how things were when they were young because of the influences of the "modern lifestyle," key TH principles and values are still actively practised and demonstrated by citizens. For example, focus group attendees share that when food is hunted or gathered from the land it is shared with Elders (2016). These findings are consistent with literature which has also found that engagement in the traditional economy is generally decreasing (Southcott and Walker 2009; Mishler and Simone 2004). Mishler and Simeone (2004) identify four reasons that have influenced this decrease, including: the requirement for children to go to school; secondly, regulatory restrictions related to the harvesting of resources (i.e., hunting, fishing, trapping, etc.); thirdly, the importance of cash income in society today; and, lastly the availability of commercial foods.

### ***Market Value of Traditional Economy***

Historically, traditional land and resource use was the basis for the TH traditional economy. Today, traditional land and resources activities continue to contribute to the mixed economy, but are also valued for intrinsic purposes, which cannot be assigned a monetary value (Tr'ondëk Hwëch'in 2012b). One TH Elder shared that there is value in being able to go out on the land and drink the water from any stream; in the past, they explained that they used to do this all the time but would not consider that now (Tr'ondëk Hwëch'in Health, Social and Heritage Analyst – Coffee Gold Mine, Pers. Comm., 2016). Another TH citizen shared that living off the land is the lifestyle that they choose to live, and that they consider it their piece of heaven (Interview 14, Pers. Comm. 2016).

Primary research results indicate that TH citizens do not tend to assign a monetary value to traditional economic activities. When asked if they made any money in the past year from selling goods or materials

from the land, 50% of survey respondents indicated that they do not sell goods or services from the land, while 25% estimate that they make between \$0 and \$500, and 12.5% estimate that they make between \$2,001 and \$5,000. Focus Group attendees added to this understanding by sharing that they do not give meat or food with the expectation of getting something in return (2016).

One TH citizen qualitatively described that in the past, trapping on his RTC was his main source of income. Though trapping is no longer his primary occupation, he notes that trapping continues to contribute to his economic well-being in a tangible and intangible manner. Trapping provides money, which supports his ability to conduct traditional use activities. Trapping also provides economic security as he knows that if he or his family members are ever in need of money, they can come out to the land and trap (Interview 22, Pers. Comm. 2016). Though it is understood that the activities and services conducted as part of the traditional economy support the economic well-being of TH citizens, no quantitative value was determined by this study.

#### **5.4.2.2 White River First Nation Traditional Economy**

The WRFN's traditional economy reflects the Nation's collective understanding of their sense of place, which refers to the intimate and inseparable relationship that the WRFN citizens have with their Traditional Territory. It is considered an aspect of "personal and cultural identity" and is "built on knowledge, history, emotion and identity with respect to place" (YESAB 2012, p.60). Those activities that contribute to the WRFN's sense of place can also be considered as supporting the cultural identity of the WRFN; thus, traditional economic activities are related to the WRFN's sense of place.

#### **Activities**

Current activities identified as being a part of the WRFN traditional economy include such subsistence-related traditional economic activities as hunting, trapping, fishing, plant gathering, and wood cutting (Dobrowolsky 2014; Calliou Group 2012b). A YESAB 2012 report reaffirms the importance of wildlife to the WRFN traditional economy as it notes that caribou are important for many different reasons including economic, cultural, and aesthetic. These traditional economic activities contribute to the economic well-being of the WRFN and its members.

Historically, Coffee Creek was a cornerstone of the traditional economy, supporting harvest of various resources, but also trade and interaction with neighbouring First Nations. Over the last generation or two, Coffee Creek was known a place where opportunities for wage labour were available for the WRFN members. White River First Nation members were among those people who would travel to Coffee Creek to earn money in the spring and summer from such services as providing wood and crew services (Easton et al. 2013). As a reflection of available data, the authors of this report focus on subsistence-related activities to describe the WRFN traditional economy; however, it should be noted that the WRFN traditional economy is likely much broader than this. In a YESAB 2012 report it is noted that "Aboriginal title has an important economic aspect that could be adversely affected by [natural resource development]" (p.28). Although

specific economic aspects are not explicitly identified, it can be deduced that they may encompass more than subsistence-related activities.

### ***Level of Engagement***

White River First Nation members continue to actively engage in the traditional economy. With respect to subsistence harvesting activities, a recent community-based study reported high levels of engagement. Over the course of the 13-month study, 90% of participants reported that they had hunted, 30% reported that they had trapped, 95% reported that they had fished, and 70% reported that they had conducted gathering activities (Calliou Group 2012a).

This community-based study also characterized how the WRFN members currently engage in some traditional economic activities. Over the course of 13 months, a total of 238 harvesting trips were conducted by the WRFN members. Of these trips, approximately 68% were one day or less in duration, and almost one-third were multiple days in duration. This finding suggests that most the WRFN members engaging in subsistence harvesting activities conduct 'short' duration trips (i.e., one day or less) (Calliou Group 2012a).

### ***Market Value of Traditional Economy***

No data were available to describe the current economic value of the overall the WRFN traditional economy; however, it is documented that Yukon First Nations, including the WRFN, have adjusted to changing land uses over time to take advantage of new economic opportunities (Dobrowolsky 2014).

In addition to the value that traditional economic activities may contribute to the WRFN members, the WRFN members also identify that it cost money to conduct these activities as well. In a 2012 Community Harvest Study, the WRFN members report that most subsistence harvesting-related trips are estimated to cost under \$200.00, one third of trips are estimated to cost under \$50.00, and some trips cost over \$1,000 to conduct (Calliou Group 2012a). While assigning a monetary cost to conducting specific subsistence harvesting activities is challenging for various reasons, it is important to acknowledge that the costs associated with conducting these activities can be significant.

While there is a connection between traditional economic activities and transaction costs, the Proponent understands that describing traditional economy in terms of market values is incompatible with the intrinsic cultural values of the traditional economy. Activities associated with the WRFN's traditional economy are viewed by the WRFN to be Aboriginal Rights protected under the Canadian Constitution, and the Proponent acknowledges that the WRFN does not endorse any effort to monetize these rights (WRFN review comments on May 12, 2016 draft of Socio-economic Baseline Report).

#### ***5.4.2.3 Selkirk First Nation Traditional Economy***

The traditional economy is a valued socio-economic component to SFN and its citizens (KCB 2013). Traditional economic activities continue to contribute to all aspects of SFN well-being, as described by Klohn Crippen Berger (2013). It was also identified from this report that SFN citizens expressed "...that their ability to depend on the land and its resources is vital to their economic future" (KCB 2013, p. 43).

### ***Activities***

The SFN traditional economy includes such traditional activities as trapping, hunting, fishing, berry picking and creating goods from materials gathered from the land (KCB 2013). These activities provide income and income in-kind which contribute to the overall well-being of SFN citizens in Pelly Crossing (KCB 2013). As noted by Pearse and Weinstein (1988), traditional economic activities involve many other considerations to function; including animals; productive habitat; equipment; time, equipment and knowledge; and a well-functioning family unit (p. 12).

One of the activities noted of being of importance to SFN's subsistence economy was salmon and other fish. As stated by Morrell (1991), "...fish and other products of the land provide real income in kind that makes life livable in a cash-poor economy" (p. viii).

### ***Level of Engagement***

In the Minto Phase V/VI Socio-economic Study, many SFN citizens reported that they were actively engaged in traditional use activities during all-season of the year (KCB 2013). From the Phase V/VI Study it is reported that the current level of citizens engaged in the traditional economy may not reflect the actual value or importance of the traditional economy, as SFN citizens face such barriers as 'a lack of time' which prevents them from spending as much time as they would like to pursuing traditional use activities (KCB 2013).

### ***Market Value of Traditional Economy***

No data were available to describe the current economic value of the overall SFN traditional economy; however, it was noted that "...it is estimated that a portion of many of the SFN family's annual income is derived from traditional activities...[t]hese products may be sold, used for subsistence purposes, or traded." (KCB 2013, p.43). It was also identified that traditional economic activities provide value to SFN citizens by providing nutritious food; one SFN citizen shared in the Klohn Crippen Berger 2013 report that approximately 25% of the meat their family ate was harvested through traditional activities.

No data were available to describe the monetary contribution that traditional economic activities make to individual citizens; however, one respondent in the Phase V/VI Study estimated that half of their annual income depended on traditional activities. More specifically, this included "furs sold from trapping, meat harvested through hunting, trapping, and fishing, as well as goods and products created from traditional use activities (i.e., using hides and furs to make and sell goods and products) (Interview 25, Pers Comm. 2016)" (KCB 2013).

#### **5.4.2.4 First Nation of Na-cho Nyäk Dun Traditional Economy**

The FNNND traditional economy supports more than just the economic well-being of citizens, it also supports their cultural well-being at an individual and community level. As noted in DPRA 2010, “sharing the harvest is also an important part of Northern Tutchone culture. It is about taking care of each other and sharing the gifts of the land” (p.36). The culture, traditions, and community cohesion that the traditional economy fosters are important components FNNND culture (DPRA 2010).

##### **Activities**

The wage-based economy has influenced the lifestyle and traditional economy of FNNND. As FNNND citizens have engaged more in the wage-based economy, citizens have adapted a more localized lifestyle (FNNND 2008a). Though FNNND citizens currently engage in a mixed economy, they still actively conduct such traditional activities as hunting, fishing, trapping, and gathering. These activities continue to contribute to all aspects of FNNND well-being and community life; including: economic, culture, diet, and health (DPRA 2010; FNNND 2008b). Specifically, trapping was identified as an important activity as it provides a source of income in the winter season (InterGroup 2009).

##### **Level of Engagement**

Though a quantitative description of FNNND’s current level of engagement in the traditional economy was not available to study authors, it was deduced that FNNND citizens are actively using their Traditional Territory. In a 2008 report, it states that FNNND conducts traditional pursuit activities year-round on their Traditional Territory and that “...proponents should be prepared to encounter harvesters in all seasons throughout the Traditional Territory” (p.3).

##### **Market Value of Traditional Economy**

A quantitative monetary value for the FNNND traditional economy was not identified by study researchers; however, it was identified that the traditional foods obtained through traditional activities comprise a significant portion of FNNND citizens’ diet (DPRA 2010). Members of FNNND shared that these traditional foods are not only important for their nutritional and medicinal value and the linkages that they help to maintain with the land culture, they are also important from an economic perspective as they are less expensive and more nutritious than food bought from the store (DPRA 2010).

The RTC of FNNND citizens were specifically identified as being important, in part, because of the economic contributions that activities in these areas make to the economic well-being of citizens (DPRA 2010).

## 6.0 EDUCATION SERVICES

This section describes the education services conditions in the LSA and RSA, with a focus on the following topics:

- Primary and secondary education
- Training.

Where possible, trends in Education Services are identified and discussed. The baseline discussion of local education services provides an overview of enrollment, educational attainment, culturally responsive programming, and relevant training opportunities.

### 6.1 EDUCATION SERVICES OVERVIEW

Education has been recognized as an important value to local communities. Using the NAICS, the term Education Services is defined by Innovation, Science and Economic Development Canada (Government of Canada 2016) as comprising establishments, such as schools, colleges, universities, and training centres, primarily engaged in providing instruction and training in a wide variety of subjects. These establishments may be privately owned and operated, either for profit or not, or they may be publicly owned and operated. For the purposes of this study, education refers to elementary and secondary education services while training refers broadly to the process by which someone is taught the skills necessary for a job or profession (Government of Canada 2016).

### 6.2 EDUCATION SERVICES STUDY AREA

#### 6.2.1 Local Study Area

The LSA education services includes Whitehorse, Dawson, Pelly Crossing, Beaver Creek and Mayo (**Figure 6-1; Table 6-1**). Due to Dawson's geographic location in relation to the Project, this community is likely to provide a source of labour, goods, and services associated with the Project. Dawson and Whitehorse are also likely to experience a population influx from Project workers. The LSA also encompasses the communities of Beaver Creek, Pelly Crossing, and Mayo, thereby capturing data related to the administrative centres of the WRFN, SFN, and FNNND. The LSA boundaries were approximated based on the apparent physical boundaries of the communities, since not all of these communities have administrative boundaries, and do not necessarily exclude entities that may be located immediately adjacent to the LSA. Although these smaller communities are a further distance from the Project location and are unlikely to experience population influxes associated with the Project, relationships with individual First Nations may result in a need for industry-specific and community-based training opportunities and the communities may still provide a source of labour, goods, and services associated with the Project.



## 6.2.2 Regional Study Area

The RSA provides a larger regional context for Education Services. The RSA encompasses the LSA and Yukon Territory, reflecting the broader labour market and economy of the territory. Yukon Territory is included in the RSA for statistical comparative purposes where required.

**Table 6-1 Summary of Spatial Boundaries for Education Services**

Component	Topic(s)	Local Study Area	Regional Study Area
Education Services	Primary, secondary and post-secondary education services Industry specific community based training	Whitehorse Area, City of Dawson, Beaver Creek, Mayo, and Pelly Crossing	Includes the LSA and Yukon Territory

# COFFEE GOLD MINE

## Education Services Study Areas

### Legend

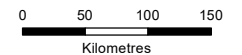
- Highway
- National/International Border
- Project Footprint
- Local Study Area
- Regional Study Area

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



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Figure 6-1

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### 6.3 EDUCATION SERVICES INFORMATION SOURCES

An analysis of education services was based on secondary data collected during desktop research and primary research.

#### 6.3.1 Desktop Research

Details of educational services provided within the LSA and RSA were documented from secondary data sources summarized in **Table 6-2**.

**Table 6-2 Summary of Key Education Services Secondary Data Sources**

Education Services Baseline	
•	Government of Canada. 2016. Educational Services (NAICS 61): Definition.
•	City of Dawson and Tr'ondëk Hwëch'in. n.d. After the Gold Rush: The Integrated Community Sustainability Plan, Volume I: The City of Dawson and Tr'ondëk Hwëch'in Community Vision.
•	Assembly of First Nations. 2009. Community Dialogues on First Nations Holistic Lifelong Learning: Learning as a Community for Renewal and Growth.
•	Yukon Education Student Network (YESNet). 2015a. Robert Service School, School Growth Plan 2015-2016.
•	Yukon Education Student Network (YESNet). 2015b. Eliza Van Bibber School, School Growth Plan 2015-2016.
•	Yukon Education Student Network (YESNet). 2015c. J.V. Clark School, School Growth Plan 2015-2016.
•	Yukon Education Student Network (YESNet). 2015d. Nelnah Bessie John School, School Growth Plan 2014-2015.

#### 6.3.2 Primary Research

##### 6.3.2.1 Interviews

Primary data were collected through semi-structured information interviews conducted with representatives from educational services provided through government departments, non-profit organizations, and public schools (**Table 6-3**). For more details regarding interview methodology, please refer to **Section 2.1**. Information related to education services was discussed in addition to related socio-economic factors which influence the delivery of education services. These interviews provided thematic areas that guided baseline data collection from desktop research.

**Table 6-3 Summary of Education Services Interviews**

No.	Organization	Date of Interview	Method of Contact
1	Yukon College	February 8, 2016	In-person Interview
2	Klondike Institute of Art and Culture	February 10, 2016	In-person Interview
3	Tr'ondëk Hwëch'in Education (K-12)	February 11, 2016	In-person Interview
	Robert Service School		
4	Klondike Outreach	March 1, 2016	In-person Interview
5	Tr'ondëk Hwëch'in Human Resources, Education and Training Department	March 2, 2016	In-person Interview
6	Tr'ondëk Hwëch'in Technical Working Group – Socio Economic Workshops	March 22, 2016	Group discussion
		March 23, 2016	

## 6.4 EDUCATION SERVICES RESULTS AND DISCUSSION

Education services are discussed as schools providing an elementary to secondary level education in the LSA; followed by current local training providers and opportunities.

### 6.4.1 Education

This section describes the existing conditions for youth and young adults receiving primary, secondary, and post-secondary education services in the LSA, and discusses enrollment trends and educational attainment trends. Early-year education and child care are discussed in Section 7.4.3.4 and 9.4.

There are 28 schools in the Yukon, 15 schools in Whitehorse, and 14 in rural communities (**Photo 6-1**). Education is always a key area in the development of any community. Dawson is relatively well served in terms of facilities and infrastructure, although shortcomings are well documented (City of Dawson and Tr'ondëk Hwëch'in n.d.).

Primary, secondary, and post-secondary opportunities are available in Whitehorse. Outside of traditional public school education, The Individual Learning Centre is a drop-in learning centre that provides alternative education programs for students in Grade 9 to Grade 12 looking to graduate in a self-paced manner (ILC 2017). The 15 public schools in Whitehorse are:

- One primary school (K-3) (Grey Mountain)
- Seven elementary schools (Elijah Smith, Golden Horn, Hidden Valley, Jack Hulland, Selkirk, Takhini, Whitehorse)
- Two Catholic elementary schools (Christ the King, Holy Family Elementary)
- Two secondary schools (Porter Creek, FH Collins)
- One Catholic secondary school (Vanier)
- One K-12 school that offers French as a first language (École Emilie-Tremblay)
- One 6-12 “virtual school,” which allows students to take courses online (Aurora Virtual School). (YESNET 2016a).



Photo courtesy of Bonnie Rear

**Photo 6-1 Robert Service School in Dawson**

Student enrollment and teaching staff data, as well as the average student-teacher ratio of the 15 public schools and the Individual Learning Centre, are represented in **Table 6-4**.

**Table 6-4 Primary and Secondary Schools in Whitehorse**

School	Grades	Student Enrollment	Teaching Staff	Average Student-to- Teacher Ratio
<b>Primary and Elementary Schools</b>				
Grey Mountain Primary School	(K-3)	67 students	4 teachers	16.7:1
Elijah Smith Elementary School	(K-7)	309 students	20 teachers	15.4:1
Golden Horn Elementary School	(K-7)	199 students	13 teachers	15.3:1
Hidden Valley School	(K-7)	80 students	7 teachers	11.4:1
Selkirk Elementary School	(K-7)	225 students <sup>1</sup>	15 teachers	15:1
Jack Hulland Elementary School	(K-7)	325 students	26 teachers	12.5:1
Takhini Elementary School <sup>2</sup>	(K-7)	171 students	--	
Whitehorse Elementary School	(K-7)	457 students	27 teachers	16.9:1
<b>French Immersion Schools</b>				
École Emilie-Tremblay	(K-12)	255 students	18 teachers	14.1:1
<b>Secondary Schools</b>				
F.H Collins Secondary School	(8-12)	662 students <sup>1</sup>	61 teachers	10.8:1
Porter Creek Secondary School	(8-12)	465 students	34 teachers	13.6:1
<b>Parochial (Catholic) Schools</b>				
Holy Family Elementary School	(K-7)	171 students	10 teachers	17.1:1
Christ the King Elementary School	(K-7)	345 students	21 teachers	16.4:1
Vanier Catholic Secondary School	(8-12)	376 students	26 teachers	14.4:1
<b>Non-traditional Schools</b>				
Aurora Virtual School	(6-12)	74 students	3 teachers	24.6:1
Individual Learning Centre	(9-12)	165 students	5 teachers	33:1

**Source:** YESNET 2016b  
YESBET 2016c  
Yukon Teachers' Association 2016

**Notes:** <sup>1</sup> Includes English and French student enrollment  
<sup>2</sup> No publicly available data for Takhini Elementary School teaching staff

In the 2016 –2017 school year, 490.24 full-time equivalent teachers are allocated for the projected student enrollment of 5,375 students in Yukon (including 74 students at Aurora Virtual school), demonstrating a ratio of 10.9 students for every 1 educator, which is the lowest ratio in the country (YTA 2016; Auditor General 2009; Statistics Canada 2015e). The Statistics Canada Summary Public School Indicators Report for 2005 – 2006 found similar trends, noting the Yukon had the lowest five-year average ratio in Canada, of 11.7:1, whereas the country-wide ratio over the past five years was 15.5:1 (Auditor General 2009). Per the Yukon Department of Education’s 2006 – 2007 Annual Report, rural schools had low student-educator ratios because the schools were required to be staffed but that enrollment was declining (Auditor General 2009).

A 2009 Auditor General Report on the Yukon Department of Education found that between 2003 and 2007, Yukon increased teaching resources while student enrollment numbers declined (Auditor General 2009). Specifically, there was a 4 percent (%) increase in the number of teachers and a 14% increase in education assistants and remedial tutors, while student enrollment dropped 8% over that period (Auditor General 2009). In 2009, the Assistant Deputy Minister created a committee to improve enrollment. Since that time, annual information reports show increased student enrollment. Among the changes made since that time are “non-brick-and-mortar” programs, such as the Individual Learning Centre and Aurora Virtual School, which allow students to learn more flexibly (YTA 2016).

There is one public school in Dawson, the Robert Service School (RSS), which provides a Kindergarten (K) through Grade 12 curriculum.

Education is always a key area in the development of any community. Dawson is relatively well served in terms of facilities and infrastructure, although shortcomings are well documented. Improvements to education facilities and funding are always high on the agenda. The current community focus is on a better educated community and continual learning (City of Dawson and Tr’ondëk Hwëch’in n.d., p.25).

With a current enrollment of 209 students, 10 elementary teachers, and 8 secondary teachers, there is an average student to teacher ratio of 10:1. While the school is not currently operating at its official capacity of 348 students (Department of Education, Pers. Comm., 2016), the school is limited in terms of how many additional students it can accommodate:

Robert Service School does not have the capacity to accommodate more students, due to the programming and the holistic approach to education that RSS is taking. This would be negatively influenced if more students were to enroll (Interview 17, Pers. Comm., 2016).

RSS currently has large class sizes. Kindergarten class is currently oversized. Special permission was required to allow for such a large class size in the 2015/2016 school year (Interview 17, Pers. Comm., 2016).

Three additional schools are situated in the LSA; two of which provide a K-12 program and one that provides K-9 (**Table 6-5**).

**Table 6-5 Primary and Secondary Schools in Pelly Crossing, Mayo, and Beaver Creek**

Community	School	Grades	Student Enrollment	Teaching Staff	Average Student-Teacher Ratio
Pelly Crossing	Eliza Van Bibber School	(K-12)	58 students	Nine teachers	6:1
Mayo	J.V. Clark School	(K-12)	53 students	10 teachers	5:1
Beaver Creek	Nelnah Bessie John School	(K-9)	Six students	One teacher	6:1

**Source:** YESNET 2016b  
YESNET 2016c  
YESNET 2016d





Enrollment trend data for Yukon, Whitehorse and RSS are relatively consistent with population growth. Enrollment trends are detailed in **Figure 6-2**. **Figure 6-3** summarizes Yukon Bureau of Statistics data for highest education level achieved in Yukon in 2001, 2006, and 2011, and itemizes education attainment for Whitehorse (see Educational Attainment section below).



# COFFEE GOLD MINE

## Yukon Territory School Enrollment and Population Statistics

### Legend

-  Highway
-  Project Footprint
-  Local Study Area
-  Regional Study Area

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

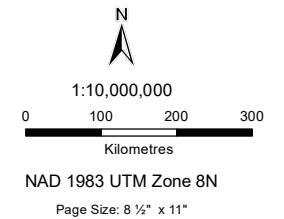
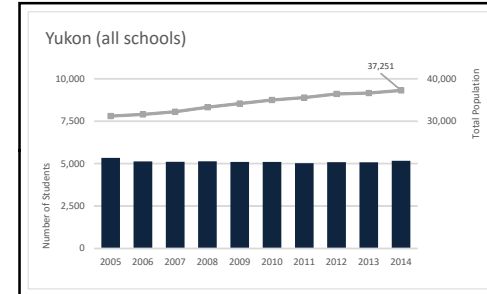
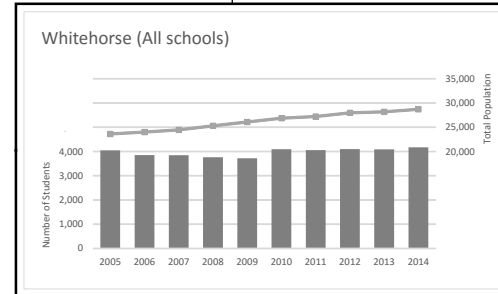
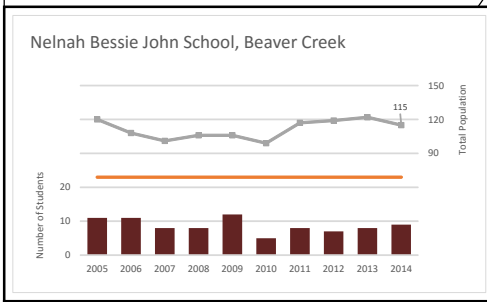
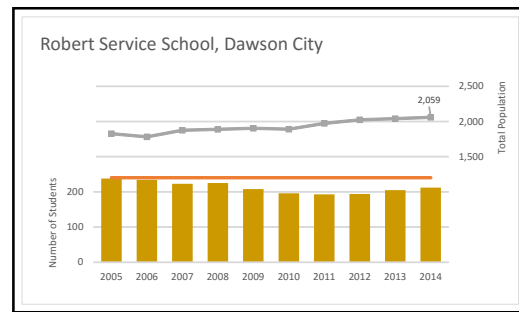
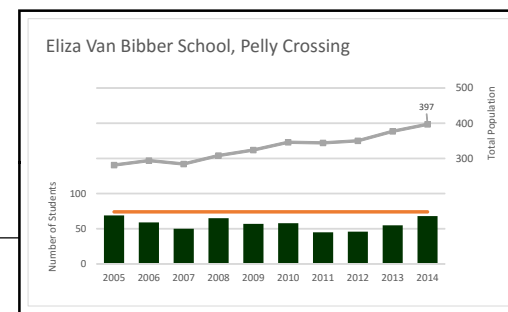
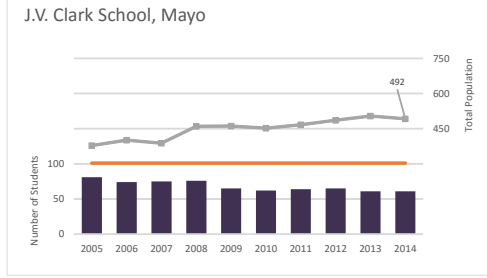
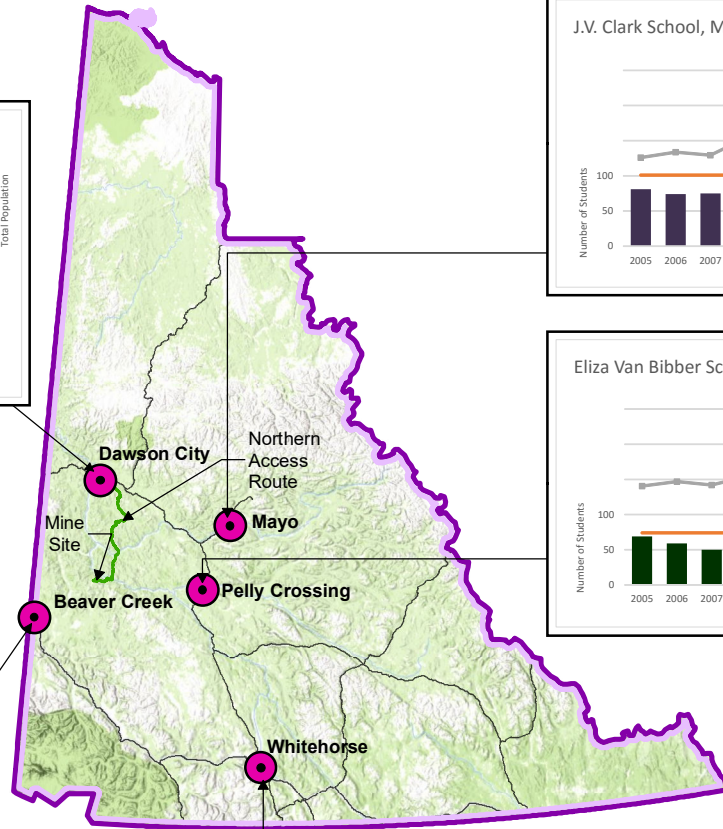


Figure 6-2

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## Post-Secondary Education

The territory has two post-secondary institutions: Yukon College and the Yukon School of Visual Arts (**Photo 6-2**). Yukon College has 13 community-based campuses located throughout Yukon, with the main campus located in Whitehorse that has an average total enrollment of 5,671 students since 2008 (Yukon College 2016). In the LSA, campus locations include Pelly Crossing (Het sedan Ku situated next to Eliza Van Bibber School), Mayo (housed in the JV Clark School), and Dawson. The Yukon School of Visual Arts is in Dawson. The school receives its accreditation through Yukon College, and is in partnership with the College, Dawson City Arts Society, and TH (Yukon School of Visual Arts n.d.).



Photo courtesy of Bonnie Rear

**Photo 6-2 Yukon College in Dawson**

Yukon College is made up of 10 schools that service a variety of study topics, offering one-year certificate programs, two-year diploma programs, and degree programs (Yukon College 2012a). These schools include

- The School of Management
- Tourism and Hospitality
- School of Trades
- Technology and Mining
- School of Liberal Arts
- School of Academic and Skill Development
- School of Science

- School of Community Education and Development
- School of Continuing Education and Training
- The School of Health, Education, and Human Services.

Apprenticeships and certifications are required for nearly 50 different trade-related occupations in the territory, which is why Yukon College offers 11 distinct trades certifications to ensure students are adequately trained for existing employment opportunities (Yukon College 2012a). The trade certificates include:

- Air Rotary Drilling – Helper Training
- Building Northern Apprentices
- Carpentry
- Electrical
- Heavy Equipment Technician Pre-Apprenticeship (Period 1)
- Introduction to Surface Mining Operations / Heavy Equipment Operations
- Oil Burner Mechanic Apprenticeship
- Pipe Trades
- Underground Mining Operations
- Welding
- Yukon Water and Wastewater Operations

Yukon College also recently built the Centre for Northern Innovation in Mining (CNIM), an \$8.3-million state-of-the-art trades training facility in Whitehorse (Yukon College 2012b). The Centre was developed to enrich and expand the local skilled workforce to improve Yukoners' likelihood of employment at mines in the Territory (Yukon College 2012b). The CNIM provides unique training for students through innovative facilities, mobile classrooms, and high-tech simulators. Students also receive applied training on mine sites, as well as exploration and reclamation areas, improving their integration into the mining industry following graduation (Yukon College 2012b). The CNIM also offers an Apprenticeship Program that partners with industry to grow the local workforce based on direct industry needs (Yukon College n.d.). The CNIM assumes an employer role that sponsors apprentices, which allows students to maintain their apprenticeship status while pursuing full-time education at the College (Yukon College n.d.).

## **Educational Attainment**

Educational attainment provides an indication of the success of education services in the study area, and provides a potential indication of available, qualified, local candidates for employment.

Education attainment is defined by Statistics Canada as the highest level of education a person has attained. At the primary and secondary school level, educational attainment refers to the number of grades completed. At the post-secondary level, it refers to institutions attended and certificates, degrees, or diplomas obtained (Statistics Canada 2011c).

**Figure 6-3** summarizes Statistics Canada data for highest education level achieved in Yukon in 2001, 2006, and 2011, and itemizes education attainment for communities within the LSA (Statistics Canada 2013a, 2007b, 2003). For each Census year, the proportion of the population having not completed high school is first shown on the left, followed by the proportions that have completed high school. The last three columns indicate the proportion of the population that has completed some form of post-secondary education (trade certificate, college, or university degree). The post-secondary education numbers 'float' as this level of education implies completion of high school.

COFFEE PROJECT

Educational Attainment Trend Data for the Local and Regional Study Areas

Legend

- Highway
- Project Footprint
- Local Assessment
- Regional Assessment

Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

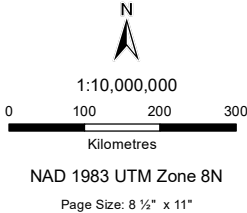
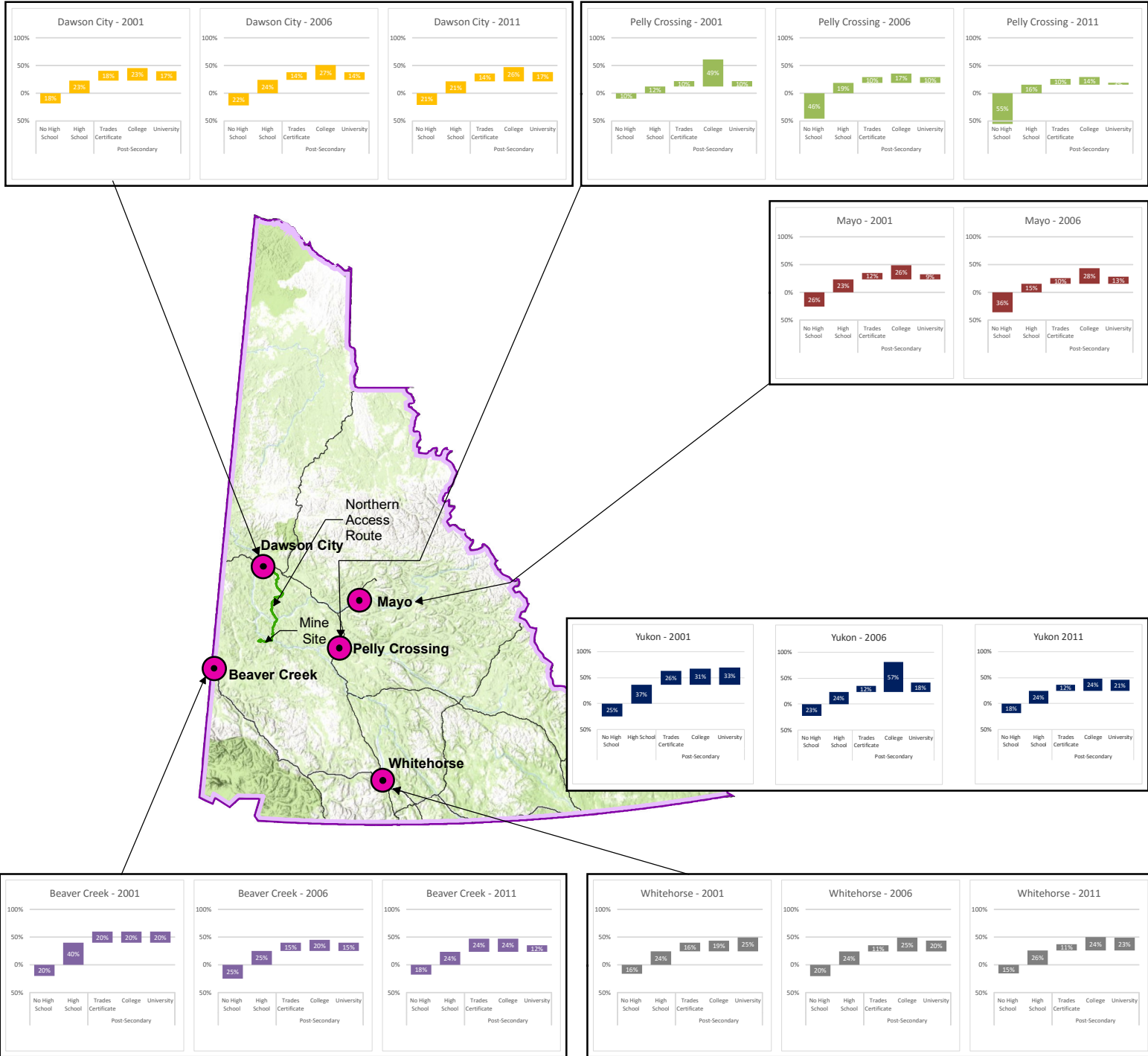


Figure 6-3 Date: Mar 23, 2017 Drawn by: JS Reviewed: DP



## 6.4.2 Industry Specific Community Based Training

Maintaining and developing partnerships among service providers and stakeholders has proven benefits in the community and is to be encouraged. Incentives and initiatives to encourage students to complete schooling, along with vocational training opportunities, will help maintain an educated population and a relevant and viable work force (City of Dawson and Tr'ondëk Hwëch'in n.d.).

A description of local training providers and opportunities in the LSA were prioritized for this baseline report because primary data indicate the importance of community-based training:

...when you take citizens out of their home community to go train, the biggest problem is them being in the city by themselves and changing their culture, and people end up wanting to return home right away (March Tr'ondëk Hwëch'in TWG, Pers Comm. 2016).

Primary data indicated that core programming at Yukon College is busiest in winter, when people are available. Ideally programming would be scheduled for 8 to 12 weeks starting in October. September enrollment is less likely to be successful as people are still working. (Interview 2, Pers. Comm., 2016). This finding is reinforced by organizations offering employment services, such as Klondike Outreach, which note that winter is not typically a busy period. (Interview 23, Pers. Comm., 2016).

In 2015, the Proponent, TH, and Yukon College collaborated on a pilot project for training associated with the current and anticipated Environmental Monitoring requirements of the Project. Goldcorp is continuing to advise on and provide support for the development of the Yukon College Environmental Monitoring program. Beyond specific Project-related training, training providers and opportunities available in the LSA support post-secondary professional development (KDO 2014a).

The following support for community based training or direct industry specific community based training opportunities are available in the LSA (**Table 6-6**).

**Table 6-6 Summary of Available Training Opportunities in the Local Study Area**

Organization Providing Training Opportunity	Program Description
Tr'ondëk Hwëch'in Human Resources and Community Education Department	<ul style="list-style-type: none"> <li>• Provides TH government staffing and training (supports all other departments by helping with recruitment and hiring activities and providing training for employees).</li> <li>• Provides adult education programming.</li> <li>• Administers post-secondary funding for students.</li> <li>• Provides Tr'ondëk Hwëch'in citizens with:               <ul style="list-style-type: none"> <li>▫ Funding for training</li> <li>▫ Job search assistance</li> <li>▫ Academic advising</li> <li>▫ Job creation program</li> <li>▫ Career Week, Career Fair and related activities / workshops</li> </ul> </li> <li>• Co-op program.</li> </ul>
Selkirk First Nation	<p>The SFN government provides</p> <ul style="list-style-type: none"> <li>• Scholarships and post-secondary grants to applicants to meet criteria publicized on the nation's website</li> <li>• Career counselling for qualifying SFN students.</li> </ul>
First Nation of Na-cho Nyäk Dun	<ul style="list-style-type: none"> <li>• The FNNND government offers post-secondary scholarships and training for qualified members. It facilitates links to external training delivered in person or online for eligible members, and posts opportunities on its website.</li> </ul>
White River First Nation	<p>The WRFN government provides links to external training through Yukon College on its external website.</p>
Yukon College	<ul style="list-style-type: none"> <li>• Provides education and training opportunities in the community, including both locally delivered courses and video conference courses sourced from other campuses.</li> <li>• Delivers the Northern Adult Basic Education Program.</li> <li>• The college engages in several partnerships with TH, Yukon Government, Parks Canada, Klondike Institute of Art and Culture, and Klondike Region Training Society.</li> </ul>
Yukon Government, Department of Advanced Education	<p>Supports programs that offer support to employers and/or job seekers, including:</p> <ul style="list-style-type: none"> <li>• Sector-based training funds</li> <li>• Project-based training funds</li> <li>• The Dawson campus of Yukon College accesses these funds to deliver targeted courses</li> <li>• Student financial assistance</li> <li>• Student employment / trade schools</li> <li>• Apprenticeship and tradesperson certification</li> </ul> <p>Other labour market initiatives (e.g., literacy, Licensed Practical Nurse Program, School of Visual Arts, etc.).</p>
Klondike Region Training Fund	<p>Klondike Regional Training Fund provides financial support for training.</p>

Organization Providing Training Opportunity	Program Description
Klondike Outreach	Provides services to job seekers, employers, and those interested in training. Serves as the local case manager for participants in skills development programs funded by the Government of Yukon Advanced Education: <ul style="list-style-type: none"> <li>• Skills Development</li> <li>• Self-Employment</li> <li>• Targeted Wage Subsidy</li> <li>• Job Creation Partnership.</li> </ul>
Klondike Development Organization	Klondike Development Organization provides enterprise and investment facilitation and business advisory services for local businesses and start-up entrepreneurs.

#### 6.4.2.1 Training and Economic Conditions

Labor Market Information Synthesis (MIHR 2012) describes the growing priority of the mining industry in Yukon. The top 15 occupations with the largest gaps in talent availability and hiring needs were listed as follows:

- Machine Operators, mineral and metal processing
- Heavy equipment operators (except crane)
- Underground mine service and support workers
- Underground production and development miners
- Laborers in mineral and metal processing
- Supervisors, mineral and metal processing
- Construction millwrights and industrial mechanics (except textile)
- Chemists and laboratory technicians
- Industrial electricians
- Supervisors, mining and quarrying
- Geologists, geochemists and geophysicists
- Administrative clerks
- Heavy duty equipment mechanics
- Carpenters
- Inspectors in public and environmental health and occupational health and safety.

A full discussion on economic conditions is available in **Section 4.0**, including a full discussion on occupations in **Section 4.3**. These economic conditions and current occupations influence future training opportunity programming in the LSA.



## 7.0 COMMUNITY INFRASTRUCTURE AND SERVICES

This section describes community infrastructure and services as defined below, with a focus on the following topics:

- Housing and accommodation
- Physical infrastructure
- Community services
- Transportation.

These topics collectively describe an important sector of the human environment that individuals rely on for their basic needs: the built environment, including housing, infrastructure, and services, was identified as a dimension of sustainability in the City of Dawson's and TH's Integrated Community Sustainability Plan (City of Dawson and Tr'ondëk Hwëch'in n.d.). Where possible, trends are identified and discussed. The baseline discussion of local community infrastructure and services supports the analysis of potential effects on housing and accommodation, community infrastructure and services, and transportation.



Photo courtesy of Tr'ondëk Hwëch'in

**Photo 7-1 Tr'ondëk Hwëch'in Housing**

## 7.1 COMMUNITY INFRASTRUCTURE AND SERVICES OVERVIEW

Primary data collected through key informant interviews and meetings with communities, stakeholders, and First Nations provided direction on the establishment of study boundaries for Community infrastructure and services. Housing in Dawson was identified by primary data contributors as being the most significant socio-economic issue influencing the community. This finding is supported by a KDO 2011 Household Survey, which found that 24% of respondents indicated that housing was the primary change recommended to improve the Dawson area; and 37% of respondents felt that housing would increase the community’s ability to attract more year-round residents (KDO 2014c).

## 7.2 COMMUNITY INFRASTRUCTURE AND SERVICES STUDY AREA

The LSA and RSA study area for Community infrastructure and services are delineated as follows in **Table 7-1**:

**Table 7-1 Summary of Spatial Boundaries for Community Infrastructure and Services Study Area**

Component	Topic(s)	Local Study Area	Regional Study Area
Community infrastructure and services	Housing and Accommodation	Dawson, Whitehorse, Mayo, Beaver Creek, and Pelly Crossing	
	Physical Infrastructure		
	Community Services		
	Transportation	Dawson and area within 1 km of the NAR (including existing government-maintained roads) and the North Klondike Highway in proximity to Dawson.	Includes the LSA and Yukon

### 7.2.1 Local Study Areas

For the Housing and Accommodation and Community Infrastructure and Services, the LSA and RSA are the same. The LSA/RSA comprises the municipal boundaries of Whitehorse and Dawson. Whitehorse, which is Yukon’s largest population centre, is expected to attract additional population as a result of the Project. With an increase in population would come increased demand for housing and infrastructure. Whitehorse is also a designated pick-up point for the Project’s fly-in, fly-out work force (FIFO). Dawson was chosen for inclusion in the LSA/RSA for its potential experience some population increases as a result of the Project. The LSA/RSA also encompasses the communities of Beaver Creek, Pelly Crossing, and Mayo, thereby capturing data related to the administrative centres of the WRFN, SFN, and FNNND (**Figure 7-1**).

The LSA for transportation is defined as the road network within the municipal boundary of Dawson and the existing road network extending south from the North Klondike Highway **Figure 7-1**. This LSA was selected based on anticipated Project-related traffic and changes to the existing road network. The NAR will use existing government-maintained roads, which extend south from the North Klondike Highway, 16

km southeast of Dawson, including Hunker Creek Road and existing roads to Sulphur Creek. Beyond that point, the route will generally follow existing roads used by placer miners with construction of an additional 37 km of new road. For the purposes of this baseline report, the LSA for the transportation subcomponent will include an area within 1 km of this existing road network as well as the North Klondike Highway in proximity to Dawson.

# COFFEE GOLD MINE

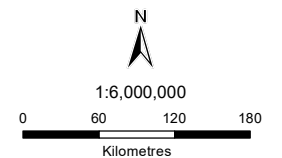
## Spatial Boundaries for Community Infrastructure and Services

### Legend

-  Highway
-  National/International Border
-  Project Footprint
-  Local Study Area
-  Regional Study Area

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



NAD 1983 UTM Zone 8N

Page Size: 8 1/2" x 11"

Figure 7-1

Date:  
Mar 21, 2017

Drawn by:  
JS

Reviewed:  
DP

 **GOLDCORP**



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## 7.2.2 Regional Study Area

The RSA for transportation is defined as Yukon as Project-related traffic will use the existing Yukon highway infrastructure to deliver goods, supplies, and equipment. Specific roadways of interest include the Alaska Highway from the Yukon border to the junction with the North Klondike Highway and the North Klondike Highway based on expected routes to be used by Project-related truck traffic (**Figure 7-1**).

## 7.3 COMMUNITY INFRASTRUCTURE AND SERVICES INFORMATION SOURCES

### 7.3.1 Desktop Research

Desktop research was used to describe existing community infrastructure and services. **Table 7-2** summarizes key secondary data sources used to compile this baseline report.

**Table 7-2 Summary of Key Community Infrastructure and Services Secondary Data Sources**

Community Infrastructure and Services	
Housing	<ul style="list-style-type: none"> <li>• Klondike Development Organization (KDO). 2011d. Klondike Development Organization Housing Strategy.</li> <li>• Yukon Housing Corporation (YHC). 2013. Comprehensive Review and Assessment of Housing Issues in Yukon: Final Report.</li> <li>• Yukon Housing Corporation (YHC). 2014. Annual Report: for the year ended March 31, 2014.</li> <li>• Klondike Development Organization (KDO). 2013c. KDO Apartments Demand Survey.</li> <li>• Klondike Development Organization (KDO). 2014c. Residential land Demand: And Quarterly Activity Update.</li> </ul>
Community infrastructure and services	<ul style="list-style-type: none"> <li>• City of Dawson and Tr'ondëk Hwëch'in. n.d. After the Gold Rush: The Integrated Community Sustainability Plan.</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Klondike Development Organization (KDO). 2011. KDO Third Partnership Forum Ground Transportation and the Klondike.</li> </ul>

### 7.3.2 Primary Research

#### 7.3.2.1 Interviews

The limited secondary data set was heavily complemented by primary data collected during semi-structured information interviews conducted with representatives from government departments, various agencies, First Nations, and other organizations. These interviews enhanced the understanding of, desktop research findings and assisted in filling information gaps (**Table 7-3**). Information related to the community infrastructure and services was discussed in addition to related socio-economic factors that influence these conditions. For more details regarding interview methodology, see **Section 2.1**.

**Table 7-3 Summary of Human Environment Key Informant Interviews**

No.	Organization	Date of Interview	Method of Contact
1	Dawson City Community Hospital	February 8, 2016	In-person Interview
2	City of Dawson Public Works	February 8, 2016	In-person Interview
	City of Dawson Protective Services (Fire Protection)		
3	City of Dawson Community Development and Planning	February 9, 2016	In-person Interview
4	Tr'ondëk Hwëch'in Housing and Infrastructure Department	February 9, 2016	In-person Interview
5	Dawson City Chamber of Commerce	February 12, 2016	In-person Interview
6	Klondike Development Organization	February 23, 2016	Phone Interview
7	Coldwell Banker Redwood Realty	February 17, 2016	Phone Interview
8	Dawson City Royal Canadian Mounted Police (RCMP)	March 2, 2016	In-person Interview

#### **7.4 COMMUNITY INFRASTRUCTURE AND SERVICES RESULTS AND DISCUSSION**

This section describes the Community Infrastructure and Services setting and dynamics, specifically in the LSA but also contextualized in the RSA, by subcomponent.

The section provides a description of conditions prior to interaction with the Project, based on TK, scientific, and other information, and baseline studies undertaken during the Project's Feasibility Program.

##### **7.4.1 Housing and Accommodations**

Because of population growth, Dawson has one of the largest needs for new housing in relation to other Yukon communities (Zanasi and Pomeroy 2013). Housing needs are partially met by Yukon Housing Corporation (YHC), TH Housing, and private developers. Yukon Housing Corporation provides social housing opportunities for the general community and staff housing specifically for hospital staff. Operating as a non-profit on a break-even basis, TH Housing provides housing opportunities for TH citizens, and includes water, sewer, insurance, and property taxes in the rents it charges to occupants. Private developers provide housing opportunities on a for-profit basis to the general community.

This section describes the existing conditions of the following topics in the LSA/RSA: housing tenure, housing availability and demand, housing condition, housing type, housing development, housing cost, and non-permanent accommodation characteristics.

###### **7.4.1.1 Housing Tenure**

Housing tenure refers to the financial arrangements under which someone has the right to live in a house or apartment. The most frequent forms are tenancy, in which rent is paid to a landlord, and owner-occupancy.

### **Whitehorse**

According to the 2011 Census, the Whitehorse Area had 10,510 dwellings in 2011, with an average of 6.1 rooms per dwelling (**Figure 7-2**). Whitehorse has experienced modest population growth over the past several years, which has generated an increased demand for housing. The number of rental units in the city has increased, but the number of home sales has decreased since 2012, likely corresponding to a slowing economy (Lis 2015). In terms of home sales in Whitehorse, condos have occupied an increasing share of the market since 2007, and briefly showed greater growth in price as compared to single detached homes (Lis 2015). There were more multi-family homes than single-family homes under construction, started, or completed in 2015 (Lis 2015).

Of the 10,510 homes in the Whitehorse Area, 7,240 (68.8%) are owned and 3,125 (29.7%) of homes are rented (**Figure 7-3**) (Statistics Canada 2015h). Per Census data released for 2016, the total number of private dwellings in the Whitehorse Area has increased to 12,516 (Statistics Canada 2017b).

Several housing options are available in Whitehorse, including: social housing provided by YHC; affordable housing including a recently expanded family residence operated by the Yukon Anti-Poverty Coalition; and units constructed by Habitat for Humanity Yukon; as well as assisted housing and seniors' facilities (YG 2015i, 2015j).

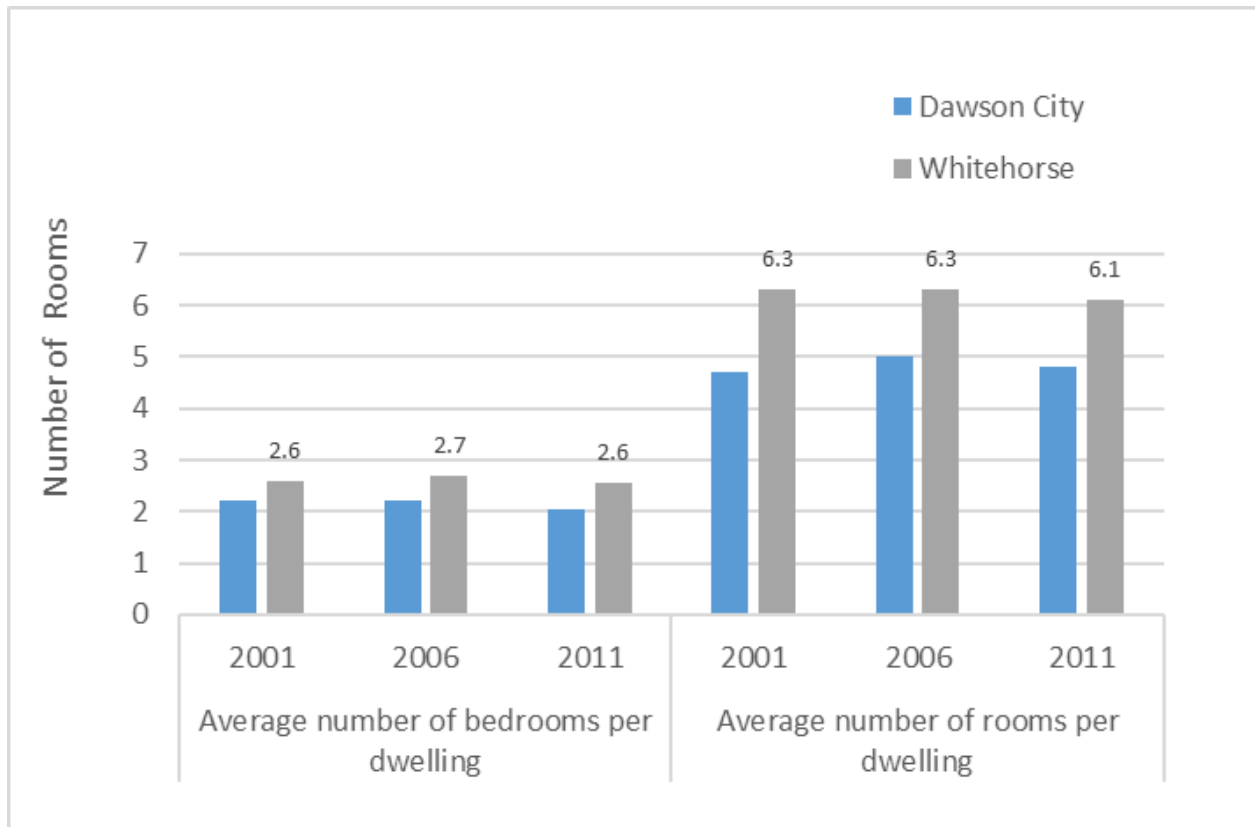
### **Dawson**

The population of Dawson has been increasing in recent years, which has taxed existing housing capacity. In 2011, there were 680 dwellings recorded in Dawson, with an average number of 4.8 rooms per dwelling (**Figure 7-2**). Only 10 of the 680 dwellings in Dawson had condominium status. As stated in the KDO Housing Strategy: "Dawson has a single detached family dwelling profile that does not meet the one-person household demand" (KDO 2011d, p.8/22). A more recent survey found a significant demand for apartments (KDO 2014a). In response to this demand, KDO has initiated work on an eight-unit rental housing project (Interview 20, Personal Communication 2016; KDO 2015). Another builder is interested in building 3 four-plexes (Interview 21, Personal Communication 2016).

Per the 2011 Census, of the 680 homes in Dawson, 260 were owned (38%) and 415 were rented (61%) (Statistics Canada 2015g), which represents a lower proportion of home ownership as compared to the territorial rate of 66.4% (**Figure 7-3**). The rate of rental tenure is reflective of the seasonal population fluctuation of Dawson. According to Census data released for 2016, the total number of private dwellings in Dawson has increased to 756 (Statistics Canada 2017a).

TH Housing provides rental or social housing, which accounts in part for the rate of rental tenure in Dawson. The TH Housing program comprises 146 residential units, 95 of which were developed as a result of Canadian Mortgage and Housing Corporation (CMHC) funding. Of the 95 CMHC-funded units, 65 are Section 95 units, which are on-reserve and non-profit housing. Tr'ondëk Hwëch'in Housing is collaborating

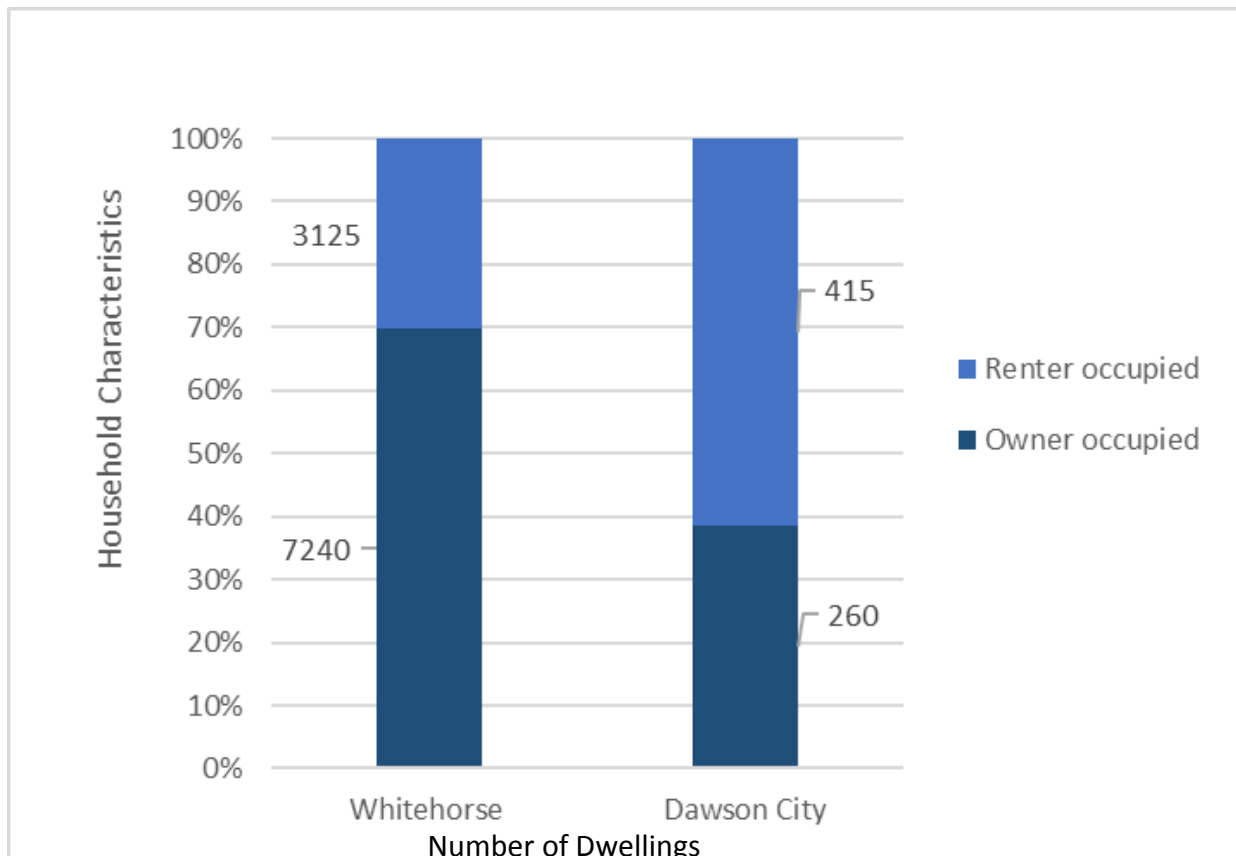
with the First Nation Market Housing Fund to enable home ownership for TH citizens through a new program in development.



Source: YG 2015k

Figure 7-2 Average Number of Bedrooms per Dwelling in the Study Area





Source: YG 2015k

**Figure 7-3 Housing Tenure in Dawson and Whitehorse**

***Beaver Creek***

According to the 2011 NHS, the community of Beaver Creek’s housing by tenure consists of 15 dwellings by owner, 20 by renter, and Band housing consists of 20 dwellings. The last significant period of construction took place between 1991 to 2000, with 15 private dwellings constructed (Statistics Canada 2015i).

***Pelly Crossing***

According to the 2011 NHS, the community of Pelly Crossing housing by tenure consists of 55 dwellings by owner, 20 by renter, and Band housing consists of 60 dwellings. Between 2006 – 2011, 20 single-family homes were built (YG 2015p).

## **Mayo**

In 2011 the NHS recorded 115 private households in the village of Mayo. Housing, tenure, condition, period of construction and structural type data for the 2011 NHS was suppressed due to data quality and confidentiality reasons (Statistics Canada 2013d).

### **7.4.1.2 Housing Availability and Demand**

#### **Whitehorse**

Whitehorse has experienced very low rental vacancy rates since about 2008, although the rate showed an increasing trend from about September 2013. The most recent measure in October 2015 placed the vacancy rate at 3.5% (**Figure 7-4**) (YBS 2015c).

As reported in 2014, YHC had 307 social housing units and 34 rent-supplemented social housing units in Whitehorse (YHC 2014). The wait lists and wait times for social housing are long (YG 2015k).

The City of Whitehorse's 2010 Official Community Plan calls for more land for residential development and secondary suites to increase housing stock. Construction for the third phase of the Whistle Bend development is expected to take place in the summer of 2016; this neighbourhood is expected to have 3,900 housing units when completed (City of Whitehorse 2013).

The most recent Northern Housing Report indicated that residential construction would decrease from 2014 to 2015, with 95 single-detached starts and 90 multi-family starts expected in 2015. In 2014, there were 212 housing starts (109 single detached and 103 multi-family), which was an increase of 31 per cent from the previous year (Lis 2015).

#### **Dawson**

Housing availability is a chronic issue in Dawson, particularly when temporary employment is available during the summer months to support the tourism industry (YHC 2014). Shortages have also been attributed to mining company rentals removing usual rental housing from the market, as well as film companies renting homes for crews of locally filmed shows such as *Yukon Gold* (KDO 2011d; Int. 16, Pers. Comm. 2016).

Although rental availability has increased in the past few years, the survey of rental availability undertaken by the YBS was generally not performed in the summer, and therefore does not capture the period of peak occupation. Additionally, there were several previous years with a reported 0% vacancy rate (**Figure 7-4**).

As reported by the KDO:

Housing is a challenge in Dawson. Whether it is for year-round residents or for temporary summer workers it is a topic that arises consistently. Any further development that will push the demand for housing is going to run into the limitations already existing in the community around housing. While

there is an overall desire for a modest population increase to reach a critical mass for year-round services there is currently very limited capacity for new residents to find adequate housing (KDO 2011d, p.8).

A subsequent report further described the impact on the community from the shortage of housing on the community:

The shortage of adequate housing is an increasing challenge to local businesses recruiting and retaining employees. Professionals are attracted to work in the region but the local housing offer is so strained that candidates frequently cannot move to the community. In KDO's 2011 Household Survey, when asked what could make the Klondike a better place to live and encourage more year-round residents, the most common answer was availability of housing. In the 2013 Dawson Employer Labour Market Survey, 75% of employers cited housing as the *number 1 barrier to recruiting labour* to Dawson City (KDO 2014a, p.13).

Primary data provided a description of current barriers to housing development and current efforts by the City of Dawson to improve the current vacancy rate.

Primary data indicate that despite increasing pressure on housing in Dawson, few new homes are being constructed. A significant barrier for expanding the existing housing stock is high building costs, partly due to a lack of qualified tradespeople in town. There are only a few plumbers and electricians living locally who are often too busy to take on new projects. This means expertise needs to be brought in from elsewhere, adding additional costs associated with transportation and housing. Building materials are also expensive due to freight costs. An additional barrier is the lack of suitable land for expansion (Interview 21, Pers. Comm., 2016; Interview 8, Pers. Comm. 2016). Although the availability of land is a limitation, there is good land for housing in West Dawson that could be developed if a link across the river was made (Interview 20, Pers. Comm. 2016) and there is potential for other subdivisions outside of town (Interview 21, Pers. Comm. 2016). As of May 6, 2016, 14 standard sized, serviced residential lots and 2 double lots were available in town, with an additional country residential lot available in the Dome Road Subdivision (KDO 2016)

The City of Dawson relaxed regulations for garden suites in an attempt to increase the availability of rental housing, but there was little uptake among homeowners, possibly because their properties were not suited to that purpose. The City also allowed housing of workers in the industrial zone south of the Klondike highway (Interview 8, Pers. Comm. 2016).

In 2011, YHC owned 64 social housing units and 27 staff housing units in Dawson, all of which were occupied. At that time, YHC had a wait list of approximately five people for both social and staff housing (KDO 2011d). In 2014, YHC's housing composition in Dawson had changed to 58 social housing units and 40 staff housing units (YHC 2014). Shortages in social housing have raised concern in the community:

“...social assistance recipients are being forced down the housing quality ladder and safety is becoming an issue with individuals reported as living in buses and with unregulated heat sources” (KDO 2011d, p.11). It is important to note that some Dawson rental properties lack basic amenities, such as heat and running water, making them less amenable to habitation in the winter months.

Primary data indicate that between 2002 and 2009, TH Housing built 32 new CMHC residential units, including:

- 6 one-storey regular housing units
- 6 one-storey flexible housing units
- 4 duplex units
- 16 duplex flexible units.

This addition of residences has helped to reduce TH’s housing wait list by half: in 2009, 34 citizens were on the wait list, and in 2015, this number shrank to 16 (Interview 8, Pers. Comm. 2016). TH Housing continues to build new units, with the availability of suitable land being the biggest challenge to increasing housing stock. Much of the settlement land isn’t serviced or ready for development (Interview 8, Pers. Comm. 2016). Recently, 48 new lots were released in the TH subdivision, and construction of new homes could begin as early as the spring of 2017 (CBC News 2016).

Despite these changes made by YHC and TH Housing, KDO reports there is disparity between the type of housing available and housing needs; with a continued shortage of dwellings suitable for a single occupant, such as TH citizens returning to the community, recent graduates, and older people looking to move to town from rural homes (KDO 2011d; YHC 2014). Tr’ondëk Hwëch’in Housing has maintained a wait list since 2000. Primary data indicate that the housing wait list length has been decreasing; most recently there were approximately 14 to 16 new applicants and 14 to 16 new transfers. Citizens applying for the housing wait list must have been residing in Dawson for one month, and applicants are prioritized per the following criteria:

- Need
- Families over single occupants
- People with disabilities and Elders are given special consideration
- Domestic abuse is considered. (Interview 8, Pers. Comm. 2016).

Every year TH Housing sends a letter to applicants on the housing wait and / transfer list to see if they want to stay on the list. If there’s no reply within two weeks, they’re removed from the list. When a TH housing unit becomes available, applicants are matched based on the home size required, and the home size that has become available. Transfer requests are most frequently for transfer to a larger home. Housing units

are never vacant for more than a month, which allows time for any needed repairs (Interview 8, Pers. Comm. 2016).

Housing quality is high in Dawson, and is considered the fifth best housing in Western Canada and the second-best quality housing in Yukon, with a level of quality that is higher than the average house and designed for Yukon winters. Tr'ondëk Hwëch'in Housing is working with CMHC funding to upgrade many of the older TH owned homes to improve the standard of living and increase the value of TH homes; however, maintenance is impacted by a lack of manpower (Interview 8, Pers. Comm. 2016).

### ***Beaver Creek***

The Yukon Housing Corporation has 3 staff units located in Beaver Creek, which are housing units provided to rural Government of Yukon staff to assist in recruiting and retaining staff members (YG 2015q).

WRFN is responsible for administering housing and community infrastructure services to its members (whom account for about half the population) within the community of Beaver Creek, with the majority of residential lots located on the western side of the Alaska Highway (Inukshuk Planning & Development 2009).

Per the 2009 WRFN Comprehensive Community Development Plan, the housing supply was noted as “generally adequate to meet immediate needs.” The Plan found that without expanded economic activity in Beaver Creek, it is unlikely that the demand for new housing would exceed one or two houses per year. The building expansion of a nearby lot was noted to likely meet the projected demand for the next 5-8 years. The estimated cost to construct 4 homes within 5 years would be approximately \$1 million (Inukshuk Planning & Development 2009).

### ***Pelly Crossing***

The Yukon Housing Corporation has 10 staff units located in Pelly Crossing, which are housing units provided to rural Government of Yukon staff to assist in recruiting and retaining staff members (YG 2015q).

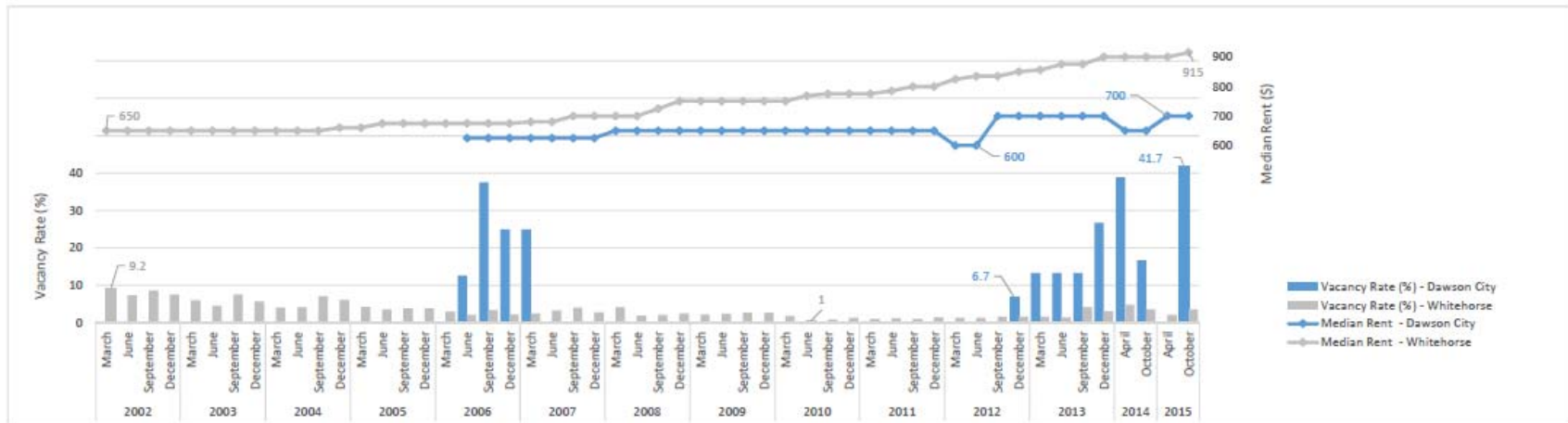
The Selkirk First Nation Capital Department manages the housing units in Pelly Crossing. The department “works to provide adequate and safe housing for SFN citizens and Staff by providing units, encouraging home ownership and facilitation renovations when appropriate” (SFN 2017a).

### ***Mayo***

The YHC has a community office located in Mayo, including 20 social units that rented from the YHC at an affordable rate, and six staff units that are provided to rural Government of Yukon staff to assist in recruiting and retaining staff members (YG 2015q).

The First Nation Na-Cho Nyäk Dun provides housing to FNNND citizens (YG 2014i). Services offered through the Housing & Capital Department include operations, maintenance, and renovations. The Housing

& Capital Department is currently creating a 10 Year Capital Plan to define community infrastructure needs, as well as operation and maintenance needs over the next 10 years. First Nation of Na'cho Nyäk Dun hopes the Plan will result in a stable housing stock, and increased revenues to bring all homes up to standard code as well as update infrastructure throughout the community (FNNND 2017a).



Source: YG 2015k

Figure 7-4 Vacancy Rates and Median Rent in Dawson and Whitehorse, 2002 to 2015

### **7.4.1.3 Housing Condition**

Housing condition describes the current adequacy of housing for the climactic conditions in the LSA/RSA.

#### ***Whitehorse***

In the Whitehorse Area, only 12.5% of homes were constructed before 1960 and 12.2% were constructed between 2006 and 2011 (Statistics Canada 2015h). Eleven percent of Whitehorse Area homes required major repairs for the same reporting period and 16% for the territory as a whole (**Figure 7-5**) (Statistics Canada 2015h).

#### ***Dawson***

In Dawson, 36% of homes were constructed before 1960, with 5.1% being constructed in the most recent period between 2006 and 2011 (YG 2015k). In the 2011 Census, of 680 total dwellings in Dawson, 495 needed only regular maintenance or minor repairs, whereas 185 or 27.2% needed major repairs (YG 2015k) (**Figure 7-5**). Even when housing is available, it is not necessarily appropriate for winter use in terms of having adequate heat (Interview 2, Pers. Comm. 2016).

#### ***Beaver Creek***

In Beaver Creek, 20% of homes were constructed before 1960, with 0% being constructed in the most recent period between 2006 and 2011 (YG 2015r). In the 2011 Census, of 50 total dwellings in Beaver Creek, 40 needed only regular maintenance or minor repairs, whereas 15 needed major repairs (YG 2015r).

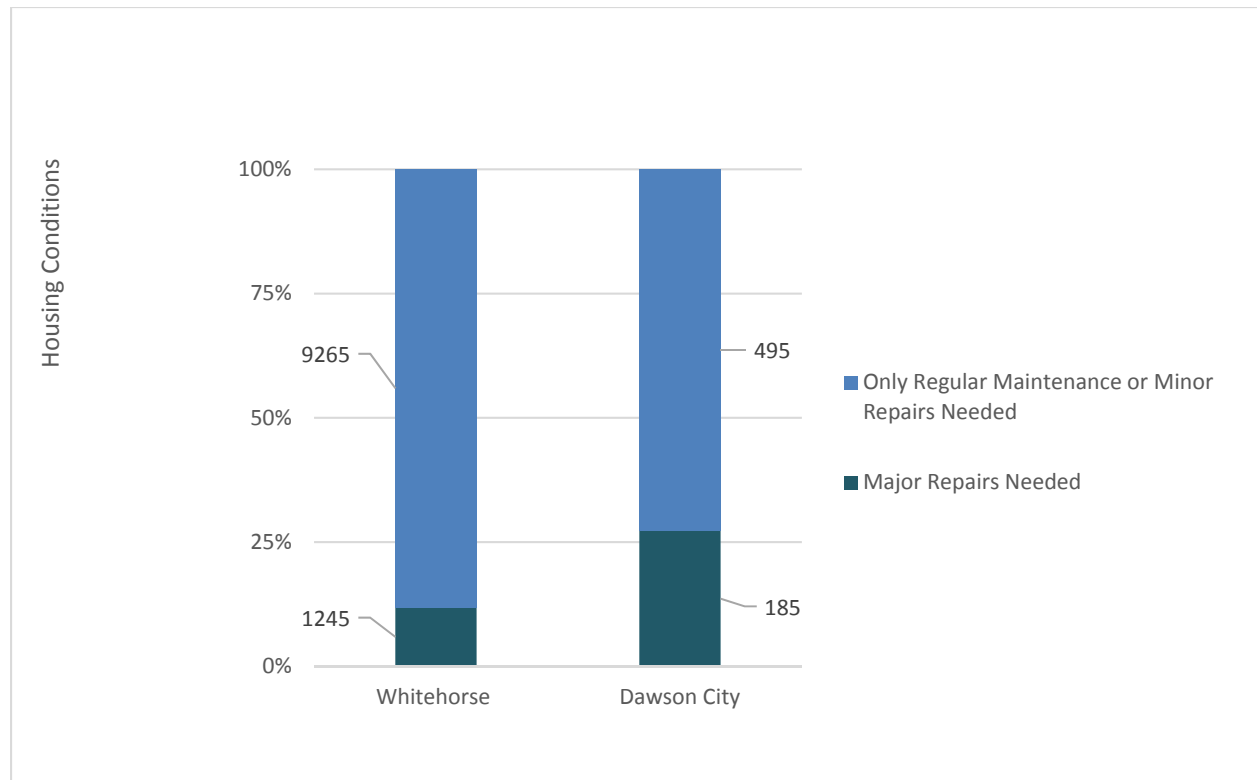
#### ***Pelly Crossing***

In Pelly Crossing, 0% of homes were constructed before 1960, with 15% being constructed in the most recent period between 2006 and 2011 (YG 2015s). In the 2011 Census, of 130 total dwellings in Pelly Crossing, 70 needed only regular maintenance or minor repairs, whereas 60 or 46% needed major repairs (YG 2015s).

#### ***Mayo***

Data for this topic has been suppressed to meet confidentiality requirements of the Statistics Act.





Source: YG 2015k

**Figure 7-5 Housing Conditions in Dawson and Whitehorse**

#### 7.4.1.4 Housing Costs

##### *Whitehorse*

Median monthly rent in Whitehorse was \$969 in October 2015, with a vacancy rate of 3.4%. Median rent for a bachelor apartment was \$775, a one bedroom was \$925, a two bedroom was \$1,025 and a three to four bedroom was \$1,500 (YBS 2015c). The median rent of \$969 would require a salary of approximately \$38,760 per year to meet the affordability standard of 30% of gross income (depending on the cost of heating and other utilities).

As described by YHC, “the increasing population has resulted in...tightening in rental vacancy rates, accompanied by rising rents and a very large increase in home prices” (YHC 2013). Because rents are relatively high, it can be difficult for lower-income households to find affordable housing (YHC 2013). A recent report found that over 40% of tenant households were spending more than 30% of their income on rent (YHC 2015).

Over the past decade, housing prices in Whitehorse have increased at a greater rate than household incomes (YHC 2015). According to the most recent Yukon Real Estate Survey for the third quarter of 2015,

the average cost of a single detached house in Whitehorse was \$419,700; a mobile home was \$218,000; a condominium was \$318,100; and a duplex was \$310,600 (YHC 2015).

### ***Dawson***

A 2013 KDO survey found that the average annual income of all renters was \$38,800 and the average rent paid was \$703 per month, or 22% of their average income (KDO 2013c). Median rent in Dawson was \$800 in October 2015, with a median of \$600 for a bachelor apartment, \$800 for one bedroom, \$1,200 for two bedrooms and \$1,244 for three to four bedrooms (YBS 2015c) The median rent of \$800 would require a salary of approximately \$32,000 per year to meet the affordability standard of 30% of gross income (depending on the cost of heating and other utilities).

Despite the tight housing market, Dawson has better housing affordability, both for renting and ownership, than across Yukon and Canada (KDO 2011). An estimate of cost ranges for Dawson-area properties suggests that a cabin in West Dawson (with no running water and an outhouse) would cost approximately \$125,000; a finished house with septic and water storage would cost approximately \$180,000 to \$280,000; a smaller, older house in town needing some repairs would cost approximately \$180,000 to \$220,000; a better-quality house would be approximately \$220,000 to \$275,000, or \$280,000 to \$380,000 for homes with a better view; and an executive-style home would cost between \$350,000 and \$500,000 (Interview 21; Personal Communication 2016).

### ***Beaver Creek***

As of 2011, the average value of a single-family home in Beaver Creek was \$155,717. Single family homes are rented for an average of \$467 per month, and subsidised tenants accounting for 75% of housing in the community (Statistics Canada 2015j).

### ***Pelly Crossing***

As of 2011, the average value of a single-family home in Pelly Crossing was \$274,106. Single family homes are rented for an average of \$404 per month (YG 2015t).

### ***Mayo***

Housing and Shelter Cost data for the 2011 NHS was suppressed due to data quality and confidentiality reasons (Statistics Canada 2013d).

## ***7.4.1.5 Non-Permanent Accommodation Characteristics***

### ***Whitehorse***

Whitehorse offers temporary accommodation through hotels and motels open year-round, bed and breakfasts, lodges and cabins and two hostels, as well as campgrounds owned privately and by YG, which operate seasonally. Rentals are also available through Vacation Rentals by Owner and Airbnb.

### ***Dawson***

Dawson offers accommodation options in the summer months including an off-grid hostel (no electricity or running water); two Yukon Government (YG) campgrounds and a privately owned recreational vehicle park; bed and breakfasts; inns; cabins; and hotels or motels. Many facilities close in the winter months, and accommodation is limited at that time. Primary data indicate that accommodation in Dawson is expensive and heavily booked in the summer months.

### ***Beaver Creek***

Beaver Creek's location along the Alaska Highway and proximity to the Canada/US border results in a range of visitor services, including various options for accommodation. The Discovery Yukon Lodgings and RV Park offers 50 full service RV sites, tent camping sites, and three log cabins. Prices range from \$20 - \$140 per night (Tourism Yukon 2017a). Buckshot Betty's is a local hotel and campground, ranging from \$89 - \$149 per room. Ida's Motel and Restaurant starts at \$99 per night and also offers RV parking (Tourism Yukon 2017b). The 1202 Motor Inn offers hotel rooms ranging from \$50 - \$130, as well as RV parking and camping sites starting at \$15 (1202 Motor Inn n.d.).

### ***Pelly Crossing***

Information regarding non-permanent accommodations in Pelly Crossing was unavailable.

### ***Mayo***

Mayo reputation as a popular tourist location means there are a number of accommodation options. There are several bed and breakfasts in the area; Gold and Galena, which offers rooms from \$100 - \$120 per night, as well as Silver Trail Inn and B&B, and Moose Creek Lodge both starting at \$125 per night. The Bedrock Motel offers rooms ranging from \$10 - \$25 per night, and the North Star Motel has rooms ranging from \$110 - \$120 per night. There are two Municipally run campgrounds in Mayo; McIntyre Park and Campground, which has 5 free camp sites, and Gordon Park Campground that has 10 free camp sites. There is also the Whispering Willows RV Park and Restaurant (Travel in the Yukon 2017; Tourism Yukon 2017c).

## **7.4.2 Physical Infrastructure**

Community infrastructure includes the basic physical and organizational infrastructure required for a community's operation to ensure its residents' quality of life. This section includes a description of the current condition of landfill and solid waste disposal, including recycling and composting, water and waste water services, power and fuel supply, and communications infrastructure in the LSA/RSA.

Current challenges related to expanding physical community infrastructure in Dawson include high building costs, and securing knowledgeable contractors who can provide design and building services that reflect northern climate considerations (Interview 4, Pers. Comm. 2016). Whitehorse also faces challenges in that much of its infrastructure is aging and needs to be replaced (City of Whitehorse 2007).

### **7.4.2.1 Solid Waste Disposal and Recycling**

#### **Whitehorse**

Whitehorse is served by a municipal landfill located on the Alaska Highway within the City. It offers a Free Store as well as recycling. A tipping fee of \$94 per tonne is charged (City of Whitehorse n.d.b) Households receive weekly pick-up service, which alternates between solid waste and compost (City of Whitehorse n.d.c). Household Hazardous Waste drop-off days are held twice per year, where Whitehorse residents can bring dangerous waste such as compact florescent light bulbs, liquid paint, cleansers, motor oil, solvents, rechargeable batteries, pesticides, and aerosol cans to the landfill for disposal (City of Whitehorse n.d.d).

Recycling services are provided by the non-profit Raven Recycling Society and the for-profit facility, P&M Recycling. The Raven Recycling Society accepts refundable recyclables, and the P&M Recycling facility accepts refundables, as well as paper, cardboard, and plastics (Raven Recycling n.d.). Recycling pick-up is available by Whitehorse Blue Bin Recycling at a cost of \$21 per month (City of Whitehorse n.d.e); curbside recycling is being considered by the City of Whitehorse (City of Whitehorse n.d.f).

#### **Dawson**

The Quigley Landfill is the regional landfill that services Dawson, the Klondike Valley, the Dempster Highway, and the North Klondike (City of Dawson 2016c). Quigley Landfill is located on the Klondike Highway south of Dawson. The landfill is a joint venture between Dawson and YG. To discourage illegal dumping, the Landfill does not charge tipping fees (Interview 4, Pers. Comm. 2016).

Garbage collection of residential solid waste takes place weekly. Commercial solid waste is collected as frequently as six times a week during peak periods (City of Dawson 2016c). The Quigley Landfill is limited in the types of waste that it can accept. Currently, the landfill does not accept liquid wastes (Interview 4, Pers. Comm. 2016). Up until 2015, some garbage was burned in the winter but this is no longer practised (Interview 4, Pers. Comm. 2016).

The landfill is approaching maximum capacity; and is estimated to have approximately five years of life remaining using the current waste management approach (Interview 4, Pers. Comm. 2016). With the implementation of waste diversion, including composting and recycling, the remaining life of the landfill could be extended to 14 years (Interview 4, Pers. Comm. 2016). The City of Dawson is actively working to identify ways to extend the life of the landfill.

In addition to solid waste disposal, the landfill offers the following services: a small recycling facility, composting and a "Free store", where people can leave and pick up free items for re-use. (City of Dawson 2016c). A second, larger recycling facility is located within Dawson. Both recycling facilities are operated by the Klondike Conservation Society (KCS). Primary data indicate that the Dawson KCS recycling facility is currently operating near capacity, and the cost of recycling is very high. The KCS and the City of Dawson are working together to build a new recycling facility (Interview 11, Pers. Comm. 2016). The land for the

new recycling facility has been purchased, and funds to build the facility are in the process of being secured (Interview 11, Pers. Comm. 2016).

### ***Beaver Creek***

The Government of Yukon is responsible for all community services in Beaver Creek, including solid waste disposal. The Beaver Creek Landfill operates seven days a week, 24 hours a day and accepts household garbage, waste metals, tires, construction and demolition waste, household hazardous waste, brush and clean wood, vehicle bodies and eWaste (YG 2016o).

### ***Pelly Crossing***

Pelly Crossing Modified Transfer Station is open seven days a week, 24 hours a day and accepts household garbage, recyclables, waste metals, tires, construction and demolition waste, household hazardous waste, brush and clean wood, vehicle bodies and eWaste (YG 2016p).

Selkirk First Nations Capital Department also provides waste management services (SFN 2017a).

### ***Mayo***

The Village of Mayo operates the Mayo Solid Waste Management Facility, which requires a permit for residential and commercial customers to dispose solid waste (Village of Mayo n.d.a). All recyclables can be brought to the Mayo Recycling Center.

## ***7.4.2.2 Water Supply and Wastewater Treatment***

### ***Whitehorse***

The water supply for the City of Whitehorse is obtained from the municipal wells located in Riverdale, which is chlorinated and then transported to residents via a 160-km pipe network (YG 2014f; City of Whitehorse n.d.g). Water quality is tested weekly at approximately 20 locations (City of Whitehorse n.d.g). Some pipes and sewer mains have been replaced, and the Selkirk pump house has been replaced with a water station and chlorination facility (YG 2014h).

The City of Whitehorse's wastewater system includes a lagoon system, four major lift stations with a flush tank, and five minor lift stations (City of Whitehorse n.d.g). Wastewater is transported to the Livingstone Trail Environmental Control Facility, which has two 115,000 m<sup>3</sup> primary lagoons with a combined retention time of 20 days, four 293,000 m<sup>3</sup> secondary lagoons with a combined retention time of 100 days, and a 5.813 million m<sup>3</sup> long-term storage pond with a one-year retention time (Johnson 2005). The long-term storage area is a wetland 3 km long and 2km wide, which can fill to a depth of 6 m. The Livingstone Trail Environmental Control Facility operates primarily as a closed system, meaning effluent dissipates through evaporation and infiltration rather than other forms of release (City of Whitehorse n.d.g). Treated water is released from the system annually to allow room for more water in the system (CBC News 2015a).

## **Dawson**

The City of Dawson water system includes water supply, storage, treatment, and distribution infrastructure. Four infiltration wells were drilled in July 2014 (City of Dawson 2016d), and provide sufficient water capacity to meet Dawson's current demands as of 2016 (Interview 4, Personal Communication 2016).

Water is currently stored in two reservoirs with a combined capacity of approximately 1,300 cubic metres (m<sup>3</sup>) (City of Dawson 2016d). Dawson's northern climate requires the use of a bleeder system to prevent freezing in the winter, which generates higher flow (Interview 4, Personal Communication 2016). Water is chlorinated prior to distribution.

Several projects are also underway to improve Dawson's physical infrastructure. Identified shortages include a water storage, which is not currently sufficient for fire flow; water distribution, and pressure; and the sewer system, as one of the five lift stations is increasingly loaded and the sewage system is undersized (Interview 4, Personal Communication 2016). A loop system to upgrade the existing piping is currently being planned (Interview 7, Personal Communication 2016).

Although water and sewer lines have been added, some lines are at capacity and a population increase in the City of Dawson would require expansion of water and sewer infrastructure (Interview 7, Pers. Comm. 2016). Homes at the north end of Dawson that are not serviced by the City of Dawson's water and sewage infrastructure receive water delivery and have septic fields, or pump-out, for waste management (Interview 7, Pers. Comm. 2016). New residential developments outside of the main town site, such as country residential lots on the dome (a hilltop adjacent to Dawson, popular for sightseeing) or properties on the hillside in the north end of Dawson, also require a septic system and private water (water delivery or well water), and therefore will not be reliant on or affecting the municipal water and sewer system (Interview 7, Personal Communication 2016). The YG is responsible for inspection and approval of septic fields (Interview 7, Personal Communication 2016).

Dawson has had water and sewer lines for over 100 years, with wooden lines originally installed (Interview 7, Pers. Comm. 2016). Currently, the City of Dawson's sewage collection system needs upgrades; the sewer system is undersized and consists of older, thin-walled pipes (Interview 4, Pers. Comm. 2016). The City of Dawson's Public Works Department is exploring the potential to replace the thin-walled pipe with a thicker-walled pipe, wherever it still exists (Interview 4, Pers. Comm. 2016).

A wastewater treatment facility was completed in 2012 and met testing requirements in February 2015 (YG 2016c) (Photo 7-2). Ownership of the facility has been transferred to YG and it is currently being operated under contract by Corix Utilities, which constructed the plant (YG 2016c). At the end of the warranty period in 2017, another contractor will take over operation of the facility. The current capacity of this facility is 4,300 cubic metres (m<sup>3</sup>) per day. In the winter, wastewater flows are higher due to the use of a bleeder system

to prevent the water lines from freezing, and peak flows of approximately 3,100 m<sup>3</sup>/day are reached, as compared to 2,200 m<sup>3</sup>/day in the summer (Interview 4, Pers. Comm. 2016).



Photo courtesy of Bonnie Rear

**Photo 7-2 The City of Dawson Wastewater Treatment Facility**

### ***Beaver Creek***

WRFN and the Government of Yukon are in a partnership to administer community infrastructure such as water, sewer, local road maintenance and community recreation to Beaver Creek residents. In 2009, under the Indian & Northern Affairs Canada First Nation Water Management Strategy, the existing water supply system was overhauled (Inukshuk Planning & Development 2009). The new system consists of two separate systems, both of which include new pump houses and standby generators. New wells were also drilled at each pump house, with water now being chlorinated by plant operators (Inukshuk Planning & Development 2009). Some homes continue to be served by individual wells, until it becomes economically viable to extend services (Inukshuk Planning & Development 2009).

### ***Pelly Crossing***

Selkirk First Nation Capital Department is responsible for the management of SFN infrastructure. The department also manages the water plant, which includes bi-weekly water testing, and provides essential services such as waste management (SFN 2017c).

## **Mayo**

The Mayo Environmental Health Department is responsible for the maintenance of the water system, sewer system, lift station, and sewage lagoon. The facilities include drinking water wells, warm water wells, pump house, water reservoir, valve chamber, lift station, sewage lagoon and many kilometers of water/sewer main lines. Bi-weekly testing of the drinking water is completed to ensure the water is free from contaminants. Environmental Health Staff also maintain the main sewer lines (Village of Mayo n.d.b).

Mayo has an agreement with the FNNND for the provision of water and sewer services (Village of Mayo n.d.b).

### **7.4.3 Community Services**

Community services included the services provided by the municipal government in the LSA/RSA. A description of the current condition of the following community services is provided below, including: health services; fire protection services; policing and by-law services, and social services.



Photo courtesy of Tr'ondëk Hwëch'in

**Photo 7-3 Recreational Activities in the Study Area**

#### **7.4.3.1 Health Services**

##### **Whitehorse**

Whitehorse General Hospital (WGH) serves the population of Whitehorse and Yukon, providing 24-hour acute care; laboratory and medical imaging services including x-ray, ultrasound, and Magnetic Resonance

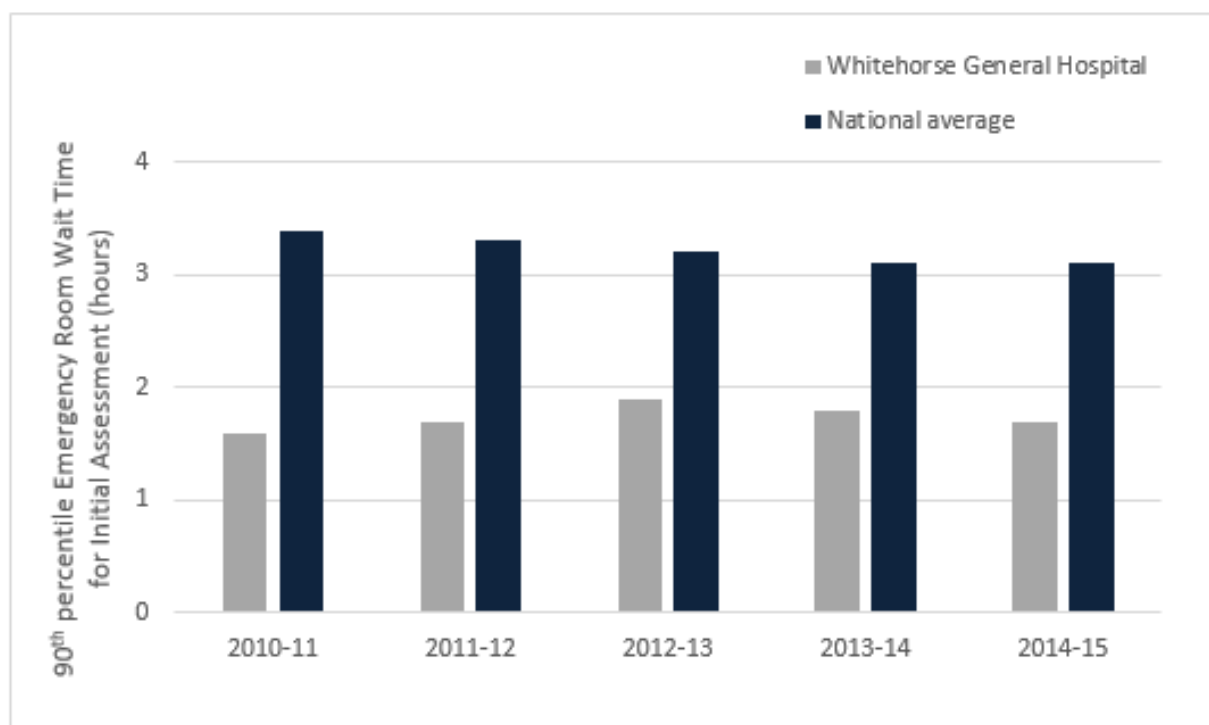


Imaging (MRI); and clinics for visiting specialists (Yukon Hospitals 2016). From April 1, 2014 to March 31, 2015, the hospital had a staff of 486 people (Yukon Hospitals 2016).

From April 1, 2014 to March 31, 2015, WGH had 32,797 emergency visits, 3,172 admissions, 17,323 medical imaging visits, and 26,549 lab visits (Yukon Hospitals 2016). The new MRI unit had 414 exams from January 19 to March 31, 2015 (Yukon Hospitals 2016). Hospital occupancy averaged 86% as compared to 80% in the previous fiscal year (Yukon Hospitals 2016). Whitehorse General Hospital receives patients from other Yukon communities for specialist care, births, chemotherapy, and surgeries. There were more than 70 physicians licensed in Whitehorse in 2014 and 2015, with the largest practices being Klondyke Medical Clinic and Whitehorse Medical Services Ltd. (Yukon Medical Council 2015). Two new clinics, the Yukon Sexual Health Clinic and the Yukon Women’s MidLife Health Clinic, offer drop-in access to a nurse practitioner (YG 2014i).

It has been difficult to find a family doctor in Whitehorse for some time (Kerr 2012; CBC News 2014) As of April 1, 2016, Whitehorse Medical Clinic was accepting new patients and River Valley Clinic was accepting walk-in patients; Sage Maternity and Crocus Maternity were accepting new prenatal patients (YG 2016e).

Emergency wait times were available for Whitehorse General Hospital. The average wait, based on the 90th percentile, was 1.7 hours as compared to 3.2 hours nationally (**Figure 7-6**) (CIHI 2016).



Source: CIHI 2016

**Figure 7-6** Emergency Wait Times, Whitehorse General Hospital

### *Dawson*

Dawson and surrounding area is served by the new Dawson City Community Hospital, which opened at the end of 2013. It has an emergency room that provides 24-hour acute care, x-ray and laboratory services, and a retail pharmacy. From April 1, 2014 to March 31, 2015, the hospital had a staff of 28 people (Yukon Hospitals 2016). There were six licensed physicians in Dawson for this period (Yukon Medical Council 2015).

From April 1, 2014 to March 31, 2015, the Dawson City Community Hospital had 2,810 emergency visits, 92 admissions, 475 medical imaging visits, and 1,932 lab visits (Yukon Hospitals 2016). The hospital does not provide maternity care. Expectant mothers travel to Whitehorse for low-risk pregnancies; for high-risk pregnancies, expectant mothers travel to British Columbia or Alberta.

The hospital building also houses the Dawson Medical Clinic, which provides primary care services, and the Dawson Community Health Centre, which provides public health and home care programs, as well as services from allied health professionals. An extended care facility will be opening in the spring of 2016.

Ambulance services are coordinated by YG Emergency Medical Services in Whitehorse. In Dawson, there are two full-time Emergency Medical Responders supplemented by trained volunteers.

Medevac services are typically fixed-wing flights using specially equipped planes provided by Alkan Air, based in Whitehorse. Three aircraft are dedicated for use by emergency medical services: one King Air 200 capable of landing on gravel runways for shorter flights to Yukon communities and a King Air 300 and 350 for longer flights to major medical centres, typically in Vancouver, Edmonton, and Calgary (Alkan Air 2016). Where fixed-wing access is not possible, helicopter evacuations are occasionally performed; however, due to space constraints, limited medical treatment is possible in a helicopter; additionally, when a physician provides helivac care, another physician needs to fill in at the hospital to ensure adequate coverage (Interview 3, Pers. Comm. 2016).

### *Beaver Creek*

The Beaver Creek Community Health Centre has one nurse practitioner on call 24 hours a day, 24-hour volunteer ambulance services, and a doctor that visits once every two weeks (YG 2005). The health centre offers physicals and electrocardiograms (EKGs), as well as pregnancy, prenatal and parenting programs (YG 2005). Other services such as x-rays, pharmacy, dental, and detox/alcohol and drug are offered in Whitehorse and/or Haines Junction.

### ***Pelly Crossing***

The Pelly Crossing Community Health Centre has two nurse practitioners on call 24 hours a day, 24-hour volunteer ambulance services, and does not have a visiting doctor (YG 2005). The health centre offers physicals and electrocardiograms (EKGs), pregnancy, prenatal and parenting programs, blood tests, pregnancy tests and specimen collection (YG 2005). There are other limited services, such as a visiting dentist, x-rays on limbs only, and home care visits. Other services such as pharmacy, and detox/alcohol and drug are offered in Whitehorse and/or Haines Junction.

### ***Mayo***

The Mayo Health Centre has two nurse practitioners on call 24 hours a day, 24-hour volunteer ambulance services, and a resident doctor (YG 2005). The health centre offers physicals and electrocardiograms (EKGs), pregnancy, prenatal and parenting programs, blood tests, pregnancy tests and specimen collection, x-rays, and a dentist that visits every three months (YG 2005). Other services such as pharmacy, detox/alcohol and drug are offered in Whitehorse and/or Haines Junction.

Mental health counselling is offered as a toll-free phone service for residents of the Yukon, Nunavut, and Northwest Territories (YG 2016q). Counsellors and therapists from Mental Health Services also travel to communities outside of Whitehorse on a regular basis. Child & Adolescent Therapeutic Services (CATS) is a child welfare counselling service for children, youth, and their families that have experienced child maltreatment. CATS counsellors are based in Whitehorse, but travel to communities across the Yukon on a regular basis (YG 2015b).

## ***7.4.3.2 Fire Protection Services***

### ***Whitehorse***

The City of Whitehorse established its fire department in 1901. There are two fire halls, one co-located with City Hall at 2121 2nd Ave and one in the Public Safety Building at 305 Range Road (City of Whitehorse n.d.n). The department's responsibilities include urban and wildland fire suppression, fire prevention, training, fire safety inspections, rescue, and building plan reviews (City of Whitehorse n.d.n). The department consists of both full-time firefighters and volunteers; there are 6 firefighters on duty at any given time, with 24 staff members supported by approximately 10 to 15 volunteers (City of Whitehorse n.d.o).

Yukon Government Wildland Fire Management and the Yukon Fire Marshal Office are based in Whitehorse. The Fire Marshal's office is responsible for public education as well as funding, training, and administering the fire departments in the communities of Beaver Creek, Burwash Landing, Carcross, Golden Horn, Hootalinqua, Ibex Valley, Keno City, Klondike Valley, Marsh Lake, Mendenhall, Mt. Lorne, Old Crow, Pelly Crossing, Ross River, Tagish, and Upper Liard (YG 2015l).

### ***Dawson***

Dawson is served by a volunteer fire department, comprising approximately 25 to 35 members (Interview 4, Pers. Comm. 2016). Fire response equipment to support Dawson includes three fire engines, one bush truck, and one command truck; the capacity and equipment of the Fire Department currently exceeds code (Interview 4, Pers. Comm. 2016). The Fire Department provides 24-hour response to incidents within its jurisdiction; this includes the area within the City of Dawson's municipal limits, except for an agreement with YG to provide additional support to neighbouring fire departments, if necessary (Interview 4, Pers. Comm. 2016). A second department, the Klondike Valley Fire Department, serves the area outside of municipal limits of Dawson City, with restrictions. In addition to fire-related services, the fire department also responds to motor vehicle incidents, hazardous materials incidents, utility emergencies, and carbon monoxide alarms, and performs rescue services (Interview 4, Pers. Comm. 2016).

The position of the Fire Chief is the only paid position within the City of Dawson Fire Department. The Fire Chief also serves as the territorial coordinator for Emergency Measures (City of Dawson 2016j).

The YG has a northern detachment of Wildland Fire Management based in Dawson. In addition to providing wildland fire management, the detachment is also responsible for enforcing the Forest Protection Act, RSY 2002, c. 94. The goal of fire management activities is to prevent injury and loss of life and reduce social and economic disruption of fires, with consideration given to fire ecology, in that fires serve an important ecological purpose and do not always need to be extinguished (YG 2016f). Yukon works collaboratively with other jurisdictions in sharing resources based on need, via Mutual Aid Sharing Agreements through the Canadian Interagency Forest Fire Centre.

### ***Beaver Creek***

In 2015, a new fire department was built in Beaver Creek that includes space for training, as well as providing a home for Emergency Medical Services volunteers (CBC News 2015b). The police chief noted hopes that the new fire department will attract additional volunteers to add to departments five current volunteers (CBC News 2015b).

### ***Pelly Crossing***

Pelly Crossing has a volunteer fire department; however, the number of volunteers is unknown. A CBC News article from 2013 identified Pelly Crossing as one of two rural communities in the greatest need of volunteer fire fighters within the Yukon (CBC News 2013).

### ***Mayo***

Mayo has a volunteer fire department, made up of 12 volunteer members, a fire chief, deputy fire chief, and a fire training officer (Village of Mayo n.d.c). The department is comprised of a fire hall, two fire trucks, one emergency vehicle, various fire related equipment, as well as a fire hydrant system that runs throughout the community (Village of Mayo n.d.c). The Mayo volunteer fire department has a joint agreement with

FNNND to provide fire protection services for First Nation's buildings that are located outside of the community's boundaries. Mayo also contains one of six regional fire management offices within the territory that are responsible for forest fires (YG 2016g).

### **7.4.3.3 Policing and By-law Services**

#### **Whitehorse**

The City of Whitehorse is served by RCMP detachment located at 4100 4th Avenue, headed by a Detachment Commander. The Whitehorse Detachment's jurisdiction extends north along the North Klondike Highway beyond Lake Laberge, southeast along the Alaska Highway to Tagish, and west along the Alaska Highway to Kusawa Lake.

The City of Whitehorse provides Bylaw Services based in the Public Safety Building located at 305 Range Road. Bylaw Services is responsible for the investigation and enforcement of all city bylaws, including but not limited to animal control, property maintenance issues, parking enforcement, all-terrain vehicle and snowmobile education and enforcement, and bicycle safety, with officers available from 8:00 a.m. to 12:00 a.m. on weekdays and 10:30 a.m. to 7:00 p.m. on weekends and holidays (City of Whitehorse n.d.p). Bylaw services also operates the City's Animal Shelter located at 9032 Quartz Road; bylaws include regulations around care of animals, licensing of cats and dogs, and limits to the number of animals permitted (City of Whitehorse n.d.p). This office also regulates taxis and provides parking enforcement.

#### **Dawson**

The Dawson City Royal Canadian Mounted Police (RCMP) detachment provides policing services within its jurisdiction which includes: the Dempster Highway as well as the City of Dawson area, extending to the Northwest Territories (NWT) border in the north, to the Alaska border when the Top of the World Highway is open, and east to the Yukon border (Interview 26, Pers. Comm. 2016). Their jurisdiction also includes the Goldfields area, including the proposed access road and Project area. The Dawson RCMP Detachment currently consists of one sergeant, one corporal, and five constables (Interview 26, Pers. Comm. 2016).

The RCMP's jurisdiction includes water bodies. Though the detachment does not have sufficient staffing to conduct routine patrols on waterbodies, they do conduct several patrols on surrounding waterbodies (e.g., the Yukon River) throughout the summer in addition to responding to calls (Interview 26, Pers. Comm. 2016). Canoe traffic is high in the summer as the Yukon River is a popular paddling route; several outfitters offer guided tours in addition to individual paddlers and tourist traffic. On average, the Dawson RCMP receives one call per week in the summer months from someone on a waterbody requiring help (Interview 26, Pers. Comm. 2016). These most common types of calls received include missing or delayed paddlers, or overturned canoes (Interview 26, Pers. Comm. 2016).

The RCMP's call volume increases in the summer with an influx of tourists and seasonal workers for both tourism and mining (Interview 26, Pers. Comm. 2016). Occasionally additional RCMP personnel are brought in for specific events, such as the music festival. Generally, calls received in the summer months are associated with transient people and seasonal workers; these calls are frequently related to substance abuse-related incidents (Interview 26, Pers. Comm. 2016). The RCMP partners with local and territorial agencies, including Alcohol and Drug Services, to assist people in finding support for substance use issues; RCMP members also deliver some programming in the school regarding alcohol and drug use.

Bylaw services provide enforcement of municipal bylaws and Council policies, guidelines, and resolutions within the municipal boundaries of the City of Dawson, with an approach that focuses on education and providing information (City of Dawson 2016j).

### ***Beaver Creek, Pelly Crossing, and Mayo***

Beaver Creek, Pelly Crossing, and Mayo each have their own RCMP detachments to service their communities (RCMP 2017). As of 2009 there was 122 RCMP officers, 24 civilian members, and 36 support staff working in RCMP attachments across the Yukon (Yukon News 2009). Specifically, this accounts two RCMP officers in Beaver Creek, three in Pelly Crossing, and three in Mayo, as well as one clerk (Yukon News 2009; Scott Clark Consulting Inc. 2006).

Rural Yukon RCMP detachments are facing increased pressure to serve rural communities, but note they are not adequately staffed for the population and caseload (Yukon News 2009). This is further complicated by a 2007 policy that now requires "multi-member responses" to violent calls, meaning two or more officers must attend calls together. This is especially difficult for detachments like Beaver Creek, Pelly Crossing, and Mayo that have no more than three RCMP officers working at each detachment (Yukon News 2009).

### ***7.4.3.4 Social Services***

#### ***Whitehorse***

Whitehorse has 26 licensed day cares and 24 licensed family day homes (YG 2016g). With an increase in the number of children born in the city, day care has become more difficult to obtain (CBC News 2012). Services for young children are offered through the Child Development Centre, which has a main location in Whitehorse and a satellite office in Dawson, and offers physiotherapy and occupational therapy, developmental therapy and psychological services, and speech-language pathological services (CDC n.d.).

The Healthy Moms, Healthy babies program is offered in Whitehorse at the Victoria Faulkner Women's Centre and the Skookum Jim Friendship Centre, the Centre de la Francophonie, and the Teen Parent Centre. The Whitehorse Health Centre also offers in-home support to eligible families through its Healthy Families program, which has been in operation since 1999 (YG n.d.e)

Seniors are supported through the Seniors' Information Centre, funded by Yukon Health and Social Services, which provides information and assistance to seniors such as pension and housing applications, health issues, and referrals to other agencies and organizations (YG n.d.f) Assisted living is provided through the 96-bed Copper Ridge Place, 44-bed MacAulay Lodge, and the 29-bed Thompson Centre (YG n.d.g) A new 150-bed facility is being constructed in Whistle Bend (YG n.d.h).

Whitehorse-based Kaushee's Place provides emergency shelter for women and their children, as well as advocacy and support services. It serves Whitehorse as well as outlying communities because sometimes even when a shelter is available locally, women cannot stay there for safety reasons (Int. 31, Pers. Comm. 2015). Kaushee's Place has 15 emergency beds and five apartment units for longer-term housing. Similarly, Betty's Haven provides 10 units for longer-term housing. Between April 1, 2014 and March 31, 2015, 288 women were admitted to Kaushee's Place, accompanied by 171 children (Yukon Women's Directorate 2016) Yukon women's shelters are run independently, but work closely and coordinate funding priorities and requests (Interview 31, Pers. Comm. 2015).

### **Dawson**

Dawson is currently experiencing a shortage in child care availability. In June 2015, the wait list at the Little Blue Early Child Care and Learning Centre was longer than the number of spaces (Windeyer 2015a), and the lack of child care has been adversely affecting people's ability to work (Windeyer 2015b). The Centre has 20 spaces for children.

Tr'ondëk Hwëch'in operates a daycare facility, Trinke Zho, which offers care for both First Nations and non-First Nations children, including the Headstart Program. Trinke Zho can accommodate 60 children.

Young families in Dawson are also serviced by Healthy Families, Healthy Babies, which is part of the Canadian Prenatal Nutrition Program funded by the Public Health Agency of Canada. This program offers programming for approximately 40 families with children up to the age of 2, and has two staff members, each working 30 hours per week. The program's coordinator is responsible for programming, coordinating lending resources such as breast pumps and other higher-cost baby-related equipment, securing funding, and providing support for families. A respite worker provides individual support and respite care for participating families, and can support up to six clients at a time. The program also offers Handle with Care workshops, which are designed for parents and caregivers to support the mental health of children from birth to 6 years (Interview 9, Pers. Comm. 2016).

Tr'ondëk Hwëch'in citizens are also supported by a prenatal group offered through the Community Centre. The importance of family, children, and youth was mentioned frequently by TH citizens during interviews, with the birth of children being particularly important to show strong family ties. Many Elders care for children in the community.

The TH government provides support for pregnant women, families with young children, Elders, and others needing support, and works in collaboration with other resources in the community. Elders receive support with health needs, practical needs such as completing tax returns, and activities and outings (Interview 6, Pers. Comm. 2016). Seniors can also receive assistance when they can no longer live in their homes through the newly opened 15-bed Alexander McDonald Lodge continuing care facility, which is located adjacent to the new hospital.

The Dawson women's shelter provides emergency housing for women in transition and experiencing temporary homelessness, and prioritizes offers of shelter and safety to women and children fleeing from abuse. Established in 1989, the shelter currently has four bedrooms, including one double family room with 2 bunk beds. The shelter typically holds four families with a maximum of 18 people. Boys under 17 are permitted to stay with their mothers. Although statistics are confidential, the demand for emergency housing and services has been increasing in recent years (Interview 16, Pers. Comm. 2016).

### ***Beaver Creek, Pelly Crossing, and Mayo***

Beaver Creek does not have a licensed child care centre. Pelly Crossing has one licensed child care centre, Dunya Ra K'ats 'Inte'Ku Daycare, however, limited information is available regarding its services (YG 2016g). Mayo also has one licensed child care centre, Dunena Ko'Honete Ko Daycare, a "First Nation supported daycare service to all community members" (FNNND 2017b).

Health and Social Services offers a home care, regional therapy, and palliative care program that help individuals live independently in their homes. Residents of Pelly Crossing and Mayo are eligible to request these services (YG 2016q).

In Beaver Creek, WRFN provides elder care to its members (Yukon Community Profiles 2014b). Selkirk First Nation in Pelly Crossing is currently restructuring their Community Care/Home Support Worker Program, however the program is committed to supporting the entire community, from infants to elders, including short-term home care for elders and individuals with disabilities or injuries (SFN 2017b). In the community of Mayo, FNNND runs a Social Assistance Program that supports individuals and families by providing financial benefits and services, including access to basic and supplementary needs, shelter, an allowance, clothing, medical and dental attention, and so on (FNNND 2017c).

In 2015, Mayo opened a new seniors housing residence that includes six rental units that aims to improve the quality of life of elderly residents of Mayo (YG 2015u). The units are affordable, and allow elderly residents to live independently in their homes, while remaining in the community with friends and family.

There are no women's shelters in Beaver Creek, Pelly Crossing, or Mayo. The closest women's shelters are the Dawson City Women's Shelter, or Kaushee's Place/Yukon Women's Transition Home in Whitehorse (YG 2016r).



#### **7.4.4 Transportation**

This section describes the current condition of transportation topics in the LSA and RSA, including: air traffic, road traffic, and public transportation.

##### **7.4.4.1 Regional Study Area**

###### ***Air Traffic***

Whitehorse and Yukon are served by the Erik Neilson Airport, a controlled international airport that supports commercial traffic including Air North and Air Canada year-round and Condor and WestJet seasonally. It is staffed by the Canada Border Agency, and is an airport of entry (Nav Canada). It has two paved runways, with the longest being 9,500 feet (2,896 m) (Acuwick n.d.). The control tower is in operation from 7:00 a.m. to 9:00 p.m., seven days per week. This airport is certified for Instrument Flight Rules and night flying. Aviation fuel and jet fuel are available for purchase (Acuwick n.d.).

In 2015, 271,673 passenger movements and 22,897 aircraft movements were reported at YXY (YG n.d.i).

###### ***Road Traffic***

The Yukon highway system comprises 12 highway routes including core, northern, and remote networks (**Figure 7-7**). The highway systems of interest for this Project include the Alaska Highway to the North Klondike Highway and the North Klondike Highway to Dawson. Due to the climate, the road system is subject to freezing and thawing cycles that result in damage from heavy traffic or vehicle weights (YG 2016h).

As shown in (**Figure 7-7**), the Alaska Highway extends from Watson Lake through to Whitehorse, and continues to Haines Junction and on to Alaska. Traffic for the Project would turn north from the Alaska Highway to the North Klondike Highway at the junction just west of Whitehorse. Upgrades of the highway for the section through Whitehorse are underway.

The North Klondike Highway travels from its junction with the Alaska Highway through the communities of Carmacks, Pelly Crossing, and Stewart Crossing, and turns west north of the Stewart River to the Dempster Highway and Dawson. It is primarily sealed with Bitumous Surface Treatment (YG 2016h)).



Between 1992 and 2011, traffic volume on the Alaska Highway at Jake's Corner (north side) had the highest average traffic volumes in the summer, with the highest average of 1,452 in July and lowest average of 384 in January, and an overall average of 675 vehicles per day (YG 2011) (**Figure 7-7**).

For the same period, traffic volume on the Alaska Highway at the North Klondike Highway (north side) also had the highest average traffic volumes in July (1,727 vehicles per day on average) and lowest average in January (699), with an overall average of 1,119 vehicles per day (YG 2011).

# COFFEE GOLD MINE

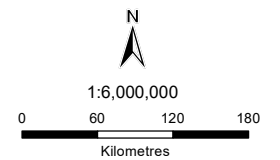
## Highway System

### Legend

-  Highway
-  National/International Border
-  Project Footprint

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



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Figure 7-9

Date:  
Mar 20, 2017

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JS

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DP

 **GOLDCORP**



### Public Transportation

Public transit is restricted to Whitehorse. Whitehorse has city transit service seven days per week, including buses with bicycle racks, low-floor accessible buses, and a handy-bus service. Whitehorse Transit ridership increased by 72% from 2010 to 2014, growing from 318,456 to 546,496 passengers (Transit Consulting Network. n.d.). Taxi service is also available through several companies.

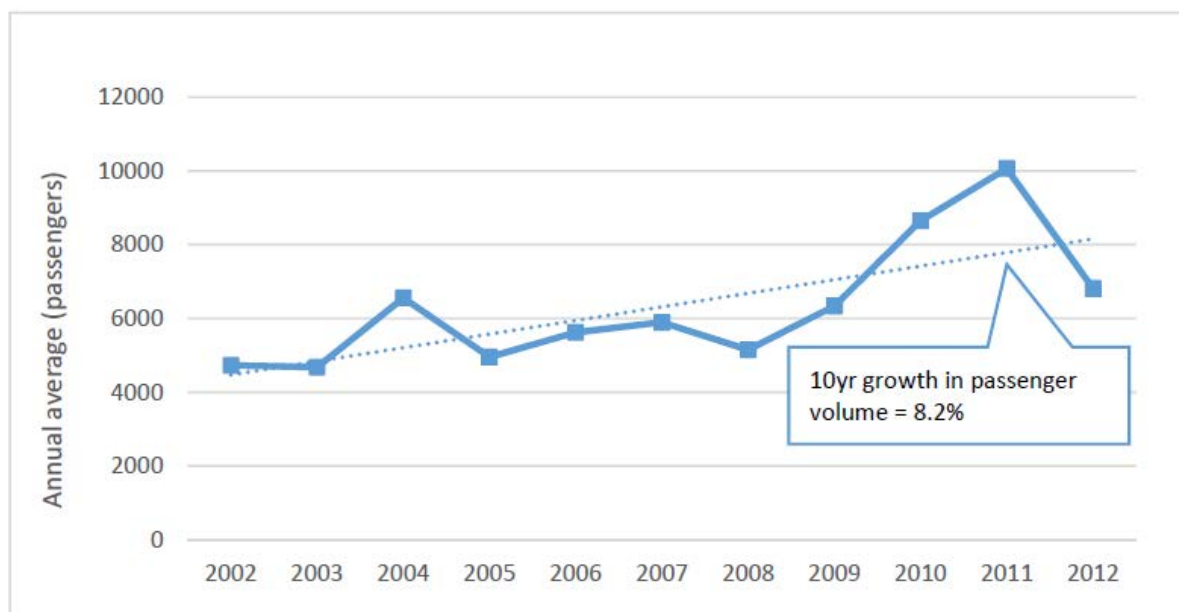
Greyhound provides bus service between Whitehorse and southern Canada.

#### 7.4.4.2 Local Study Area

### Air Traffic

Dawson is served by a Transport Canada-certified regional airport, which is owned and operated by the YG Aviation Branch. It is an uncontrolled airport with a single unpaved runway approximately 5,000 feet (1,524 metres) long. Due to the surrounding terrain, it cannot be certified for Instrument Flight Rules or night flying (Aviotech et al. 2013). Aviation fuel is available for purchase and Air North has reserve jet fuel for its aircraft (Aviotech et al. 2013). The airport has a small (254 m<sup>2</sup>/2,734 ft<sup>2</sup>) terminal building.

Passenger volumes increased steadily between 2002 and 2012, with 11,285 passengers in 2012, and a corresponding increase in aircraft movements of 8.2% (Aviotech et al. 2013) (**Figure 7-8**).

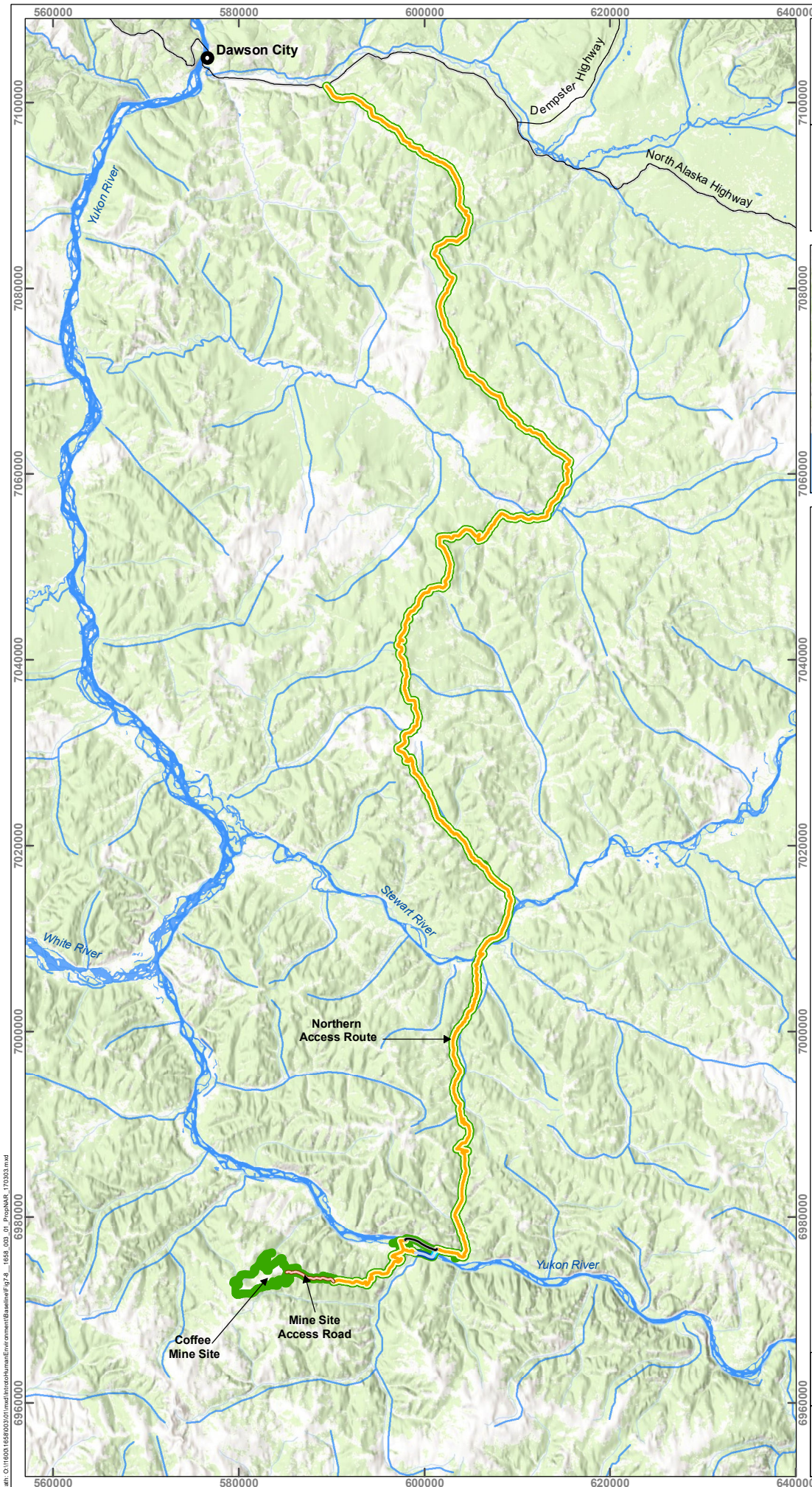


Source: Peak Solutions 2016

**Figure 7-8 Annual Passengers at Dawson Airport**

### ***Road Network***

The road network, which includes Hunker, Sulphur, Dominion, Black Hills, and Maisey May roads, extends from the Klondike Highway and is used seasonally, with no road clearing in winter (**Figure 7-9**). There are 93 existing placer operations using this road system, which has been reported to have had heavy use since 2011, and maintenance from both Yukon Government and the placer miners has not been sufficient to keep up with road use. Several road locations are costly to maintain due to flooding, ice, and other chronic issues, meaning there have been insufficient resources for basic maintenance activities. The maintenance budget is fully expended each year (Individual Contributor, Pers. Comm. 2016). These sections could be improved with more stable materials that can withstand rainfall and weathering (Road Users Focus Group (Whitehorse), 2016). Some sections can be dangerous following large rain events or due to snow conditions. In addition, blind corners on the single-lane road have contributed to head-on collisions due to reduced visibility. Previously, VHF radios were used for communication along the road, but the service is no longer available, and only satellite radio towers currently serve the area.



**COFFEE GOLD MINE**

**Proposed Northern Access Route**

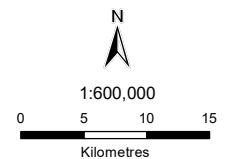


**Legend**

- Watercourse
- Project Footprint
- Stewart River Ice and Barge Crossings
- Yukon River Barge Route
- Yukon River Ice Road
- Winter Road
- Mine Site Access Route
- Northern Access Route

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



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Figure 7-8	Date: Mar 20, 2017	Drawn by: JS	Reviewed: CPK
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Because the road network in this area is discontinuous, some operations currently need to transport personnel and equipment by helicopter, or occasionally by barge (Road User Focus Group (Burnaby), 2016).

### **Road Traffic**

Road traffic may consist of pedestrians and private, commercial, or public vehicles using the public road system for travel. For the purposes of this report, road traffic will be considered as vehicular traffic.

Between 1992 and 2011, traffic volume on the Klondike Highway at the turnoff to the Dempster Highway (north side) had the highest average traffic volumes in the summer, with the highest average of 583 in July and lowest average of 87 vehicles in January, and an overall average of 247 vehicles per day (YG 2011). The Klondike Highway at Dome Road (north side) also had the highest average in July of 3,599 vehicles and the lowest average in January of 992, with an average of 2,097 vehicles per day (YG 2011). For the same period, traffic was measured on Hunker Road at the Klondike Highway for the months of May through September, with an overall average of 231 vehicles per month (maximum 425) (YG 2011).

Seasonal traffic on the Hunker road system includes semi-trucks for both local and external haulage, fuel trucks, and light vehicle traffic. Road users include people involved in mining and exploration (placer and quartz), television crews from reality shows, hunters, trappers and berry pickers, recreational users, and tourists. Road use is somewhat limited by the generally rough condition of the roads (Individual Contributor, Pers. Comm. 2016).

As part of the baseline wildlife study, cameras were installed on Sulphur Road; Eureka Ridge; Henderson Road; and Maisy May. Cameras were installed in mid-June 2015 for all locations except for Sulphur Road, which was installed on August 25, 2015. Traffic volume was highest in September (Eureka Ridge 7.6 passes per day; Henderson Road 2.5 passes per day; and Maisy May 0.9 passes per day on average) apart from Sulphur Road, which had a high of 38.8 passes per day on average in August (refer to **Appendix 16-A Wildlife Baseline Report**).

During the summer, this road system has tourism-related traffic, particularly on the Bonanza loop because there are some attractions on that section of road (Interview 13, Personal Communication 2016; Interview 15, Personal Communication 2016). Upper Sulphur has been identified as an area of concern in terms of safety due to high traffic volumes (Interview 15, Personal Communication 2016). The Henderson Dome area is popular for moose hunting in the fall, and the roads have increased traffic at this time (Interview 15, Personal Communication 2016). Hunters from Dawson use the area for both day and overnight camping trips (Interview 15, Personal Communication 2016).

Wildlife collision fatalities are reported to Conservation Officers (Interview 13, Personal Communication 2016). Because traffic tends to drive slowly, there are few collisions other than the occasional moose or bear, and they tend to occur in narrow areas of road where vegetation is present to the edge of the road (Interview 13, Personal Communication 2016).

On the Gold Field Loop, the RCMP currently receives many calls about impaired driving (Interview 26, Personal Communication 2016). Calls to RCMP currently received from placer miners along the proposed NAR are generally related to theft as well as occasional disputes over claim boundaries and contracting or agreements (such as trading use of an excavator for labour), in which case the RCMP tends to play a mediation role (Interview 26, Personal Communication 2016).

### ***Public Transportation***

Husky Bus, based at 954 2nd Ave. in Dawson, provides bus service between Whitehorse and Dawson between April and the end of September (Husky Bus 2016). The 21-passenger bus provides transport of passengers, packages, and canoes and kayaks. In addition to its regularly scheduled service, Husky Bus also offers charters, including transportation to Fairbanks, Alaska, and daily shuttles between the Dawson airport and downtown Dawson from the beginning of May to the end of September. Public transportation does not serve the NAR.

## 8.0 LAND AND RESOURCE USE

This section describes the current land and resource use in the LSA, and RSA of the Project, with a focus on the two topics of current traditional land and resource use and non-traditional land and resource use.

Topic areas described for each are as follows:

- Current traditional land and resource use:
  - Habitation
  - Transportation
  - Subsistence
  - Cultural and Spiritual Values
  - Environmental Values
- Non-traditional land and resource use:
  - Land use planning
  - Land use permits and tenures
  - Water licences
  - Game management
  - Guide outfitting
  - Subsistence harvesting
  - Parks and protected areas
  - Resource development
  - Utilities
  - Forestry
  - Recreation and tourism.

### 8.1 LAND AND RESOURCE USE OVERVIEW

Through desktop research, traditional and non-traditional land and resource use were identified as important socio-economic values in the LSA, and are defined as follows:

- **Current Traditional Land and Resource Use:** Current traditional land and resource use describes how First Nations currently use the land and resources across their established or asserted Traditional Territory for traditional purposes. The rights of various First Nation citizens to use lands and resources for traditional purposes may be protected generally under the Canada Constitution or more specifically under the Yukon UFA and the Final Agreements of individual First Nations.
- **Non-traditional Land and Resource Use:** Non-traditional land and resource use refers to the designated and undesignated use of lands and resources for both commercial and personal purposes.



### Current Traditional Land and Resource Use

Current traditional land and resource use was identified through both secondary and primary research as an important value to all First Nations with established or asserted Traditional Territory overlapping with the Project. Current traditional land and resource use is included in the baseline report to acknowledge the distinct relationship that First Nations share with the land and resources.



Photo courtesy of Tr'ondëk Hwëch'in

**Photo 8-1 Current Traditional Land and Resource Use: Tr'ondëk Hwëch'in citizens going to fish camp to fish**

Five characteristics related to current traditional land and resource use are used to frame the discussion of land and resource use, and are presented as follows:

- **Habitation:** Habitation values include areas where individuals have personally or are known to have lived. This may include long-term habitation (e.g., settlement) or short-term habitation (e.g., camping) uses.
- **Transportation:** Transportation values include both overland and water routes that may be currently or historically used.
- **Subsistence:** Subsistence values relate to those activities that directly or indirectly support the necessities of life. This may include such activities as (but not limited to): fishing, trapping, hunting, food or medicinal plant harvesting, or firewood cutting (**Photo 8-1**).
- **Cultural and Spiritual Values:** Cultural and spiritual values include both tangible and intangible values related to the cultural and spiritual wellness of First Nations as individuals and collectively as a Nation. Cultural and spiritual values may include (but are not limited to): gathering and ceremonial places, birth places, burial places, food processing sites (e.g., fish camps), collection sites, and any area indicated by a First Nation to hold cultural or spiritual significance.

- **Environmental Values:** Environmental values include those areas or features of the environment that directly or indirectly influence current traditional land and resource use; further, environmental values may also inform practices, beliefs, and behaviours that guide citizens in how they use the land and resources around them.

### **Non-Traditional Land and Resource Use**

Non-traditional land and resource use is discussed as eight sub-topics, including:

- **Land Use Planning – including permits and tenures:** The types and designation of land uses by municipal or First Nation government.
- A land use permit is required when a specific land use activity is proposed (Government of Northwest Territories n.d.) Examples of activities that require a land use permit include conducting geotechnical studies, oil and gas exploration and production, and construction of a bridge crossing (YG 2013 g).
- **Water Licences:** The Yukon Water Board (YWB) is an independent body created to support the *Waters Act*, sY 2003, c. 19, and the Water Board Secretariat (Yukon Water Board n.d.). The YWB is responsible for issuing water licences for the use of water and the deposit of waste into water (YG 2014g). The YWB issues Type A and Type B Water Licences.
- **Game Management:** Environment Yukon defines Game Management Areas (GMAs) as “legal boundaries that define an area within which big game management objectives can be met through the setting of area specific regulations. In other words, GMAs are used to manage Yukon wildlife species.”
- **Guide Outfitting:** Environment Yukon defines Outfitter Concessions as: “...legal boundaries that define an area where the holder of the concession has the exclusive right to outfit non-residents for the purpose of hunting big game animals (excepting special guiding licenses). If a non-resident wishes to hunt in the Yukon they must do so accompanied by a Yukon resident – either a private individual who does this for free, or a commercial operator who does this as a business (an outfitter).” Neither the proposed NAR nor the Project footprint current fall within an Outfitter Concession.
- **Subsistence Harvesting:** Subsistence harvesting is defined as hunting, trapping, fishing, and harvesting of edible plants and berries.
- **Parks and Protected areas:** Parks and protected areas are regions that are protected due to the significance of their natural, ecological, and other values (IUCN 2012). These protected areas are legally restricted from development or use, purposed solely for environmental conservation (Environment and Climate Change Canada 2016).
- **Resource Development:** Resource development refers to mineral resource development, forest management, and oil and gas development.
- **Utilities:** Utilities refers to the provision of energy and water supplies to communities and municipalities.
- **Forestry:** Forestry refers to the harvesting of forest resources.
- **Recreation and Tourism:** Tourism and recreation opportunities fall under this topic.

## **8.2 LAND AND RESOURCE USE STUDY AREA**

This section describes the study areas for the two Land and Resource Use topics, current traditional land and resource use and non-traditional land and resource use. The spatial boundaries for the Land and Resources are summarized in **Table 8-1**.

### **8.2.1 Current Traditional Land and Resource Use**

Current traditional land and resource use includes those activities conducted by First Nation citizens. The types of land and resource activities conducted for traditional purposes may differ between First Nations.

#### ***8.2.1.1 Local Study Area***

The current traditional land and resource use LSA is defined as the established or asserted Traditional Territory of the TH, SFN, FNNND, and WRFN located within a 1km area on either side of the Project footprint (**Figure 8-1**).

#### ***8.2.1.2 Regional Study Area***

The RSA, which encompasses the LSA, is established to provide a regional context for the analysis. The RSA for current traditional land and resource use is defined as the entire Traditional Territory of the TH, SFN, FNNND, and the entire asserted territory of the WRFN, as this area provides context for the LSA (**Figure 8-1**).

### **8.2.2 Non-traditional Land and Resource Use**

#### ***8.2.2.1 Local Study Area***

The LSA for non-traditional land and resource use is defined as a 1 km buffer from the Project footprint, inclusive of any land-use designations (for example, trap line concessions, game management areas or placer claims) which overlap this area (**Figure 8-2**).

#### ***8.2.2.2 Regional Study Area***

The RSA, which encompasses the LSA, is established to provide a regional context for the data included in the LSA. The RSA encompasses the Game Management Subzones that overlap the Project footprint, and provides sufficient context for the land and resource uses within the LSA.

**Table 8-1 Summary of Land and Resource Use Spatial Boundaries**

Component	Topic	Local Study Area	Regional Study Area
Land and Resource Use	Current Traditional Land and Resource Use	The established or asserted Traditional Territory of each First Nation located within 1km on either side of the Project footprint. These First Nations include the TH, SFN, FNNND, and WRFN.	The area that encompasses the entire established Traditional Territory of TH, SFN, and FNNND, and the entire asserted territory of the WRFN.
	Non-traditional Land and Resource Use	1 km buffer either side of the Project footprint.	Game Management Subzones <sup>1</sup> overlapping the Project footprint.

**Note:** 1 - RSA defined as game management areas to provide regional context, however some areas that are discussed fall outside of the RSA.

# COFFEE GOLD MINE

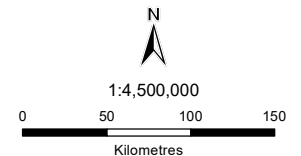
## Study Areas for Traditional Land Use

### Legend

-  Highway
-  National/International Border
-  Project Footprint
-  Local Study Area
-  Regional Study Area
-  White River First Nation<sup>2</sup>
-  Tr'ondëk Hwëch'in
-  Selkirk First Nation
-  First Nation of Na-cho Nyäk Dun
-  SFN Category B Lands

### Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. The WRFN traditional territory boundary represented in this figure presents the recognized traditional territory under the UFA. This is not the WRFN asserted territory which WRFN recognizes.



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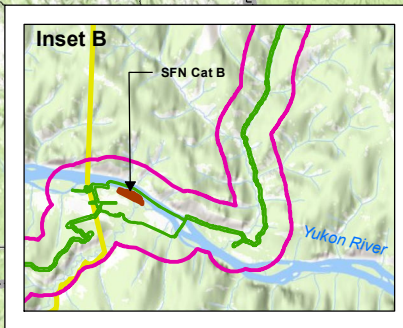
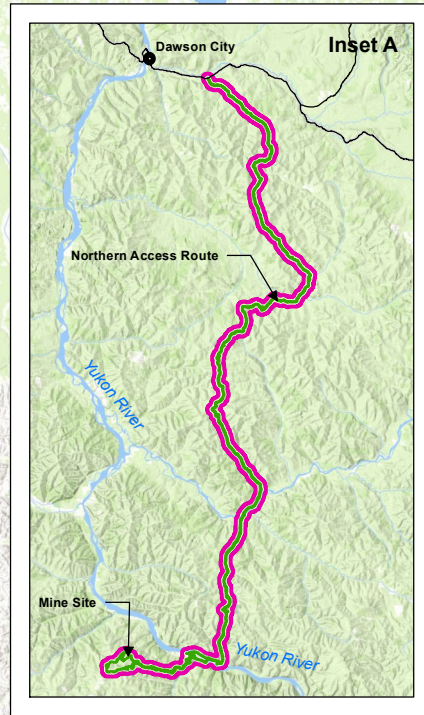
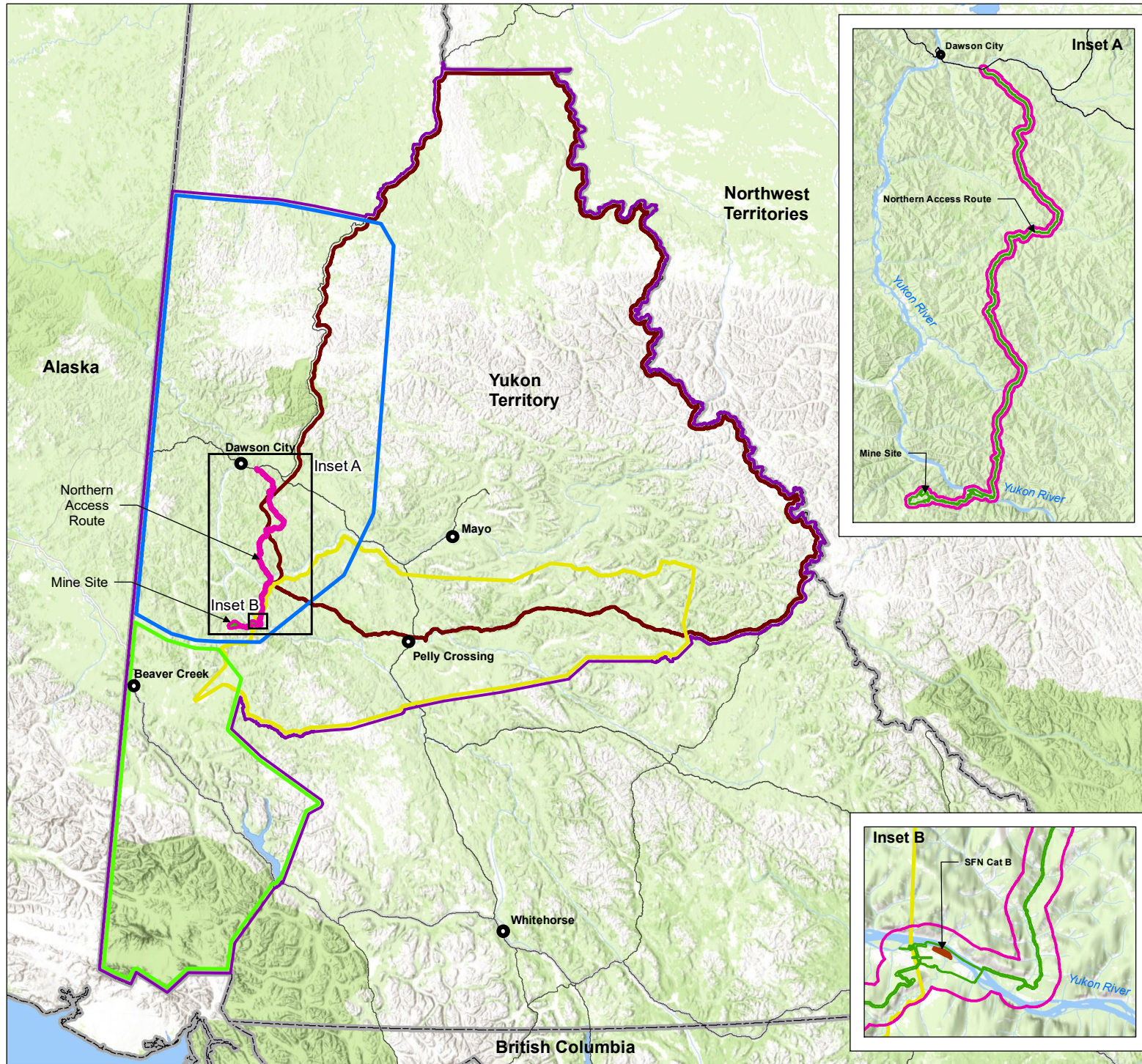
Figure 8-1

Date:  
Mar 22, 2017

Drawn by:  
JS

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COFFEE GOLD MINE

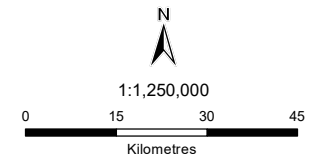
Study Areas for  
Non-Traditional Land Use

Legend

-  Highway
-  National/International Border
-  Project Footprint
-  Local Study Area
-  Regional Study Area

Notes

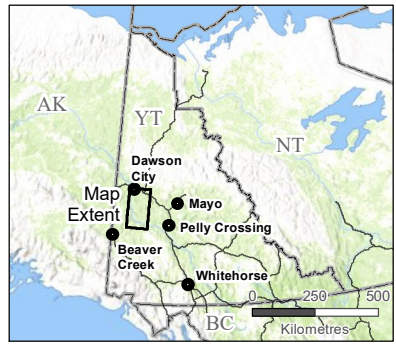
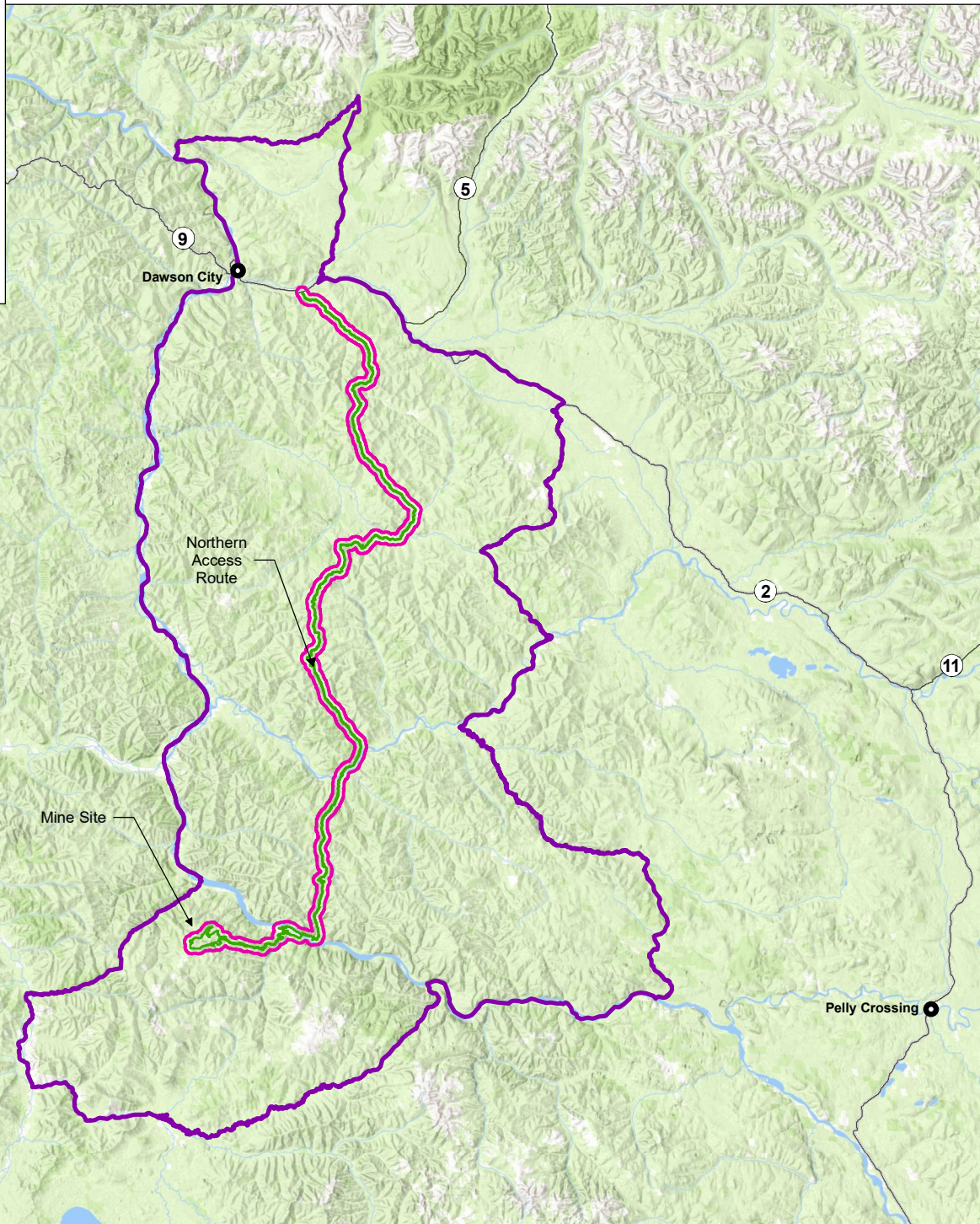
1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Game Management Area Data provided by Government of Yukon, 2016  
<ftp://ftp.geomaticsyukon.ca/GeoYukon/Base/>



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Figure 8-2	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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Alaska

Mine Site

Northern  
Access  
Route

Dawson City

Pelly Crossing

Beaver Creek

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### 8.3 LAND AND RESOURCE USE INFORMATION SOURCES

#### 8.3.1 Desktop Research

##### 8.3.1.1 Current Traditional Land and Resource Use

Publicly accessible reports related to current traditional land and resource use, along with any related reports, documents, and studies provided by LSA First Nations were used to describe the existing conditions for current traditional land and resource use (**Table 8-2**). In addition to the sources summarized in **Table 8-2**, the Project’s TK database was also used as a data source to identify relevant traditional economic information for each of the LSA First Nations. This TK database presented information from 35 TK and traditional land use-related references.

##### 8.3.1.2 Non-traditional Land and Resource Use

Publicly accessible reports related to non-traditional land and resource use were compiled to describe all non-traditional land and resource uses that overlap the LSA as described above. Documents included local management plans; tenures; forestry management plans; hunting, trapping, and guide outfitting information; fishing; recreation and tourism; permits, licences; and land tenure descriptions. These secondary data sources are summarized in **Table 8-2**.

**Table 8-2 Summary of Key Land and Resource Secondary Data Sources**

Topic	Secondary Data Sources
<p><b>Current Traditional Land and Resource Use</b></p>	<ul style="list-style-type: none"> <li>• Bates, P., DeRoy, S., The Firelight Group, with White River First Nation. 2014. White River First Nation Knowledge and Use Study (For Kaminak Gold Corporation)</li> <li>• Calliou Group. 2012a. Baseline Community Harvest Study 2011 – 2012 Foothills (TransCanada) Alaska Highway Pipeline Project, White River First Nation (Final Report, August 2012).</li> <li>• Calliou Group. 2012b. RE: Letter Report- Mini-Project-Specific Traditional Land Use Study White River First Nation for the Tarsis Resources White River Property (“Project”), June 15, 2012.</li> <li>• Calliou Group. 2012a. Baseline Community Harvest Study 2011 – 2012 Foothills (TransCanada) Alaska Highway Pipeline Project, White River First Nation (Final Report, August 2012).</li> <li>• Dobrowolsky, D. 2014. Compilation of Information relating to Coffee Creek/ White River Areas (January 2014). Prepared for Kaminak Gold Corp.)</li> <li>• Easton, N.A., Kennedy, D., and R. Bouchard. 2013. WRFN: Consideration of the Northern Boundary (09 September 2013 Draft Report)</li> <li>• Mease, A.M. 2008. Once the Land is for Certain: The Selkirk First Nation Approach to Land Management, 1997-2007. M.A. Thesis, University of Saskatchewan, Saskatoon, Saskatchewan.</li> <li>• Tr’ondëk Hwëch’in (TH). 2012a. Tr’ondëk Hwëch’in Resource Report - Appendix “C”. Submitted to the Dawson Regional Land Use Planning Commission.</li> </ul>

Topic	Secondary Data Sources
<b>Current Traditional Land and Resource Use (cont'd)</b>	<ul style="list-style-type: none"> <li>• Roburn, S, and Tr'ondëk Hwëch'in Heritage Department. 2012. Weathering Changes: Cultivating Local and Traditional Knowledge of Environmental Change in Tr'ondëk Hwëch'in Traditional Territory. Arctic 65(4).</li> <li>• Yukon Environmental and Socio-economic Assessment (YESAB). 2012. Designated Office Evaluation Report: White River – Quartz Exploration Project Number: 2012-0080.</li> </ul>
<b>Non-Traditional Land and Resource Use</b>	<ul style="list-style-type: none"> <li>• The City of Dawson and Tr'ondëk Hwëch'in. n.d. After the Gold Rush: The Integrated Community Sustainability Plan, Volume I: The City of Dawson and Tr'ondëk Hwëch'in Community Vision.</li> <li>• Government of Yukon (YG). 2016i. Maps. Outfitter Concessions.</li> <li>• Government of Yukon (YG). 2016j. Energy, Mines and Resources. Guide to Common Yukon Mushrooms.</li> <li>• Government of Yukon (YG). 2016k. Energy, Mines and Resources. Minerals.</li> <li>• Government of Yukon (YG). 2016l. Forest Management Plans.</li> </ul>

### 8.3.2 Primary Research

#### 8.3.2.1 Current Traditional Land and Resource Use

##### ***Traditional Knowledge and Land Use Studies Conducted***

Please see **Section 8.3.1** for a detailed description of these studies.

##### ***Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Focus Group***

Please see **Section 5.3.2.4** for a detailed description of this focus group.

##### ***Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Foods Survey***

Please see **Section 5.3.2.3** for a detailed description of this survey.

##### ***Interviews***

**Section 2.1** presents the detailed methodology use to conduct semi-structured information interviews related to current traditional land and resource use. These interviews were conducted with representative citizens and government departments to enhance the understanding of and confirm desktop research findings (**Table 8-3**). Information related to the current traditional land and resource use were discussed in addition to related socio-economic factors that influence these conditions.



**Table 8-3 Summary of Current Traditional Land and Resource Use Interviews**

No.	Organization	Date of Interview	Method of Contact
1	Tr'ondëk Hwëch'in Heritage Department	February 10, 2016	In-person Interview
		March 1, 2016	In-person Interview
		March 9, 2016	Phone Interview
2	RTC Holder	February 10, 2016	In-person Interview
3	Tr'ondëk Hwëch'in Lands and Resources Branch of the Natural Resources Department	February 11, 2016	In-person Interview
4	RTC Holder	February 29, 2016	In-person Interview

### **8.3.2.2 Non-traditional Land and Resource Use**

Primary research was conducted across event organizers, tourism operators, road users, and individual interviews.

#### **Organized Events**

Letters were sent by email on January 29, 2016 to event organizers who were identified as conducting current activities near the Project. In total, three letters were sent, which shared Project information and invited event organizers to arrange an interview to discuss current land and resource use. These event organizers included:

- Yukon River Quest
- Yukon Arctic Ultra
- Trans Canada Trail.

In total, one organized event-related interview was conducted.

#### **Tourism Operators**

Letters were sent by email on February 9, 2016 to tourism operators who were identified as having potential current business activities in the vicinity of the Project. In total, nine letters were sent, which shared Project information and invited tourism operators to arrange an interview to discuss current land and resource use.

In total, two tourism related interviews were conducted.

#### **Road Users Focus Groups**

Road users focus groups were held in Vancouver, at the Hemmera Envirochem Inc. (Hemmera) office from 10:00 a.m. – 12:00 p.m. on February 24, 2016, and in Whitehorse at the Westmark Hotel from 10:00 a.m. – 12:00 p.m. on February 24, 2016. The focus group scheduled for Dawson February 29, 2016 was cancelled due to unforeseen travel complications.

Using the Geographic Information System, all individuals and organizations with interests located within 1 km of the NAR were identified; specifically:

- Placer claims
- Quartz claims
- Water licenses
- Road users
- Land permits.

Letters were sent to each of these individuals and organizations to share Project information and figures, which depicted the interaction with the NAR and the respective individual's or organization's interests. In total, 165 letters were sent to road users on February 7, 2016. Using 'snowball sampling'<sup>18</sup>, additional individuals and organizations were identified and were sent an individual communication to engage them in the study.

The focus groups followed a semi-structured format whereby open-ended questions were posed to the group for discussion. The main topics included:

- Current personal safety and security of road users
- Environmental concerns of road users
- The economic contribution of each road user's interest(s) to their overall livelihood.

### **Interviews**

Semi-structured information interviews were conducted with stakeholders (**Table 8-4**) to enhance understanding of desktop research findings. For more details regarding interview methodology, please see **Section 2.1**. Information related to non-traditional land and resource use was discussed in addition to related socio-economic factors that influence these conditions.

**Table 8-4 Summary of Interviews Conducted for Non-traditional Land and Resource Use**

No.	Organization	Date of Interview	Method of Contact
1	Dawson District Conservation Officer	February 10, 2016	Phone Interview
2	RTC* Holder #115	February 10, 2016	In-person Interview
3	RTC Holder #58	February 11, 2016	In-person Interview
4	Yukon Wide Adventures	March 22, 2016	Phone Interview
5	Yukon River Quest	March 23, 2016	Phone Interview

\* RTC = Registered Trapping Concession

<sup>18</sup> Snowball sampling or chain sampling is a non-probability sampling technique where existing study subjects recruit future subjects from among their acquaintances.

### **8.3.3 Data Limitations**

#### ***8.3.3.1 Current Traditional Land and Resource Use***

Primary research was not conducted with all First Nations in the LSA, nor were Project-specific current traditional land and resource use studies conducted or provided by all LSA First Nations. The authors of this study were limited to obtaining publicly accessible secondary data, data gathered through primary research activities, and data provided to them by TH and WRFN. The Proponent attempted to engage with all First Nations to gather current traditional land and resource use data (see Section 3.0 Consultation), however SFN had not completed Project specific traditional land and resource use studies in 2016. It is important to note that an absence of data does not necessarily indicate an absence of use or value.

#### ***Representative Harvesting Data***

Accurate Aboriginal subsistence and harvesting data can be challenging to document. One of the factors contributing to this challenge is that Aboriginal harvesters are often not required to report game harvests (Interview 13, Pers. Comm. 2016, Calliou Group 2012a).

Another contributing factor to the challenge of obtaining representative harvesting data is that Aboriginal harvesters typically harvest a diverse array of resources. Some resources are more challenging to estimate quantities than others. For example, in a WRFN Community Harvest Study researchers found that harvesters had a very challenging time estimating the quantity of berries gathered, and found it “nearly impossible” to estimate quantities of bark or roots harvested (Calliou Group 2012a). Thirdly, obtaining representative subsistence harvesting data of an entire First Nation can be especially challenging given the typical schedule and budget constraints of harvest studies. In addition, harvest studies may be seasonally biased; have only a single year of harvesting data rather than a multi-year study; or engage identified active harvesters in a Nation, thus influencing the accuracy and representativeness of presented data (Calliou Group 2012a).

These data limitations are not described with the intent of devaluing the qualitative and quantitative data for Aboriginal subsistence harvesting; rather, they are acknowledged so that readers can appreciate the complexity in conducting this type of research. Subsistence harvesting studies can provide a reliable data source that can be used to understand different situations and trends (Calliou Group 2012a).

#### ***8.3.3.2 Non-traditional Land and Resource Use***

Limited primary data within the LSA were available as described above.

The WRFN has reported that, for non-traditional land and resource use, the lack of definition regarding their asserted right to make land use decisions within their asserted Traditional Territory also limits data collection. White River First Nation indicated that If this asserted right was defined, it might be expressed in a WRFN land use plan, non-traditional land use objectives, and preferred future non-traditional land uses

to which the WRFN asserts entitlement (as expressed in the WRFN review comments on the May 12, 2016 draft of Human Environment Baseline Report).

## **8.4 LAND AND RESOURCE USE RESULTS AND DISCUSSION**

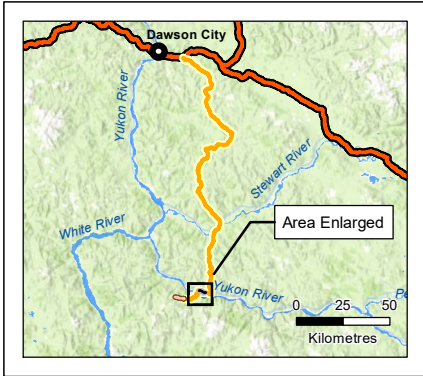
### **8.4.1 Current Traditional Land and Resource Use**

#### ***Coffee Creek***

Coffee Creek flows into the Yukon River near the Project's Mine Site and the Yukon River barge crossing (**Figure 8-3**). This area is characterized by unglaciated terrain and such associated landscape features as "narrow V-shaped valleys and bare ridges" that contribute to this area being well suited for travel, hunting, and camping (Dobrowolsky 2014). Coffee Creek was a major gathering place for the Hän, Upper Tanana, and Northern Tutchone people (Tr'ondëk Hwëch'in 2012b). Some of the specific land and resources uses known to have historically taken place at Coffee Creek include gathering flint, making tools, and salmon fishing; further, such cultural and spiritual sites as burial places and historical dwelling locations are known at Coffee Creek (Tr'ondëk Hwëch'in 2012b). Through the collaborative Coffee Creek Traditional Knowledge Survey (2012), it was identified through collective contributions that "...the Coffee Creek area boasts an abundance of animals and plant life, which has helped to support Yukon people, traditionally and today" (Tr'ondëk Hwëch'in 2012b, p.41).

Archaeological evidence indicates that Aboriginal use of the Coffee Creek area occurred during the Late Pleistocene to the Late Holocene period (Bates et al. 2014) (see **Appendix 26-A Heritage Resources VC Assessment Report**). Tr'ondëk Hwëch'in (2012b) describe the Coffee Creek area as an area used as a small temporary hunting camp for several thousands of years. As Aboriginal groups were organized differently in the past from how they are recognized today, several First Nations share the historical, cultural, and spiritual significance of the Coffee Creek area to their ancestors. These First Nations include the four LSA First Nations, TH, SFN, FNNND, and the WRFN (Tr'ondëk Hwëch'in 2012b).

The following results and discussion section presents historic and current traditional land and resource use data to provide context and understanding of each First Nation's current traditional land and resource use. Any First Nation may choose to conduct traditional pursuits in the Coffee Creek area in the future, and the following descriptions of past and current locations do not necessarily influence where activities may be conducted in the future.



**COFFEE GOLD MINE**

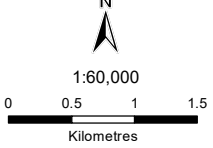
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**Coffee Creek Area**

- Legend**
- Watercourse
  - ← Flow Direction
  - Barge Landing
  - Yukon River Barge Route
  - Yukon River Ice Road
  - Winter Road
  - Northern Access Route

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



NAD 1983 UTM Zone 7N  
Page Size: 8 1/2" x 11"

Figure 8-3	Date: Mar 20, 2017	Drawn by: JS	Reviewed: DP
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Path: O:\116001658\003\01\mxd\hrd\human\Environment\Baseline\Figs\_3\_1658\_003\_01\_CC\_1703107.mxd



Photo courtesy of Tr'ondëk Hwëch'in in 2012b, p. 3

**Photo 8-2 Coffee Creek homestead from the air**



Photo courtesy of Tr'ondëk Hwëch'in in 2012b, p. 3

**Photo 8-3 The mouth of Coffee Creek, flowing into the Yukon River**

#### **8.4.1.1 Tr'ondëk Hwëch'in Current Traditional Land and Resource Use**

People had many camps and cabins which were used as centre points for their larger individual and family hunting and trapping territories. This is true today as well. It is important to remember that tangible resources like cabins, hunting blinds, trails, caches, camps, and graves are all markers on the land that speak to traditional land use. The value of highest priority to our Elders – the ability to be active stewards of the land in traditional ways -- cannot be mapped (Tr'ondëk Hwëch'in 2012a).

Tr'ondëk Hwëch'in current traditional land and resource use is interconnected with all aspects of TH culture. From TH traditional knowledge and the traditional economy to traditional lifestyles and values, the land and resources are inherently linked (Tr'ondëk Hwëch'in 2012a). Current traditional land and resource use has evolved from generation to generation in response to environmental, cultural, and social changes. Today, traditional land and resource use is practised and transmitted by TH citizens, who collectively represent a diverse range of interests, which include: hunters, fishers, gatherers, trappers, gardeners, homesteaders, miners, and heritage site caretakers among others (Tr'ondëk Hwëch'in 2012a). These knowledge holders not only currently conduct land and resource use activities for traditional purposes, they also understand the holistic, interconnected aspects of the environment around them. As described by one TH citizen, "...knowing a territory is not memorizing where things are but understanding how things relate to each other" (Tr'ondëk Hwëch'in 2012a, p. 35).

#### **Habitation**

Tr'ondëk Hwëch'in has used its Traditional Territory for habitation related purposes for thousands of years (Ecofor 2012). Coffee Creek was an important gathering place for TH in the past (Yukon River Commercial Fishing Association and Tr'ondëk Hwëch'in 1997). A TH Elder shared that people would travel to Coffee Creek and spend the summers there (Tr'ondëk Hwëch'in 2012b). <sup>[name redacted]</sup> further explained that people came to this area for the same reason it is valued today – it has good food sources and a good camp location:

You, ah, Tr'ondëk Hwëch'in come down the Stewart and then Selkirk people come down uh, and Beaver Creek people come down, Northway people come down, one big powwow. So they have the holiday there before they go back to...you see what they do, they meet and they enjoy it, get to know each other again, Hän people go back to Klondike to get ready to fish. Selkirk, I don't know what they do, but they gotta go back and all these people gotta, I (inaudible) think they fishin', eh? So they get ready for winter. Yeah, so...well, like they go on forever, I guess. They prepare the lifecycle, eh? Fishing, dry meat, dry moose, hunt and dry, pick berries, dry, -ibid, p. 17 (Tr'ondëk Hwëch'in 2012b, p.32).

One of the reasons that contributed to TH citizens going to Coffee Creek was that it was a steamboat stop along the Yukon River where steamboats would stop for wood. The names of several TH citizens were shared during interviews about Coffee Creek's role as a steamboat stop (Tr'ondëk Hwëch'in 2012a).

Tr'ondëk Hwëch'in elder [name redacted] remembers stopping at Coffee Creek when he worked on a freight boat on the Yukon River in the 1950s (Tr'ondëk Hwëch'in 2012b).

Coffee Creek was identified by TH citizens as being a place where citizens historically camped. They explained that people would camp below Coffee Creek beside the slough located next to the small ridge, as in this area the ridge protected the camp from high water (Tr'ondëk Hwëch'in 2012b). In addition to being a camp location that was used temporarily by individuals, Coffee Creek was also a settlement. Relatives of TH citizens are known to have lived at Coffee Creek in homes (Tr'ondëk Hwëch'in 2012b).

Tr'ondëk Hwëch'in citizens continue to live on the land at different times of the year, in areas that overlap the Project Footprint (Interview 14, Pers. Comm. 2016, Interview 22, Pers. Comm. 2016).

### ***Transportation***

Efficient transportation is an integral part of a functioning economy, including the TH traditional economy (Tr'ondëk Hwëch'in 2012a). Historically, TH are known to have used the rivers and creeks across their Traditional Territory, as well as overland routes, to travel in accordance with the season and conduct different subsistence activities (Dobrowolsky and Hammer 2001). The area along the Yukon River close to Coffee Creek area is valued by TH, in part, because it contributes to an extensive traditional transportation network (Tr'ondëk Hwëch'in 2012b).

The Coffee Creek area is valued by TH, in part, because it contributes to an extensive traditional transportation network (Tr'ondëk Hwëch'in 2012b). Among the historic overland routes that connected Coffee Creek was a pack trail that connected White River, in the direction of Wellesley Lake (Tr'ondëk Hwëch'in 2012a). This network facilitated more than transport across the land; it facilitated such other integral values as cultural practises and relationships. These values continue to influence TH's culture, values, and worldview today as they did in the past. The Coffee Creek area is valued, in part, because it contributes to an extensive traditional travel network (Tr'ondëk Hwëch'in 2012b).

Today, TH citizens tend to travel by motor vehicles, snow machines, and boats (Interview 22, Pers. Comm. 2016; Interview 14, Pers. Comm. 2016, Tr'ondëk Hwëch'in 2012a). Most contemporary traditional land and resource use tends to occur in accessible areas along roads and rivers (Tr'ondëk Hwëch'in 2012a). More specifically, river corridors including the Yukon and Stewart as well as traditional trails were identified as being of high value to TH for transportation-related purposes (Tr'ondëk Hwëch'in 2012a). One TH citizen shared how in areas currently without roads, it is preferred to use boats in the summer to bring supplies and materials, as it is more economical than by snowmobile since you can bring more materials per trip (Interview 14, Pers. Comm. 2016).



## ***Subsistence***

The land and resources across TH's Traditional Territory have been providing for their subsistence needs for thousands of years (Ecofor 2012); this includes hunting, trapping, fishing, and plant gathering. Seasonal rounds were dictated by the seasons of different subsistence activities. In the summer and fall, people worked to gather and preserve food for the winter, including fish and berries (Dobrowolsky 2014). More detail regarding the subsistence activities that TH conducts are described in the following section.

### ***Hunting***

Traditionally, the Hän focused on hunting during the fall and winter, moving across the landscape to hunt targeted species (Dawson Indian Band 1988). One contributor to the Coffee Creek Traditional Knowledge Survey remembered their father sharing that people used to live and hunt at Coffee Creek (Tr'ondëk Hwëch'in 2012b). Some species that were identified as being historically hunted in the Coffee Creek area include moose, caribou, gopher, beaver, and grouse (Tr'ondëk Hwëch'in 2012a). The two annual migrations of caribou were important for the food and materials that they provided to TH citizens (Dobrowolsky and Hammer 2001). Hunting moose and caribou has been described as supporting the "...preservation of the TH culture, tradition, and lifestyle" (Tr'ondëk Hwëch'in 2012a, p. 24).

Moose are currently hunted by TH citizens in the Coffee Creek area (Interview 14, Pers. Comm. 2016). More than just a food source to TH, moose are also used to provide traditional supplies, tools, and clothing. Being able to hunt moose not only affects the traditional diet of TH citizens, it also affects their ability to maintain their traditional lifestyle, identity, and culture (Tr'ondëk Hwëch'in 2012a).

Sheep are currently present in the Coffee Creek area, though the TH citizen who shared this observation noted that they do not hunt sheep themselves (Interview 14, Pers. Comm. 2016). Both grizzly and black bears are currently present in the Coffee Creek area, as well as caribou (Interview 14, Pers. Comm. 2016).

Additional species that are currently hunted in the Coffee Creek area include small game (e.g., porcupine and beaver) (Tr'ondëk Hwëch'in 2012b). A list of currently hunted wildlife species in the Coffee Creek area was compiled, including: Fortymile woodland caribou, moose, wolves, bears, thinhorn sheep, and ptarmigan (Tr'ondëk Hwëch'in 2012b).

### ***Trapping***

Trapping is an important traditional use activity that continues to be of importance to TH people. Though traps and snares were identified in interviews, the method of trapping used depends, in part, on personal preference as well as the type of trapping being conducted (Interview 22, Pers. Comm. 2016).

Tr'ondëk Hwëch'in citizens may trap furbearers for subsistence or material-related purposes. It is noted that some furbearers such as fox, otter, and lynx were only eaten by TH people during times of hunger (Dawson

Indian Band 1988). Though not all TH citizens who trap eat the meat from furbearers, many Elders still enjoy eating this traditional food today (Interview 22, Pers. Comm. 2016).

Trapping season is influenced by the warming weather conditions currently being experienced in the north. One TH citizen notes that trapping is conducted from approximately November to January, depending on such factors as cold snaps and snow. An indicator used by trappers to demark the beginning of trapping season is freeze up, as access is increased once freeze up occurs (Interview 22, Pers. Comm. 2016). The quality of fur is related to the diet of the furbearer as well as how cold the winter weather is. One TH citizen notes that the colder the winter, the better the fur (Interview 22, Pers. Comm. 2016).

Though trapping may be conducted in the winter, trapping-related activities are conducted year-round by TH citizens. One trapping concession holder shared how in the summer they spend time cutting trails for trapping, monitoring conditions, and spending time on the land as part of their trapping activities (Interview 14, Pers. Comm. 2016).

Tr'ondëk Hwëch'in citizens are known to currently and historically use the Coffee Creek area for trapping (Interview 14, Pers. Comm. 2016; Dobrowolsky 2014; Tr'ondëk Hwëch'in 2012a). A list of wildlife species that continue to be traditionally and currently used from the Coffee Creek area was compiled, and included the following species, which may be of interest to trappers: lynx, snowshoe hare, marten, muskrat, and rabbit (Tr'ondëk Hwëch'in 2012b). Species currently trapped by TH citizens in the Coffee Creek area include marten, lynx, and wolverine (Interview 14, Pers. Comm. 2016).

Currently, TH citizens have RTCs that overlap with the Project. These citizens have shared that in addition to trapping-related value, their trapping concessions are of significant value to them because of the land, culture, and heritage that these areas represent (Interview 14, Pers. Comm. 2016). Some of the species currently hunted by TH citizens include marten (or sable), beaver, lynx, fox, wolf, and weasel (Interview 22, Pers. Comm. 2016).

### ***Fishing***

Fish and fishing have always been central components of Hän and TH culture and identity (Dawson Indian Band 1988). King (chinook) salmon and dog (chum) salmon were recognized in the past as one of the most important and prized food resources of the Hän, though grayling, northern pike, and burbot were also important (Mishler and Simeone 2004; Dobrowolsky and Hammer 2001; Dawson Indian Band 1988).

Coffee Creek is well known for being a historically important fishing location. Elders share that Coffee Creek is an important salmon spawning area, and in the past, people could drive boats up and down the creek (Tr'ondëk Hwëch'in 2012a). Tr'ondëk Hwëch'in would travel to Coffee Creek to fish. Several types of fish are fished in the Coffee Creek area including chinook and chum salmon, whitefish, and grayling (Tr'ondëk

Hwëch'in 2012b). The fish camp was historically located above the mouth of Coffee Creek (Tr'ondëk Hwëch'in 2012b).

Salmon (both chinook and chum) remain a valuable resource to TH. Every summer TH families go to their family fishing location and work together to harvest salmon. It is a busy time of year which citizens look forward to; though the current quality and quantity of salmon is a concern of TH citizens (Tr'ondëk Hwëch'in 2012b).

Tr'ondëk Hwëch'in citizens currently fish on the Yukon River, including the Coffee Creek area (Interview 22, Pers. Comm. 2016). Some TH citizens identified that they have fish camps along the Yukon River (Interview 14, Pers. Comm. 2016). Some of the species fished by TH citizens in the Yukon River and waterways in the Coffee Creek area include salmon, whitefish, grayling, and pike (Interview 14, Pers. Comm. 2016). One of the features in the Yukon River that makes the Coffee Creek an attractive area to fish are the eddies located in the area (Interview 14, Pers. Comm. 2016).

### ***Plant Gathering***

Plants are currently used by TH citizens for subsistence, medicinal, and material-related purposes (Interview 14, Pers. Comm. 2016, Interview 22, Pers. Comm. 2016). Traditional medicines are currently used by TH citizens, and are preferred over western medicines by many Elders (Tr'ondëk Hwëch'in 2012b).

Plants are an important part of the current TH traditional diet (Dobrowolsky and Hammer 2001). Edible plants harvested in the past, as well as present, from the Coffee Creek area include blueberries, kinnikinnick (bearberry), crowberry, and Labrador tea (Tr'ondëk Hwëch'in 2012b). Additional types of berries identified by citizens as being currently picked in the Coffee Creek area include blackcurrant, raspberries, high bush cranberries, low bush cranberries, and strawberries (Interview 14, Pers. Comm. 2016). Tr'ondëk Hwëch'in citizens also report picking berries in the Solomon Dome area (Interview 22, Pers. Comm. 2016).

Medicinal plants are also currently gathered by TH citizens in the Coffee Creek area (Interview 14, Pers. Comm. 2016). This includes such medicinal plants as caribou moss (also known as reindeer lichen) (Interview 14, Pers. Comm. 2016).



Photo courtesy of Tr'ondëk Hwëch'in

**Photo 8-4 Kinnikinnick**

### ***Cultural and Spiritual Values***

"We need to protect the land because it feeds us...the land is spiritual" Tr'ondëk Hwëch'in 2012b, p. 40.

The culture and spirituality of TH has been intrinsically connected to the First Nation's Traditional Territory for thousands of years (Ecofor 2012). The Coffee Creek valley was suggested by TH to be considered as a protected corridor, in part, because of the cultural value that it reflects (Tr'ondëk Hwëch'in 2012b). This is demonstrated in a multitude of ways, including a TH traditional song about Coffee Creek (Tr'ondëk Hwëch'in 2012a).

Coffee Creek is of cultural and spiritual importance to TH, as it is known as a birth and burial place for many citizens (**Photo 8-5**). Several contributors to the Coffee Creek Traditional Knowledge Survey recounted the names of friends and family who are buried at Coffee Creek (Tr'ondëk Hwëch'in 2012b).

Coffee Creek was an area where cultural and spiritual activities were conducted in the past. In the area around Coffee Creek, such cultural events and activities as powwows, dances, celebrations, and potlatches were known to occur (Tr'ondëk Hwëch'in 2012b, p. 17, 2012a). Further, Coffee Creek was known as a tool-making site (Tr'ondëk Hwëch'in 2012b).



Photo courtesy of Tr'ondëk Hwëch'in, 2012b, pg. 5

**Photo 8-5 Spirit house marking a grave at Coffee Creek**

Living and spending time on the land is a lifestyle choice, one that some TH citizens continue to choose today (Interview 14, Pers. Comm. 2016). Spending time in a specific area over several years and from generation to generation contributes to the significance that these areas represent from a cultural and spiritual perspective (Interview 14, Pers. Comm. 2016). Current traditional land and resource use are also important to the health and well-being of TH citizens. Being able to go out on the land, harvest traditional foods, practice all the knowledge and skills that one's parents have taught, and share that knowledge with younger members of a family all contribute to the well-being of TH citizens (Interview 22, Pers. Comm. 2016).

Coffee Creek and the surrounding area continue to be a place of cultural and spiritual importance to TH citizens. In an interview with a TH citizen they explained that their RTC<sup>19</sup> is an area that is sacred to them (Interview 14, Pers. Comm. 2016). Tr'ondëk Hwëch'in citizens shared how the practice of conducting traditional use activities fostered important time spent together as a family. Whether working together to process meat and materials from animals, sharing traditional knowledge with family members, or teaching children traditional skills and values out on the land, current traditional land and resource use is itself an integral current cultural value (Interview 14, Pers. Comm. 2016, Interview 22, Pers. Comm. 2016).

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<sup>19</sup> Tr'ondëk Hwëch'in citizens currently hold RTCs, which overlap with the Project Footprint, and which they use for trapping and other purposes.

### ***Environmental Values***

Tr'ondëk Hwëch'in environmental values are intrinsically linked to their worldview and appreciation for the holistic, interconnected environment across their Traditional Territory's landscape.

...while we must acknowledge the importance of the specific cultural and environmental sites detailed within this report, we must also recognize that the value of the Coffee Creek region transcends these particular sites and encompasses all of the plants, water, land and wildlife that inhabit or travel through the area. One animal, plant, or heritage site cannot be valued over another, nor can they be viewed in isolation. The Coffee Creek region must be seen as an interconnected whole, which is in turn, part of the larger Tr'ondëk Hwëch'in Traditional Territory. It is essential that anyone working in the region considers this worldview when evaluating the impacts of their actions on the Coffee Creek region (Tr'ondëk Hwëch'in 2012b, p. 39).

Environmental integrity is very important to TH. One TH citizen notes that in the winter, when they go out on the land to trap, the land does not appear disturbed even though they are trapping in a historically disturbed placer mining area. They explain that the land is quiet and not disturbed (Interview 22, Pers. Comm. 2016). One TH citizens shared that when the land is disturbed it affects the desirability to continue using that area (Interview 14, Pers. Comm. 2016). Current anthropogenic activity on the land has been observed by TH citizens to be affecting the health of animals. This includes such observations as the noise from helicopters disturbing moose cows with calves (Tr'ondëk Hwëch'in 2012b).

The environmental health and abundance of fish and wildlife are important values of TH citizens. From the information shared by TH citizens involved with this study, animals were noted to be in good health and abundance. Further, TH citizens explained how they actively manage the land and resources in areas that they use (such as traplines) in accordance with traditional land management practices and values taught to them by their parents and family members (Interview 22, Pers. Comm. 2016). This is one of the reasons that influences why the number and type of animals that citizens trap each year may vary.

The integrity of inorganic environmental components is also valued by TH. One TH elder shared that water is considered the most sacred of medicines and that streams are not isolated but are a living body that cover the whole earth. This TH elder shared that when they were younger they used to be able to stop and drink from any stream in the bush and now they can't. This is something that the next generation has lost, they shared (Tr'ondëk Hwëch'in Health, Social and Heritage Analyst – Coffee Gold Mine, Pers. Comm., 2016).

As TH citizens are highly aware of the holistic nature of the environment and the complex relationships that characterize it, they value key habitat areas that support wildlife. For example, one TH citizen shared that they value caribou moss (also known as reindeer lichen) because it is a valuable food source for caribou

(Interview 14, Pers. Comm. 2016). Other TH citizens shared that willow is valued because it is an important food source for moose (Tr'ondëk Hwëch'in 2012b).

As explained in **Section 5.4.2.1**, TH citizens do not think of the resources on their Traditional Territory in terms of their monetary value; however, TH citizens do view the animals on their territory as an economic resource that supports their traditional lifestyle and economy (Tr'ondëk Hwëch'in 2012b). These activities have been identified as important components of the “modernized traditional economy” (Tr'ondëk Hwëch'in 2012a, p. 54). In the past, caribou would cross the Yukon River in the area around Coffee Creek (Tr'ondëk Hwëch'in 2012b).

One of the reasons why Coffee Creek is of environmental value to TH is because of the rich resources that it supports. From fisheries, wildlife, and vegetation to flint, Coffee Creek was an area where all these resources could be found (Tr'ondëk Hwëch'in 2012b).

#### **8.4.1.2 White River First Nation Current Traditional Land and Resource Use**

White River First Nation members continue to actively conduct traditional land and resource use activities that contribute to all aspects of their culture and well-being. Current traditional land and resource use in the WRFN is inseparably linked to their culture, language, social organization, and practices (Calliou Group 2012a). The term ‘sense of place’ is used by the WRFN to describe this intimate relationship that they share with the land and resources. A relationship that is characterized by generations of “knowledge, history, emotion and identity with respect to place” (YESAB 2012). The WRFN understanding of ‘sense of place’ is further illustrated by the following excerpt:

It is apparent then, how a ‘sense of place’ may be subjective and unique for individuals, but similar and connected within cultural groups based on shared knowledge, history, values and experiences of place. The ability to practice subsistence harvesting activities or to travel on traditional trails are examples of use that may be important to a WRFN members, or to the collective, „sense of place” that is key to the continuation of cultural identity. ‘Sense of place’ may be of particular significance to a First Nation, even where / if traditional land use activities are not currently being practiced there (YESAB 2012, p. 60-61).

The values described in this section (i.e., habitation, transportation, subsistence, cultural and spiritual well-being, and environment) all contribute to the WRFN sense of place, as well as describe their current traditional land and resource use.

#### **Habitation**

The mouth of Coffee Creek is an important habitation area where the WRFN ancestors are known to have lived and gathered (Bates et al. 2014; Easton et al. 2013; Tr'ondëk Hwëch'in 2012b; Yukon River Commercial Fishing Association and Tr'ondëk Hwëch'in 1997). This includes both permanent dwelling sites

and temporary camping locations (Bates et al. 2014). Coffee Creek was an important place where people would come to trade (Tr'ondëk Hwëch'in 2012b). One of the busiest times of year at Coffee Creek was in the late summer when people would come to the area to fish salmon (Easton et al. 2013).

Several WRFN members shared personal accounts of family members who were born and raised at Coffee Creek in the past (Bates et al. 2014; Tr'ondëk Hwëch'in 2012b). They also expressed the importance of Coffee Creek as a gathering place, where all First Nations would gather and meet (Bates et al. 2014). Different types of gatherings at different times of year were recounted, including Christmas gathering, dances, and celebrations (Tr'ondëk Hwëch'in 2012b). *“That was my grandma. And she was born and raised that same place, there, Coffee Creek.*

... that was a place where they gathered. I heard quite a bit about that from my dad's side, my mom's side. People gathered there from the Selkirk area, and from the west area, and down all the White River area, and some up in Burwash area. It's, like, a gathering place where people gather. When I mean they gather, is when you go to Coffee Creek, other people from linguistic groups are there, too; it's just like a meeting place. You know, you don't know who you meet there, but that was one of the places that I remember where, Coffee Creek. I heard a lot about that area (W04 19-Aug-2014) (Bates et al. 2014, p. 32–33).

One Elder also explained the importance of travel and meeting spots, such as Coffee Creek, by stressing “how far people would travel on foot, just to visit each other” (Tr'ondëk Hwëch'in 2012b, p.23).

Multiple influencing factors have contributed to Coffee Creek being used less as a current habitation and gathering site, including the construction of the Alaska Highway in 1942 and the reduced use of steamboats on the Yukon River (Bates et al. 2014); however, these factors are relatively recent and within living memory. White River First Nation members explicitly expressed that Coffee Creek's current level of use as a habitation and gathering place does not reflect the value of this area. Coffee Creek remains as an important area for its habitation value, and is an area that the WRFN members have expressed interest in potentially using in the future (Bates et al. 2014).

### **Transportation**

The network of overland and water routes, which connect Coffee Creek to other settlements, gathering areas, use areas, and important sites, is one of the features that contributed to its importance as a habitation and gathering place for First Nations people (Bates et al. 2014; Easton et al. 2013). Coffee Creek was an important hub of land and water travel routes for the WRFN: “There was trails everywhere. Just everywhere. The far end connects to mountain trail or a water route, or something ... because all trails are connected. (W04 18-Aug-2014)” (Bates et al. 2014, p. 36). An elder shared that “...the trail continued from Coffee Creek all the way down to Dawson area would up to Coffee Creek in the wintertime...” (Tr'ondëk Hwëch'in 2012b, p.23). In addition to overland routes, the WRFN people were known to travel by canoe to and from



Coffee Creek (Easton et al. 2013). Traditional trails and travel routes contribute to the WRFN's current collective understanding of their 'sense of place' (YESAB 2012).

Several WRFN members who contributed to the 2014 White River First Nation Knowledge and Use Study indicated there were several overland trails that connected Coffee Creek to other important places across the landscape (**Photo 8-6**). The above mentioned elder shared that

...we live around Snag in spring and we travel through the trail that goes all the way down to Yukon River. We travel through that river and into that Coffee Creek. And uh, so it's as I was growing up I'm always walking and hillsides, over the mountains, over the hill and across the river, 'cross the creek, everywhere, just used to be like that, eh (Tr'ondëk Hwëch'in 2012b, p.22).

As the WRFN were historically nomadic people, these transportation linkages played a central role in facilitating the seasonal round, as well as in other cultural and spiritual activities:

Oh, yeah. My dad. The people there, yeah, they walked all over. They traveled. If they wanted to see anything they had their mind set on, they'd just go traveling (W04 19-Aug-2014) (Bates et al. 2014, p. 35).

The Yukon River was an important component of water routes mapped by the WRFN members (Bates et al. 2014). These water routes were important travel corridors, connecting places across the landscape:

In my dad's days, he makes a raft all the time ... Oh, out of the biggest logs they can find, and then dry wood. And like I remember him telling me stories. From Snag he used to float down to Dawson City (W03 19-Aug-2014) (Bates et al. 2014, p. 36).

White River First Nation members identified that overland and water routes around the Coffee Creek area remain of "crucial cultural importance to the WRFN members" because of the access that they facilitate to important cultural sites and to the connection that they promote between the WRFN members and the environment (p.37); travelling by traditional methods across the landscape allows members to relate to the environment in a way that is not possible by car or plane (Bates et al. 2014). In summary, the Coffee Creek area's current transportation-related value is intrinsically linked to the cultural and heritage values that it also represents (Bates et al. 2014).

Currently, the most common mode of transportation used by the WRFN members to access the land and resources for traditional purposes is personal vehicles (e.g., truck or car). The second most common mode of transport was a combination of personal vehicle and walking to site. Thirdly, the WRFN members report that a combination of cars, trucks, vans, other motorized vehicles (e.g., all-terrain-vehicles and snowmobiles), and watercraft (e.g., canoes and motorboats) were used. The WRFN 'Band Van' was also identified as a mode of transportation used by members to provide transport (Calliou Group 2012a).

A Community Harvest Study conducted in 2012, reported that most subsistence harvesting activities were conducted in accessible areas within 35 km of Beaver Creek, such as along the Alaska Highway. It should be noted, however, that trips were also taken to locations located further away from Beaver Creek and that these trips tended to occur more frequently than some of the closer trips reported (Calliou Group 2012a).

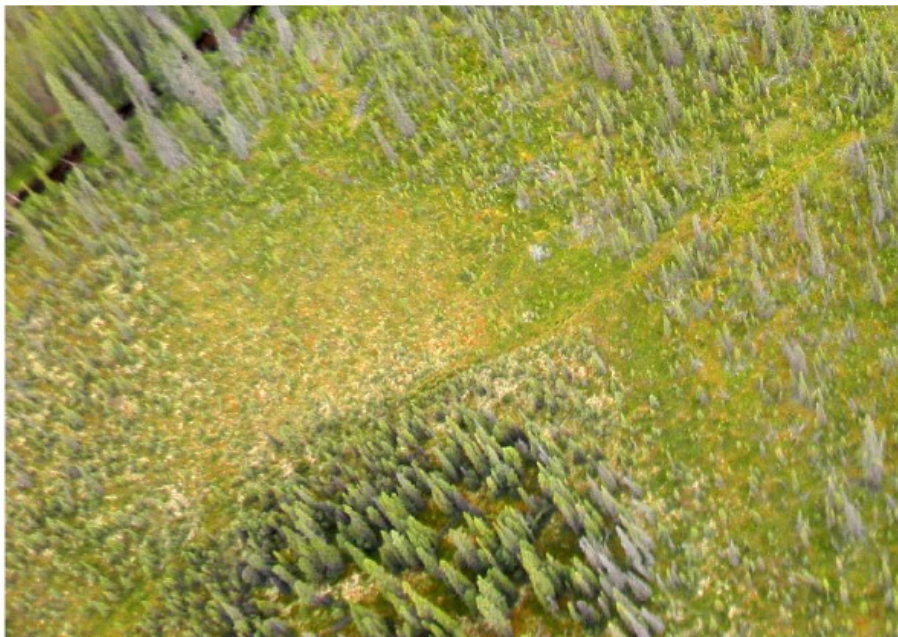


Photo courtesy of Norm Easton in Bates et al. 2014, p. 37, Figure 7

**Photo 8-6 Traditional trail used by First Nations near Coffee Creek, photographed from a helicopter**

### ***Subsistence***

Subsistence harvesting continues to be an important value of the WRFN today, as it was in the past, and contributes to their current collective understanding of their sense of place (YESAB 2012). A 2012 Community Harvest Study also found that the WRFN continue to exercise their Section 35<sup>20</sup> rights to conduct such subsistence harvesting activities as hunting, trapping, fishing, and gathering (Calliou Group 2012a). Further, participants in the 2014 White River First Nation Knowledge and Use Study shared that subsistence harvesting is integral to food security, as well as cultural continuity and identity (Bates et al. 2014). As stated by a WRFN citizen:

I am not trying to stop progress or anything, but I am more protective about the animals and stuff. If the moose all died off, what am I going to survive on? That is my main meal (Campbell 2012, p. 7).

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<sup>20</sup> Section 35 of the *Constitution Act, 1982* recognizes and affirms Aboriginal rights by the Canadian Government; however, the Act does not define what these rights are.

The level of subsistence harvesting conducted by the WRFN members varies by season. The spring (31%) and summer (34%) are the busiest seasons for the WRFN, as this is a time when fishing, gathering, and hunting are conducted. The fall is also a busy season for the WRFN, with 27% of all harvesting activities being conducted during this time. Winter is the quietest time of year for the WRFN, with members primarily focused on trapping during this time (Calliou Group 2012a).

## Hunting

White River First Nation members hunt for both subsistence and cultural purposes, and hunting has been identified as being “integral to WRFN food security and cultural continuity” (Bates et al. 2014, p. 39). According to a 2012 Community Harvest Study, approximately 90% of study participants hunted over the course of the 13-month study (Calliou Group 2012a). Species currently hunted by the WRFN members include (but are not limited to): beaver, moose, porcupine, rabbit, duck, goose, grouse, ptarmigan, thinhorn sheep, and wolf. Of these species, grouse (34%), duck (31%), and moose (19%) were the three most commonly hunted species by the WRFN members, though moose (85%) were the most pursued species (Calliou Group 2012a).

Moose are a species of importance to the WRFN members, though beaver, muskrat, goose, duck, caribou, and bear are more examples of species that have historic and current importance. Moose are used by the WRFN not only as a food resource, but their hides are also used for a variety of purposes, including such things as clothing and drums. Historically, moose hides were used by the WRFN people to make boats (Bates et al. 2014).

Due to conservation considerations, the WRFN members voluntarily do not hunt some species such as caribou (Bates et al. 2014, Calliou Group 2012a). As the abundance and conservation considerations of certain species changes, the WRFN members adapt by adjusting their practices. For example, as caribou have declined, members have increased their focus on hunting moose (Bates et al. 2014):

Well, we don't [hunt caribou], just because we protected our Shoshone caribou herd, and the numbers are so low ... For us, it's more the moose now. ... [In the past] we needed caribou for warmth and for food and everything that it offered. So, certainly warmer than, like, a moose hide. So, because now the whole culture has changed. They just don't utilize it as much. But the main reason for us is, like, the Shoshone caribou herd is protected. ... like Mom said in her generation, she lost the taste for it. . She lost the taste for it. So now it's moose, moose, moose (W08 21-Aug-2014) (Bates et al. 41).

...one of the things that stuck with me all the time is that when I was — he [his father] always told me, he says, “You got a big store out there free.” He says, “You want to eat grayling, go fish it.” He says, “Catch it and throw it in the frying pan. You want fresh chicken, shoot it.” (W03 19-Aug-2014) (Bates et al. 2014, p. 39).

Some of these listed species are eaten, while others are used for different purposes. For example, the WRFN members note that bear is not eaten due to cultural protocols (Bates et al. 2014).

### Locations

White River First Nation members report hunting in a variety of locations, though most hunting currently occurs within an area 35 km north and 25 km south of Beaver Creek and concentrated along the Alaska Highway (Calliou Group 2012a). Through this 2012 Community Harvest Study found that most current hunting activities occur around Beaver Creek, it has been identified that the Coffee Creek area was an area that was historically used by the WRFN to hunt moose and caribou (Bates et al. 2014). Changes in the location of the WRFN hunting activities have resulted from relatively recent external factors such as moving administration and residential centres, and does not reflect a reduced future interest in hunting and other traditional land and resource use activities (including trapping, fishing, and plant harvesting) near Coffee Creek if travel corridors and habitation areas are restored. An Elder shared that when she spent time in Coffee Creek with her family they would hunt for gopher, beaver, muskrat, rabbit, and grouse (Tr'ondëk Hwëch'in 2012b). Another WRFN member shared that people hunted moose around Coffee Creek and Caribou in the higher areas (Tr'ondëk Hwëch'in 2012b).

### Seasonality

Hunting activity varies by season. Most species were hunted by the WRFN members in the fall (46%) followed by the spring (32%), winter (18%), and summer (4%), though the highest number of hunting attempts<sup>21</sup> was made in the summer (40%) (Calliou Group 2012a).

### **Trapping**

Trapping is an important part of the WRFN culture, identity, and lifestyle (Bates et al. 2014). Furbearers are trapped by the WRFN members for their furs and for the meat that they provide (Bates et al. 2014). In a 2012 Community Harvest Study, it was reported that approximately 30% of study participants trapped over the course of the 13-month study (Calliou Group 2012a). Species currently hunted by the WRFN members include (but are not limited to): beaver, marten, muskrat, rabbit, and wolf (Bates et al. 2014; Calliou Group 2012a). The most common species trapped were muskrat (47%), marten (30%), and beaver (15%).

...we caught marten, and lynx. Wolverines. Wolves, some wolves. Muskrats, beaver ... Yeah, we ate lynx ... Lots of rabbits and stuff like that. Well, we lived off the land, you know ... I never saw a tomato or cucumber until I was nine years old. (W02 18-Aug-2014) (Bates et al. 2014, p. 39).

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<sup>21</sup> A hunting attempt is when hunting activities were conducted but no animal(s) were yielded (Caillou Group 2012b).

Muskrat (20%) were the most pursued furbearer by the WRFN members in a 2012 Community Harvest Study, followed equally by beaver (5%), marten (5%), rabbit (5%), and wolf (5%). All trapping trips reported during the course the 2012 trips yielded animal(s) (Calliou Group 2012a).

### Locations

White River First Nation members may trap in a variety of locations, but in a 2012 Community Harvest Study it was found that most trapping activity was focused along the Alaska Highway from the US border to Andrew Lake. More specifically, Andrew Lake and the area between Snag Junction and the Dry Creek intersection with the Highway were found to be areas that were frequently trapped by those members participating in the study (Calliou Group 2012a).

White River First Nation members have historically trapped in the Coffee Creek area as reflected by the numerous trapping concessions held by the WRFN members in the late 1940s and early 1950s (**Figure 8-4**) (Bates et al. 2014; Dobrowolsky 2014). Participants in the 2014 White River First Nation Knowledge and Use Study identified that marten, mink, fox, wolverine, and lynx were species trapped in the Project Footprint in the past. One Elder of Beaver Creek shared that her dad used to trap for beaver around the Coffee Creek area in the spring (Tr'ondëk Hwëch'in 2012b). More specifically, the ridges surrounding Coffee Creek and the northern bank of the Yukon River across from Coffee Creek were important trapping areas (Bates et al. 2014, p.30).

### Seasonality

White River First Nation members' trapping activities vary significantly by season. It was reported that 94% of all trapping activity is conducted by the WRFN members during the spring (March to May) followed by the winter (6% from December to February) (Calliou Group 2012a).



Photo courtesy of Bates et al. 2014, pg. 19

**Figure 8-4** Map of registered trapping concessions in the Coffee Creek area, estimated date between 1948 and 1955<sup>22</sup>

22 Please note that registered trapping concession boundaries are delineated and identified on the map itself.

## **Fishing**

Fishing is identified as an important traditional activity for both cultural and food security reasons (Bates et al. 2014). According to a 2012 Community Harvest Study, approximately 95% of study participants fished over the course of the 13-month study (Calliou Group 2012a). Species currently fished by the WRFN members include (but are not limited to): grayling, lingcod (also known as burbot), pike, trout, and whitefish. Of these species, the most commonly harvested fish were: whitefish (54%), grayling (43%), trout (2%), pike (1%), and lingcod (<1%) (Bates et al. 2014; Calliou Group 2012a). It is noted that those species reported as being most commonly fished reflect such influences as the time of year when fish camps were conducted and the number of the WRFN members who attended those camps.

Yeah, trout, whitefish, everything — even ling cod. Ling cod is the best-tasting fish. It's just like cod. There used to be an abundance and abundance of fish, I mean, lots. My dad came back with a toboggan that's from here to the wall, and it would be full of fish. Yeah, or on the lake, anywhere, because I remember all of the families from Snag would come in the wintertime with dogsleds, and they would set out their ice fishing nets. That's how they caught their supply of fish in the wintertime with dog teams (W07 19-Aug-2014) (Bates et al. 2014, p. 39).

The most commonly pursued types of fish were grayling (75%), trout (55%), and whitefish (50%) (Calliou Group 2012a).

### Locations

Fishing is currently conducted by the WRFN members in a variety of locations. In a 2012 Community Harvest Study, it was found that participants concentrated fishing in areas along the Alaska Highway, particularly within 15 km south and 35 km north of Beaver Creek.

The mouth of Coffee Creek, at the Yukon River confluence, is known as a historically important salmon fishing area to the WRFN (Bates et al. 2014; Easton et al. 2013). White River First Nation members explain that their family members used to fish in this area with nets and fish wheels. One WRFN member shared that Coffee Creek used to have deeper water than it currently has, and that in the past a boat could be driven up the creek (Tr'ondëk Hwëch'in 2012b). Another WRFN member shares, "And they would get their salmon there [Coffee Creek], dry it, they could catch it there, they would come in to where they were from. That was a yearly thing." (W04 19-Aug-2014) (Bates et al. p. 40). Other species known to have been fished in the Yukon River near Coffee Creek by the WRFN members include grayling and jackfish (Bates et al. 2014; Tr'ondëk Hwëch'in 2012b).

### Seasonality

The fall season (September to November) is when 43% of the WRFN's total annual fishing activity is conducted, and is when approximately 70% of the year's total whitefish harvest is caught. Summer (June to

August) is the second busiest fishing season of the year (33% of all fishing activity is conducted), followed by spring (23% of total activity occurring from March to May) and then winter (less than 1% from December to February). Seasonal variations influenced what types of fish were caught and when. Grayling were most commonly fished in the spring, whitefish in the fall, and trout in the spring. It was reported that pike were only fished in the fall and lingcod only in the spring (Calliou Group 2012a).

### **Plant Harvesting**

Plants are currently harvested by the WRFN members for many purposes including food, materials, and medicines. In a 2012 Community Harvest Study, it was reported that approximately 70% of study participants gathered plants over the course of the 13-month study (Calliou Group 2012a). Types of plants harvested by the WRFN members include (but are not limited to): blackberry, blueberry, high bush cranberry, low bush cranberry, raspberry, soapberry, salmonberries, bear root, caribou horn, caribou leaf, fireweed, Labrador tea, various mushrooms, pineapple weed, spruce gum, and wild rhubarb (Bates et al. 2014, Calliou Group 2012a). White River First Nation members report being unsuccessful in harvesting the following plants during a 2012 Community Harvest Study: black currant, cloudberry, gooseberry, raspberry, and strawberry.

The most common types of berries pursued by the WRFN members participating in a Community Harvest Study were: low bush cranberry (60%), high bush cranberry (30%), and blueberry (20%). The most common types of food plants (not including berries) pursued by the WRFN members were: spruce gum (20%), caribou horn (10%), caribou leaf (10%), Labrador tea (10%), orange top mushrooms (10%), and wild rhubarb (10%) (Calliou Group 2012a).

### Berries and Food Plants

Berries and food plants are also an important part of the WRFN traditional diet.

We eat berries all the way [when travelling]. We're full of berries by the time we get to the end. Raspberry, blueberries, blackberries... Salmonberries, everything. I guess that's why the native people was healthy a long time ago...They lived to be 100 and — Mom died when she was 101. So that — when I grew up, they just — on all those berries, the — like, bear root. You call bear — the root you pull out, it's like a carrot. You eat that, too. And they're all medicine... (W06 19-Aug-2014) (in Bates et al. 2014, p. 40).

### Medicinal Plants

Medicinal plants are of importance to the WRFN members. One WRFN member shared that "...they're all medicine (W06 19-Aug-2014)." (Bates et al. p. 40).



Another WRFN member states, “Some of the leaves are good, certain leaves are good for medicines ... some you make salves. Some are plants. Some are the flowers and all that (W01 18-Aug-2014).” (Bates et al. p. 40). One WRFN member shared that in the past they would harvest pitch from trees in the Coffee Creek area for medicinal purposes (Tr’ondëk Hwëch’in 2012b, p. 31).

### Plants for Materials

White River First Nation members use plants for materials to make such things as tools, baskets, sleds and snowshoes (Bates et al. 2014). With respect to the Coffee Creek area, one WRFN member described how their mother would collect birch bark in this area to make baskets (Bates et al. 2014).

### Locations

A 2012 Community Harvest Study found that the WRFN members currently conduct most their plant harvesting activities within a 35-km radius of Beaver Creek.

With regards to the Project Footprint, the WRFN members reported picking blueberries, highbush cranberries, and blackberries in the area (Bates et al. 2014). Roland Peter also shared that high bush and low bush cranberries were two types of plants historically harvested in the Coffee Creek area (Tr’ondëk Hwëch’in 2012b).

### Seasonality

The majority of plant harvesting takes place in the summer (June to August) followed by the fall (September to November) and then spring (March to May). No plant harvesting is reported to occur in the winter (December to February) according to Calliou Group (2012a). From the 2012 Community Harvest Study, it was noted that certain types of plants are pursued only at specific times of year. For example, blackberries and soapberries were only gathered in the summer, whereas blueberries, high bush cranberries, and raspberries were only gathered in the summer and fall. Of the species identified by Calliou Group (2012a) only low bush cranberries, caribou leaf, and Labrador tea were reported to be harvested throughout the spring, summer, and fall (Calliou Group 2012a).

### ***Cultural and Spiritual Values***

The land and resources across the WRFN’s territory facilitate the transmission, practices, and knowledge of integral WRFN values and practices, which includes the transmission of language, knowledge, stories, traditional values, and cultural practices (Bates et al. 2014). The cultural significance of the Coffee Creek area to the WRFN is reflected by all the site-specific values associated with this specific area (Bates et al. 2014). In addition to such previously described values related to habitation, transportation, and subsistence, Coffee Creek is also culturally valued because of other cultural activities that are known to have taken place here. These cultural activities include potlatches, ceremonies, and other cultural events (Bates et al. 2014,

Easton et al. 2013). Certain qualities have been identified by the WRFN as being important to maintaining an area's cultural and spiritual integrity; this includes maintaining "...undisturbed, peaceful state" (Bates et al. 2014, p. 46).

The Coffee Creek area is of spiritual value to the WRFN because this was a birth and burial place for some WRFN ancestors. Further, other spiritual activities are known to have taken place at Coffee Creek, including marriage and baptizing ceremonies (Bates et al. 2014). White River First Nation also report that sites, activities, and routes associated with travel to Coffee Creek have cultural and spiritual value (WRFN review comments on May 12, 2016 draft of Human Environment Baseline Report).

The WRFN asserted Traditional Territory comprises the land base that the WRFN members use to transmit, teach, and share such integral cultural values as language, knowledge, stories, values, and practices (Bates et al. 2014). White River First Nation members identified that access to the land and areas of historic importance are key to enabling the younger generations to learn about these values. WRFN reports that:

The transmission of culture and traditional cultural practices from generation to generation is critical to the WRFN members. This includes the transmission of language, knowledge, stories, traditional values, and cultural practices (e.g., the making of dry meat and preparing hides). For this to occur younger generations must have the opportunity to learn about the land, animals, hunting, trapping, fishing, and gathering plants, as well as appropriate cultural protocols for these activities. This learning usually takes place out on the land through traditional activities, and often at specific sites with long cultural histories, such as the one at Coffee Creek. (WRFN review comments on May 12, 2016 draft of Human Environment Baseline Report)

White River First Nation members stated:

You know, we have to have clear access to these important areas if it's cultural or to — you know, ceremonial or historical or heritage sites or whatever. We have to have access. That's — no question, that's within our rights. ... It wasn't that long ago that it was utilized as a seasonal round. It was only a few generations. We have a right, as indigenous people, First People, to have access to that, to do what we feel we need to do to keep the culture going (W08 21-Aug-2014) (Bates et al., p. 46).

It's just that the areas my dad travelled, he always said, "I walked these trails for your kids, for my grandkids, and they're places that someday maybe you will travel. Go look for these places where I talk about, because it will always be there." He said, "Go look at it. You will see how beautiful the country is..." ( W07 19-Aug-2014) (Bates et al., p.45).

### ***Environmental Values***

White River First Nation values the environment and the rich, diverse resources that it supports. This includes inorganic components of the environment. In a YESAB 2012 report, it was described that the WRFN members are "...concern[ed] for the integrity of the water quality, describing the value of water and noting the pristine quality of the water that currently exists. The pristine water quality is part of 'sense of place'" (YESAB 2012, p. 61).

The Coffee Creek area is of environmental value to the WRFN as it is a part of the land base that is inherently linked to all other aspects across the landscape, and provides habitat for animals and plants that the WRFN members have reported harvesting. In interviews conducted with the WRFN members for the Tarsis Resources White River Property Project, some shared about the importance of trails used by wildlife and the importance of these travel corridors to such species as moose (Calliou Group 2012b). Specific environmental values related to the Coffee Creek area include habitat bear use on the mountainside on the north side of the Yukon River bank across from Coffee Creek, and caribou habitat on the ridges surrounding the Project facility (Bates et al. 2014).

#### ***8.4.1.3 First Nation of Na-cho Nyäk Dun Current Traditional Land and Resource Use***

We value our natural environment with healthy fish and wildlife populations, clean water, clean air and the natural state of the land. The Na-Cho Nyäk Dun Traditional Territory is the headwaters for rivers flowing to the Arctic as well as the Pacific Ocean. It is part of the migratory corridor for the Porcupine Caribou and home to a diversity of fish and wildlife populations. Historically it was traveled far and wide by NND ancestors who lived off the land (FNNND 2008, p.14).

The FNNND's current traditional land and resource use provides both tangible and intangible value to citizens today, as it has historically since time immemorial. These values are described in the following section with respect to the following values: habitation, transportation, subsistence, cultural and spiritual values, and environmental values.

#### ***Habitation***

Coffee Creek was an important gathering place where Yukon First Nations would historically stop during their seasonal round; this includes ancestors of FNNND (Tr'ondëk Hwëch'in 2012b).

#### ***Transportation***

Traditionally, FNNND people would travel long distances in accordance with the seasonal round to conduct different subsistence activities (InterGroup 2009). This included following such important food sources as moose, caribou and mountain sheep (InterGroup 2009).

## **Subsistence**

Traditional foods harvested from the land have always maintained a central role in the diet of FNNND citizens, though it has been noted that development on FNNND's Traditional Territory and an increased local population has influenced FNNND's traditional use activities and patterns (Access Consulting 2008; DPRA 2010). Today, traditional foods continue to comprise a significant portion of FNNND citizen's diet and contribute to FNNND culture (DPRA 2010). Further, subsistence-related activities support the traditional land and management system of FNNND citizens, as spending time on the land conducting traditional activities contributes to their ability to monitor environmental conditions (DPRA 2010).

Subsistence is an important value of FNNND citizens because of the nutritional and medicinal qualities of traditional foods, as well as the economic and food security-related contributions that they make to FNNND citizens' way of life.

Though FNNND citizens currently conduct such traditional activities as trapping, it has been documented that barriers are influencing the proportion of FNNND citizens who conduct these activities; these barriers include (but are not limited to): high cost of gas, decreased interest, and regulatory challenges to obtain a trapline (DPRA 2010). To support citizens in overcoming these challenges, the FNNND Government provides a Traditional Pursuits Fund; citizens residing in Yukon can apply for funding twice a year to financially support their traditional pursuits (FNNND 2015).

## **Hunting**

Hunting wildlife contributes to the current subsistence lifestyle of FNNND citizens (Access Consulting 2008). Moose, caribou, sheep, deer, small game, bear (both grizzly and black), and birds (e.g., ptarmigan, grouse, duck) are examples of some of the species that FNNND citizens have historically used and presently use for subsistence-related purposes (DPRA 2010; InterGroup 2009).

The moose are a highly valued species and are important for social, cultural, and economic reasons (InterGroup 2009; Access Consulting 2008). Moose are often hunted in the late summer and early fall because this is when moose are in their best condition (McClellan 1987). Elders of FNNND report that the moose population is declining in some areas on their Traditional Territory, and the noise and activity related to placer and quartz mining activities has been identified by FNNND citizens as being a probable cause (DPRA 2010).

Woodland caribou (aka Northern Mountain Caribou) abundance varies across the FNNND Traditional Territory. In some areas, a voluntary no-hunt policy is in place (at Ethel Lake), and in others, citizens can harvest (eastern portion near Mount Patterson and the Wernecke Mountains). The abundance of some animals, such as deer, have been observed as increasing (DPRA 2010).

## **Trapping**

Trapping is an important traditional use activity of FNNND, which is valued because of the economic, cultural and social benefits that it supports (DPRA 2010; InterGroup 2009; Leary 2009). Through trapping, FNNND citizens are able to transmit the knowledge and practice of this traditional activity (DPRA 2010). Trapping concessions contribute to FNNND citizen's traditional use of the area by providing employment benefits and contributions to the sustenance lifestyle (Access Consulting 2008). Key species that FNNND trap include: lynx, marten, wolf, wolverine, and rabbit (InterGroup 2009; Leary 2009).

## **Fishing**

Fish are an important part of the FNNND traditional diet and culture, and contribute to the current subsistence lifestyle of citizens (Access Consulting 2008; DPRA 2010). Fishing is an activity that FNNND citizens conduct all year. From April to June, citizens are focused on fishing grayling. The summer fishery is characterized by salmon; the chinook runs happen first followed by the chum. In the winter, FNNND citizens focus on resident fish populations, such as grayling, trout, whitefish, and jackfish (McClellan 1987).

The most commonly fished species on FNNND Traditional Territory include chinook salmon, lake trout, lake whitefish, northern pike, arctic grayling, and inconnu (InterGroup 2009). Families in FNNND spend several weeks each year at their fish camps where they catch and dry fish to be used year-round. The Stewart River is a waterway that has historically been and still is currently used by generations of FNNND families for fish camps (DPRA 2010).

Salmon, arctic grayling, and pike are some of the fish species used by FNNND citizens (DPRA 2010, Access Consulting 2008). More specifically, salmon were identified as an important species for both subsistence and cultural reasons; as described in a 2009 report, salmon fishing plays an important role in bringing people together (InterGroup 2009).

## **Plant Harvesting**

Citizens of the FNNND use plants for both food and medicinal purposes, which contributes to the subsistence lifestyle of citizens (Popadyneec 2009; Access Consulting 2008; DPRA 2010). In the DPRA 2010 report, it states that FNNND citizens use many types of plants and berries, and that "plants, berries and medicines are an important part of the traditional diet" (DPRA 2010, p.35). Some of the plants currently harvested for consumption include low-bush cranberries, blueberries, black currants, raspberries, stone berries, and high bush cranberries (InterGroup 2009).

Medicinal plants gathered by FNNND citizens across their Traditional Territory include yarrow, spruce, pine, balsam, Labrador tea, caribou horn (lichen), and puffballs (fungi) (InterGroup 2009). In addition, bear root (*Hedysarum alpinum*) and spruce gum is also used by FNNND citizens for medicinal purposes. Bear root is an edible root that can be harvested throughout the year, and provides a rich source of nutrients. Spruce gum (also known as pitch) is used internally to treat colds and externally on cuts and to remove splinters (Popadyneec 2009).

DPRA 2010 also notes that FNNND citizens tend not to harvest plants in areas historically disturbed by mining activities.

### ***Cultural and Spiritual Values***

Traditional use activities conducted across FNNND Traditional Territory are of cultural importance, in part, because of the socio-cultural ties that they support; this includes the actual harvesting of traditional foods, as well as the act of sharing and consuming them (DPRA 2010). In the DPRA 2010 report, it explains that through the harvesting of traditional foods, FNNND citizens spend time on the land with their family and community members practicing and sharing traditional knowledge and skills (DPRA 2010). Spending time on the land is key to the transmission of traditional knowledge and the development of healthy communities (DPRA 2010). In addition to the cultural values that traditional foods and medicines support, they also inherently provide an important link between FNNND citizens and their culture. As stated in DPRA 2010, “while away from home, many people will use food as way of maintaining contact with their culture” (p. 36).

Important cultural values are taught and demonstrated through FNNND current traditional land and resource use. Sharing the harvest of traditional foods is one example that demonstrates this FNNND cultural value. To FNNND citizens, the act of sharing is important as it shows that citizens are taking care of one another as well as sharing the “gifts from the land” (DPRA 2010, p.36). As noted by Leary (2009), FNNND citizens “...always share food with elders” and that citizens “...need to respect every animal [taken] from the land and be thankful (p. 9 and p. 21).

The traditional foods and medicines harvested from the land through current traditional land and resource use contribute the vitality of FNNND culture. Citizens of FNNND recount how it is challenging for them to balance such cultural values as respecting the earth and protecting the water, while working jobs in the natural resource development sector. They explain that such “contradictions” challenge citizens to reconcile their heritage with best practices (FNNND 2008a).

### ***Environmental Values***

Environmental values held by FNNND are intrinsically linked to cultural values and practices. As described in Popadynech (2009), FNNND citizens share how “...we only dug up one plant today because we shouldn’t take too many. It shows respect not to take more than you can eat” (p. 18). Citizens of FNNND share an inseparable connection and relationship with their Traditional Territory, and the lands and resources that characterize it. Maintaining and enhancing the environmental health of their Traditional Territory is an important current environmental value of FNNND. Stewardship and responsible management of the land are two values identified as being important to FNNND (FNNND 2008a). Members of FNNND report that traditional forms of land management have evolved and now integrate aspects of contemporary land management as well (FNNND 2008a).

Protecting environmental integrity is a priority of FNNND, which is explicitly identified in its 2008 Guiding Principles Towards Best Practices Codes for Minerals Interests within First Nation of Na-cho Nyäk Dun Traditional Territory. In this document, FNNND advises potential mining proponents that it expects that they will acknowledge that "...traditional culture is linked to nature and its strength is drawn from that relationship. It is further acknowledged that stewardship of the land and its resources is an integral part of culture and community well-being" (FNNND 2008b, p.6).

One initiative that reflects FNNND's environmental values is the 2008 to 2013 Fish and Wildlife Management Plan that was prepared with the Mayo District Renewable Resource Council and YG; the objective of this monitoring initiative was to document and address different concerns related to fish and wildlife management (DPRA 2010).

#### **8.4.1.4 Selkirk First Nation Current Traditional Land and Resource Use**

As described by Klohn Crippen Berger (2013), SFN citizens conduct traditional use activities across their Traditional Territory throughout the year. One of the reasons that these activities continue to be valued by SFN is that they contribute to their ability to maintain their connection with the land and water (KCB 2013).

##### ***Habitation***

Coffee Creek was historically an important place where SFN ancestors would gather and live (Easton et al. 2013; Yukon River Commercial Fishing Association and Tr'ondëk Hwëch'in 1997; Tr'ondëk Hwëch'in 2012b). One SFN citizen, remembers a village that used to exist in the Coffee Creek area before the highway was constructed (Yukon River Commercial Fishing Association and Tr'ondëk Hwëch'in 1997). Selkirk First Nation Elders described how many people lived at Coffee Creek in the 1930s, as at the time it was home of an active trading post (Tr'ondëk Hwëch'in 2012b). One SFN Elder, recalls personally travelling by foot via an overland route between Fort Selkirk and Coffee Creek (Tr'ondëk Hwëch'in 2012b).

Another SFN Elder, shared that during her mother's seasonal travels, she would stay at Coffee Creek (Tr'ondëk Hwëch'in 2012b). She further shares that when she was young, she would raft down to Yukon River to Dawson to go to school; she and her sibling would stop at Coffee Creek on their way (Tr'ondëk Hwëch'in 2012b):

...we stopped at Coffee Creek and [he] said, um, to us on the raft, he said "oh, hope it," we were cold and tired, drifting every day, all the way from here, down the Pelly and then down the Yukon and then when we got to Coffee Creek we were, we were cold and hungry and [he] said "I hope they invite us in," they didn't even ask us to come in...No. So we, old Mrs. Schaeffer said "there's a little campground up the river from here, you can go up there and camp," she said. And her with a nice, big house" - Ibid, p. 20-21 (Tr'ondëk Hwëch'in 2012b, p. 28).

Another Selkirk First Nation Elder used to spend summers with his family at Coffee Creek and winters at Kirkman Creek (Pearse and Weinstein 1988).

### ***Transportation***

Selkirk First Nation elders described how many people lived at Coffee Creek in the 1930s, as at the time it was home of an active trading post (Tr'ondëk Hwëch'in 2012b). One SFN Elder recalls personally travelling by foot via an overland route between Fort Selkirk and Coffee Creek (Tr'ondëk Hwëch'in 2012b). Citizens from SFN would travel across the land by water, trail, and dogsled in accordance with the seasonal round, and to visit with friends and family (Pearse and Weinstein 1988). An Elder of SFN used to travel by boat on the Yukon River to Coffee Creek in the summer, and would travel by dogsled to the area in the winter.

### ***Subsistence***

Northern Tutchone people use a variety of plants and animals to support their subsistence needs. The SFN traditional land and resource use has historically and currently remains a central component of SFN culture. As Northern Tutchone people, SFN is known for having used a diverse array of plants, animals, and resources across their Traditional Territory. Traditionally, winters were spent trapping, hunting moose, and fishing. Some people settled in groups at specific locations for the winter, whereas others continued to travel across the territory conducting various traditional use activities. During the spring, people tended to occupy valley and lowland areas as they hunted and trapped. The summer months of July and August were often spent fishing salmon together in groups at rivers, and gathering plants. The fall was known as a time when game was plentiful; thus, efforts were focused on these activities (Castillo 2012).

### ***Hunting***

Animal species hunted by SFN include such big game as moose, caribou, mountain sheep, and black bear, as well as such waterfowl as duck, goose, swan, and sandhill crane (Castillo 2012; Pearse and Weinstein 1988). Small game was also hunted, including ptarmigan, blue grouse, ruffed grouse, and sharptail grouse (Pearse and Weinstein 1988). Elders remember that Coffee Creek was an area historically known for moose hunting, and in the higher elevation areas around Coffee Creek for caribou hunting (Tr'ondëk Hwëch'in 2012a). A Selkirk First Nation Elder remembers Coffee Creek as one of the areas that his family would travel to, to hunt in the fall (Pearse and Weinstein 1988). Hunting in the summer season was focused on moose, grouse, and beaver (Pearse and Weinstein 1988).

Another SFN Elder shared that she used to travel to Coffee Creek with her sister and husband to hunt for moose each fall (Tr'ondëk Hwëch'in 2012b). Other SFN citizens also identified Coffee Creek as an area that they would travel to each fall to moose hunt, as Coffee Creek was a good moose hunting area (Tr'ondëk Hwëch'in 2012b). The mountains or higher elevations surrounding the Coffee Creek area were also known for being an area that caribou used (Tr'ondëk Hwëch'in 2012b). Game not only provided meat to SFN citizens, it also provided such other valuable resources as lard and skins (McClellan 1987).



## **Trapping**

Several types of fur bearers are trapped, including beaver, lynx, muskrat, fox, wolf, marten, mink, wolverine, coyote, red squirrel, otter, and weasel (Pearse and Weinstein 1988). Such small game species may also be trapped as the snowshoe hare and the ground squirrel, or gopher (Pearse and Weinstein 1988).

The Coffee Creek area is a part of a larger area known by SFN citizens for its productive trapping habitat. More specifically, the headwaters of Coffee Creek were considered as marten homeland (Pearse and Weinstein 1988).

## **Fishing**

Fishing is an integral part of SFN culture, and provides more than subsistence needs; it also supports the continuity of culture and tradition (Morrell 1991). Working together at seasonal fish camps to catch and dry fish brings families together, and facilitates the transmission of TK as well as traditional practices and values.

Fish are also an important component of the SFN traditional diet. As explained by Morrell (1991), fishing provided food security as people knew that if they were unsuccessful in other pursuits, such as moose hunting, they would be able to fish enough food to provide for their subsistence needs. Several types of fish are used by SFN. Some of these species are fished seasonally, whereas other resident species can be fished year-round. Species fished include lake trout, king salmon (chinook salmon), dog salmon (chum salmon), grayling, inconnu, whitefish, pike, sucker, and ling cod (or burbot) (Castillo 2014; Pearse and Weinstein 1988). More specifically, king salmon, broad whitefish, and lake whitefish have been identified as the most important fisheries of the Pelly River system (Morrell 1991).

Coffee Creek was a well-known fishing area that SFN people historically used (Yukon River Commercial Fishing Association and Tr'ondëk Hwëch'in 1997). One SFN Elder explained how the sloughs and sandbars around the Coffee Creek and Yukon River confluence contributed to it being a good fishing area (Yukon River Commercial Fishing Association and Tr'ondëk Hwëch'in 1997). This fishing area was a place that people would travel to, to fish for two months each summer until the end of June (Yukon River Commercial Fishing Association and Tr'ondëk Hwëch'in 1997). Selkirk First Nation citizens currently fish on the Yukon River by boat (Interview 14, Pers. Comm. 2016).

## **Plant Harvesting**

Selkirk First Nation citizens harvested berries and plants while they travelled across the territory and when they settled in different areas (Pearse and Weinstein 1988). In a 2013 report by Klohn Crippen Berger, medicinal plants were identified as one type of plant currently harvested by SFN citizens. It explained that the harvesting of medicinal plants involved consideration of specific practices and values, including the

practices related to the traditional Dooli Law<sup>23</sup>. Medicinal plants that were identified as being currently used by SFN citizens include (but are not limited to) spruce pitch and Labrador tea (KCB 2013).

### ***Cultural and Spiritual Values***

SFN cultural and spiritual values continue to be rooted in tradition today as they have been in the past. More specifically, Dooli Law continues to guide and influence contemporary values and activities as demonstrated by the role that Dooli played in shaping aspects of the 2013 Minto Phase V/VI Socio-economic Study (KCB 2013).

Cultural activities continue to contribute to the Nation's social cohesion and community well-being (KCB 2013). Such activities include (but are not limited to): family meetings, traditional use activities, potlatches, and community events and activities like the Selkirk Spirit Dancers, community hand game tournaments, and the community garden (KCB 2013). Other important cultural activities conducted by SFN included tanning moose hides and furs, making tools, and sewing clothes (Castillo 2012).

In the past, Selkirk people used to gather and conduct such important cultural and spiritual activities as potlatches at Coffee Creek (Easton et al. 2013; Tr'ondëk Hwëch'in 2012b). The predominant language historically used in the Coffee Creek was Northern Tutchone, the traditional language of several First Nations including SFN (Easton et al. 2013). This area also represents cultural and spiritual value because it is known as a resting place of some SFN citizens. Two SFN Elders shared that their grandmother and other community members are thought to be buried at Coffee Creek (Easton et al. 2013; Tr'ondëk Hwëch'in 2012b).

### ***Environmental Values***

The health of the environment has been identified as a component of SFN's community well-being (KCB 2013). The environment is highly valued by SFN and its citizens, and sustaining a healthy environment is of utmost importance (KCB 2013). As identified in a 2013 report, SFN citizens described how environmental changes being observed on their Traditional Territory were causing concern. This included changes to vegetation, the appearance of non-native plant species, changes to water, as well as changes to the animals living on their Traditional Territory (KCB 2013).

#### **8.4.2 Non-traditional Land and Resource Use**

The following presents the results and discussion of the combined LSA and RSA baseline conditions for non-traditional land and resource use. Depending on the topic and availability of data, information is either presented by study area, or described together to provide context.

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<sup>23</sup> Dooli Law is the sacred and spiritual laws unique to Northern Tutchone peoples, which provide guidance as to what people should and should not do (Mease 2008).

Non-traditional land and resource use describes the designated and undesignated use of lands and resources for commercial and personal purposes. Non-traditional land and resource use topics discussed below include: land use planning, land use permits and tenures; water licences; game management; guide outfitters; subsistence harvesting; parks and protected areas; resource development; utilities; and recreation and tourism.

#### ***8.4.2.1 Land Use Planning***

Land use planning can be considered as the management of lands through order and regulation to promote their efficient and ethical utilization, while limiting potential land use conflict (Government of Ontario 2015). Land-use planning promotes land use alternatives that reflect economic and social considerations; this helps to ensure that planning will meet community needs, as well as protect resources for the future (FAO n.d.a). Land use planning in the Yukon takes place at a territorial, regional, and municipal level. The Yukon Land Use Planning Council is made up of three members, who on behalf of the Council “promote an open, fair and public process carried out by all Yukoners, as set out in Yukon First Nation Final Agreement” (YLUPC 2015). **Figure 8-5** outlines those planning areas that overlap with the Project Footprint, which include the Dawson and Northern Tutchone Planning Regions. Planning regions in the LSA and RSA are presented as follows:

#### ***Dawson Regional Land Use Planning Region***

Yukon Government, TH, and the Vuntut Gwitchin Governments have mutually decided to suspend the Dawson Regional Land Use Planning process following the conclusion of the Peel Watershed Land Use Plan court hearing.

#### ***Tr’ondëk Hwëch’in Land Use Planning and Urban Planning Process***

Tr’ondëk Hwëch’in is one of the three partners involved with the Dawson Regional Planning Commission. While the Dawson Regional Land Use Planning process is currently suspended, the Tr’ondëk Hwëch’in Natural Resources Department continues with land use planning activities, which include urban planning processes and settlement land planning (Interview 18, Pers. Comm. 2016).

#### ***City of Dawson Community Development and Planning***

The City of Dawson’s Official Community Plan (OCP) is the primary guidance document that directs the City’s planning and land use management decisions and directions within the City of Dawson’s municipal limits (Interview 7, Pers. Comm. 2016, City of Dawson 2012). Some of the long-term goals stated in the OCP include:

- **Land Use:** Promote compact, efficient, compatible and sustainable land use (City of Dawson 2012, p.5).
- **Tr’ondëk Hwëch’in Lands:** Collaborate with TH to ensure that land use plans are compatible (City of Dawson 2012, p. 11).

- **Municipal Finance:** Enhance the financial sustainability of the municipality over the long-term (City of Dawson 2012, p. 12).
- **Municipal Infrastructure:** Ensure the provision and development of municipal infrastructure is effective and efficient (City of Dawson 2012, p. 13).
- **Housing:** Support the development of new housing and the adaptive reuse of existing buildings to meet the full continuum of housing needs in the community (City of Dawson 2012, p. 14).
- **Transportation Systems:** Maintain and broaden access to and through the community for all modes of travel (City of Dawson 2012, p. 15).
- **Parks and Recreation:** Provide recreational resources that meet the needs of a diverse population to encourage a healthy and active community (City of Dawson 2012, p. 16).
- **Culture:** Celebrate, and promote Dawson as the cultural capital of Yukon (City of Dawson 2012, p. 17).
- **Environmental Stewardship:** Minimize the environmental impacts of municipal regulations, programs, services, and projects (City of Dawson 2012, p. 18).
- **Food Security:** Work toward a more self-sufficient and reliable food supply for Dawson (City of Dawson 2012, p. 19).
- **Heritage Preservation:** Protect and celebrate Dawson's heritage as a "living historical community" while allowing the community to evolve and prosper into the future (City of Dawson 2012, p. 20).

#### ***West Dawson and Sunnydale Local Area Plan***

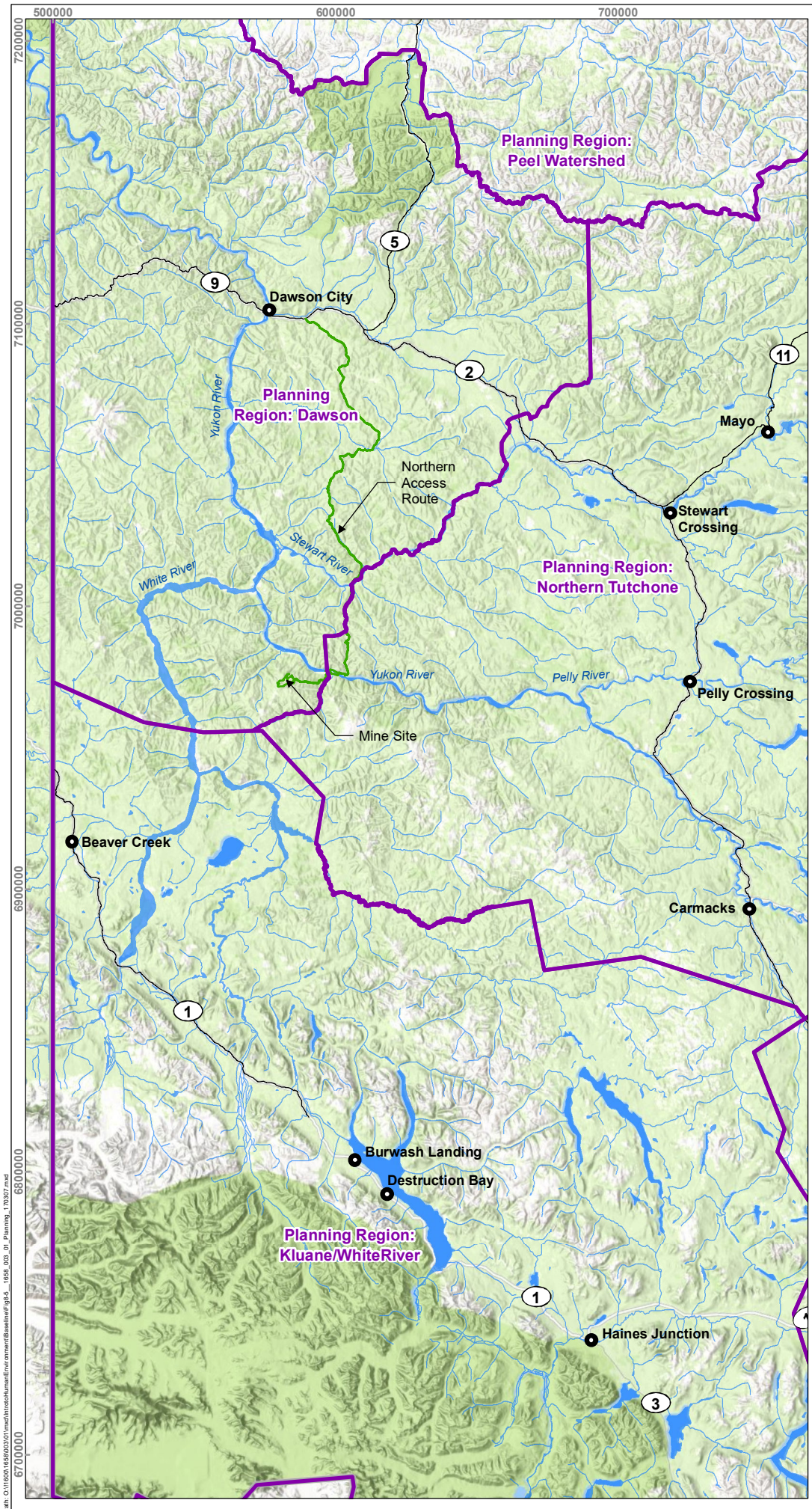
Yukon government partnered with TH to coordinate planning for public, private and TH settlement land with the West Dawson and Sunnydale Local Area Plan, located to the west of Dawson City. The goals for the Plan are to maintain the existing character and rural lifestyle, to work with TH government and local area residents to identify lands suitable for development and conservation, and to maintain and enhance the quality of the planning area's natural environment for present and future generations.

#### ***City of Whitehorse Official Community Plan***

The vision for the City of Whitehorse in its 2010 OCP is for a well-planned self-sustaining community that is a leader in energy conservation and innovation that maintains and conserves wilderness spaces for future generations. Whitehorse will continue to strive for a better quality of life that is reflected in its vibrant economy and social life (City of Whitehorse 2013). Objectives for meeting community values in the OCP are presented under several main principles:

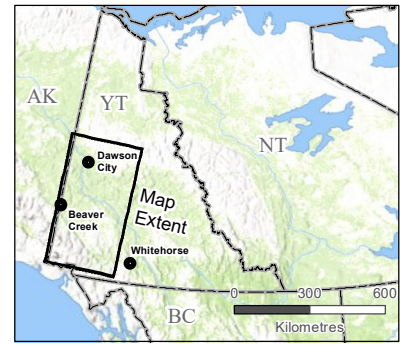
1. **Thriving Environment:** Stewardship of the natural environment and recognition of its intrinsic value and importance for quality of life.
2. **Community Development:** Decisions on development, land use, infrastructure, energy and transportation shall be integrated to minimize our ecological footprint.
3. **Diverse Local Economy:** A vibrant, diverse local economy that encourages self-sufficiency, uses resources efficiently, and creates inter-generational wealth.

4. Cultural Identity: We celebrate cultural diversity that strengthens the uniqueness of our northern community.
5. Equity: Value equity, fairness, and inclusiveness in our community relationships.
6. Leadership and Education: Long-horizon community leadership true to our principles of sustainable development and global responsibility. Empower every generation to entrench sustainability in education with the benefit of shared northern knowledge.”



**COFFEE GOLD MINE**

**Yukon Regional Land Use Planning Areas**



**Legend**

- Highway
- National/International Border
- ▭ Project Footprint
- ▭ Yukon Planning Region

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Planning areas from [geomaticsyukon.ca](http://geomaticsyukon.ca), 2016.

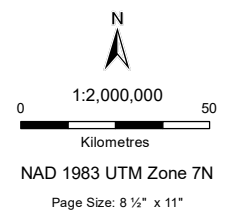


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A land use permit is required when a specific land use activity is proposed (Government of Northwest Territories n.d.) Existing land uses on public land tenured under the *Lands Act* and *Territorial Lands (Yukon) Act* within the LSA are summarized in **Table 8-5** and shown in **Figure 8-6**.

**Table 8-5 Land Use Tenures Within the Local Study Area**

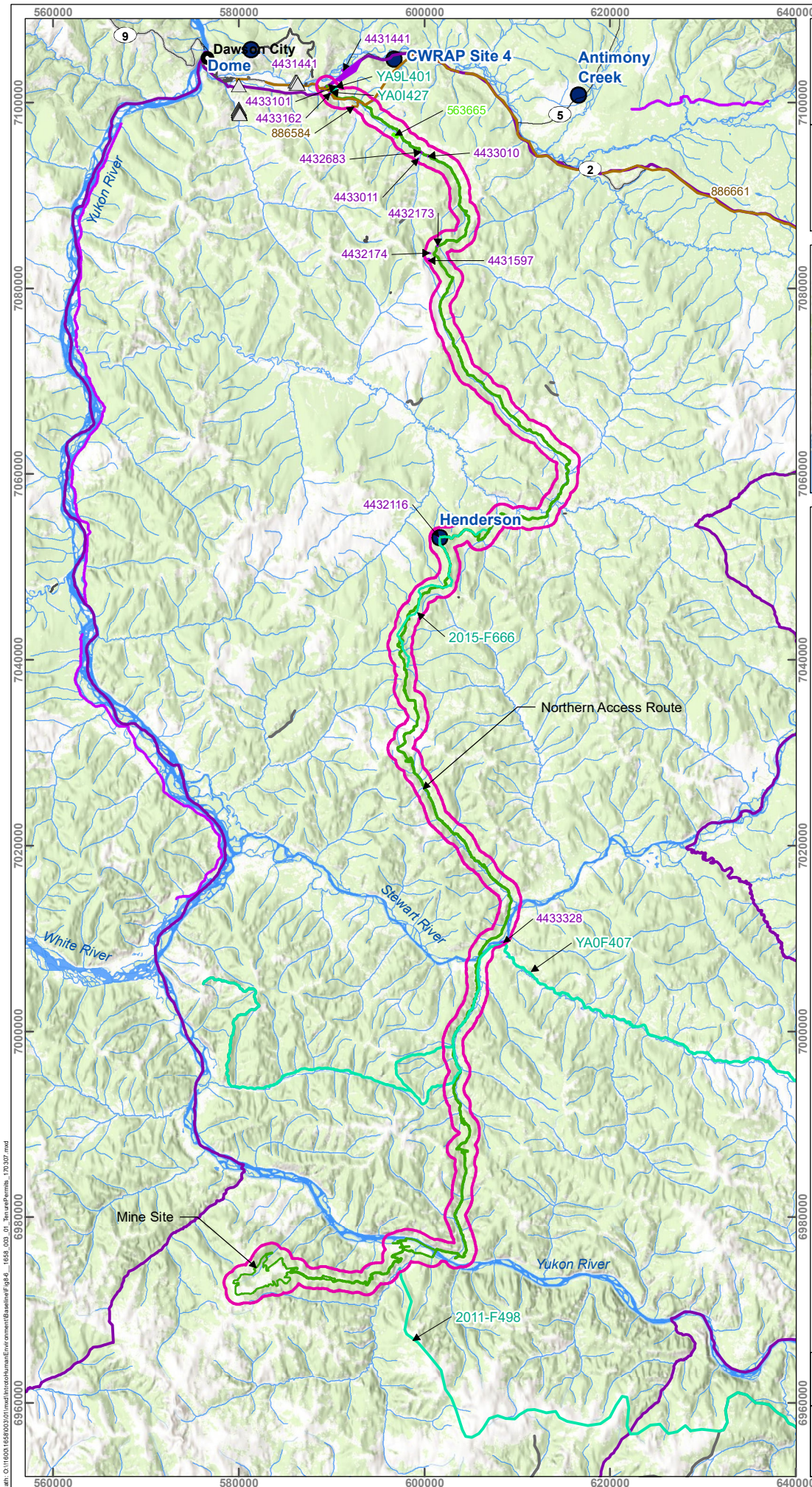
Type of Land Tenure	Identification (Disposition) Number	Activity/Purpose	Description*
		Transportation	North Klondike Highway
Land Use Permit	105M12-069	Utility	Linear corridor parallels access road from Highway 2 to approximately 4.5 km
Land Disposition	115O11-001	Utility	Square of land north of NAR and east of tributary to Steele Creek, 82 km south of Highway 2
Land Disposition	115O15-013	Environment	Square of land 23 m north of NAR near Sulphur Creek 28 km south of Highway 2
Land Disposition	115O15-014	Utility	Rectangle of land 425 m northwest of NAR near Sulphur Creek 29 km south of Highway 2
Land Disposition	115O15-022	Heritage	Square of land 800 m west of NAR near Sulphur Creek, 30 km south of Highway 2
Land Disposition	115O15-028	Residential – Commercial	Three squares of land adjacent to NAR near Hunker Creek at 13 km south of Highway 2
Land Disposition	2003-0181	Recreational	Portion of land immediately east of Scroggie Creek and south of Stewart River 140 km south of Highway 2
Land Disposition	2008-740	Rural Residential	Square of Land west of existing access road and east of Hunker Creek
Land Disposition	2009-2821	Commercial	Communication site connected to 2010-0841 (Permit YA9L401), located 700 m east of NAR and 650 m south of Highway 2
Land Disposition	2010-0841	Utility	Parcel of land 50 m south of Highway 2 and 400 m west of NAR, and 500 m long corridor at NAR 300 m south of Highway 2.
Land Disposition	2010-0841	Utility	Linear corridor connecting to existing road along Hunker Creek
Land Use Permit	2011-F498	Roads (Private Construction)	Linear road corridor extending from the Freegold Road to south of Coffee Creek, 4 km south of the Yukon River.
Land Use Permit	2015-F666	Roads (Private Construction)	Approximately 25 km long road construction permit overlapping with proposed NAR, beginning at 74.5 km south of Highway 2
Land Use Permit	YA01427	Powerline Construction	1 km long linear corridor connecting 2010-0841 to a substation. Overlaps with NAR at 850 m south of Highway 2.
Land Use Permit	YA0F407	Roads (Private Construction)	Historical Land Use Permit (Closed) for private road construction from the NAR at the South Stewart River Barge Landing to Iron Creek (13 km length).

\* All distances are approximate. – **Source:** Yukon Lands Viewer

#### **8.4.2.2 Land Use Permits and Tenures**

Land tenure explains the legal or customary relationship in which land is owned by an individual who is said to “hold” the land. In other words, land tenure systems determine who can use what resources, under what conditions and during which time frame (FAO n.d.b.). Land tenures and permits occurring within 1 km of the Project Footprint are presented in **Figure 8-6**.





**COFFEE GOLD MINE**

**Land Use Tenures and Permits**



**Legend**

- City/Town
- Wind Energy Location
- Highway
- ▭ Project Footprint
- ▭ Local Assessment Area
- ▭ Non-Traditional Land and Resource Use Regional Assessment Area
- ▭ Land Use permits within 1km of the Project Footprint
- ▴ Land Use permits beyond 1km of the Project Footprint - Point
- ▬ Land Use permits beyond 1km of the Project Footprint - Linear
- ▭ Land Applications - Active
- ▭ Land Disposition<sup>1</sup>
- ▭ Land Licenses
- Utilities**
- Power Network Pipeline (None Shown on Map)
- Power Network Transmission line

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Land Use Permits from Geomatics Yukon 2016.

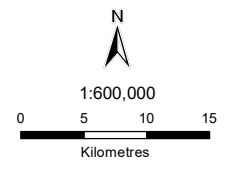


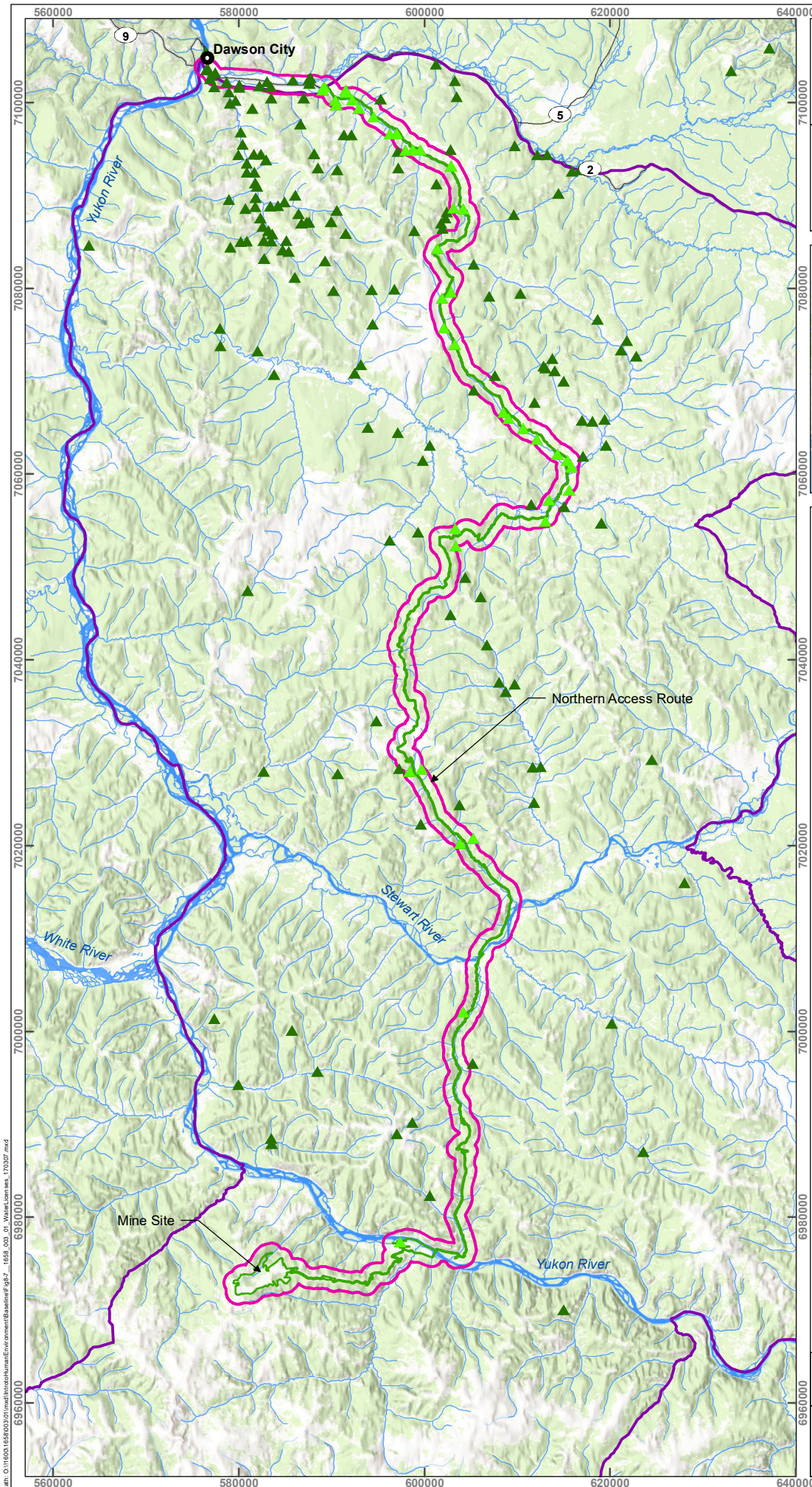
Figure 8-6	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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### **8.4.2.3 Water Licences**

The YWB is an independent body created to support the *Waters Act* and the Water Board Secretariat (Yukon Water Board n.d.). Within the LSA and RSA there are 47 Type B water licenses, the majority of which are related to placer mines (as described in schedule 6 to the *Yukon Waters Act*). **Figure 8-7** presents water licenses located within the LSA.



**COFFEE GOLD MINE**

**Water Licenses**

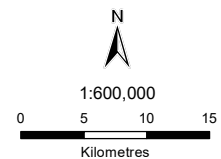


**Legend**

- City/Town
- Highway
- ▭ Project Footprint
- ▭ Local Assessment Area
- ▭ Non-Traditional Land and Resource Use
- ▭ Regional Assessment Area
- ▲ Water Licenses within 1km of the Project Footprint
- ▲ Water Licenses beyond 1km of the Project Footprint

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Water License from Geomatics Yukon 2016.



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Figure 8-7	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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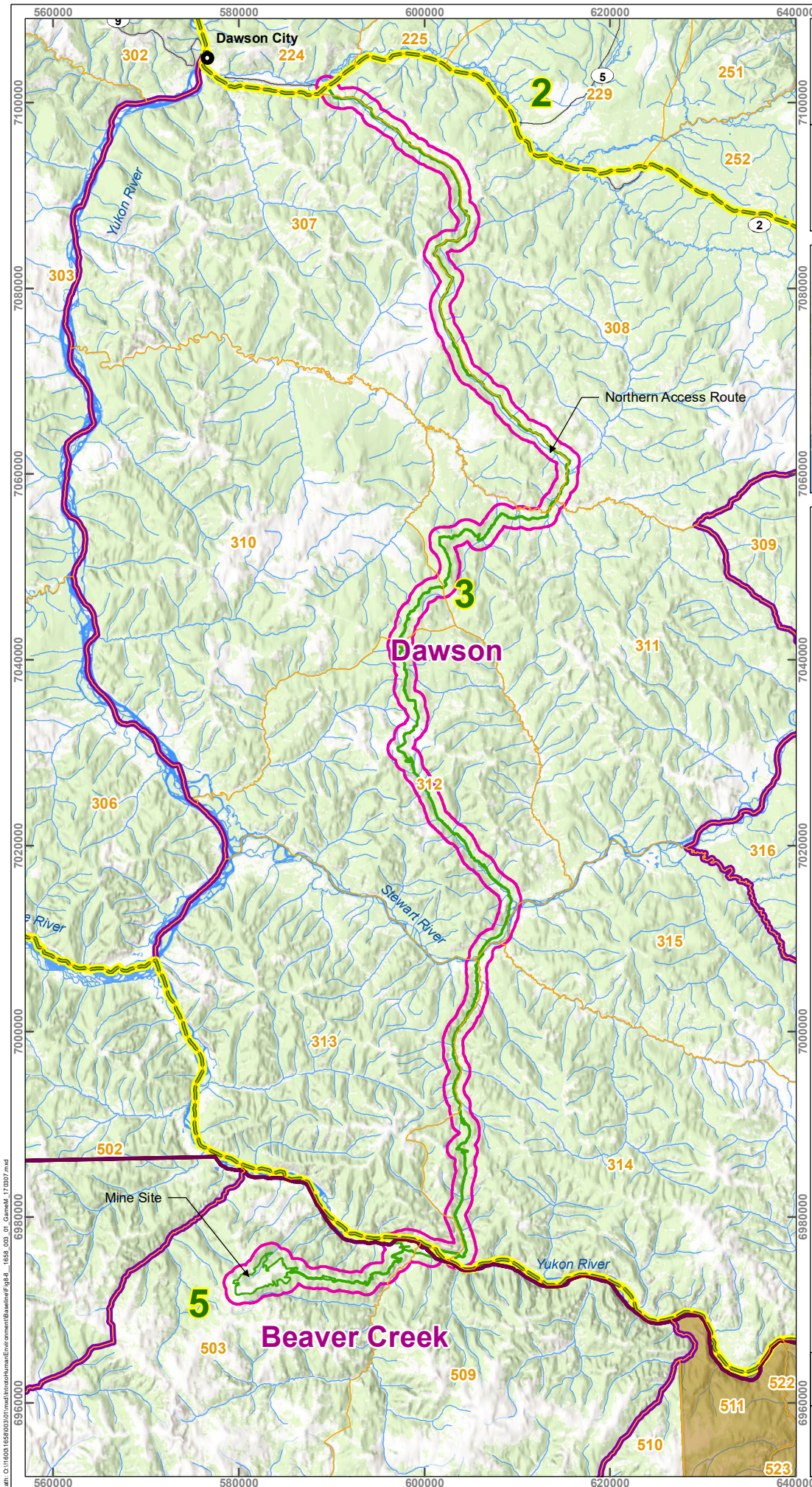
#### **8.4.2.4 Game Management Areas**

Environment Yukon defines GMAs as “legal boundaries that define an area within which big game management objectives can be met through the setting of area specific regulations. In other words, GMAs are used to manage Yukon wildlife species.” (Yukon Government 2016o) The LSA falls within the Game Management Zone 3 subzones 307, 308, 310, 311, 312 and 313 to the north of the Yukon River, and Game Management Zone 5 subzone 502 to the south of the Yukon River (**Figure 8-8**).

Permit hunts are used to manage overall species population numbers and improve hunt quality. Environment Yukon uses a computerized lottery system that randomly selects applicant names to fairly allocate Permit Hunt Authorization (PHA) to licensed Yukon residents. A PHA is required to hunt moose, caribou, sheep, goat, deer, or elk.

In addition to the above, the Aishihik Wood Bison Herd provides hunters with an alternative to moose and caribou. Bison are harvestable with a licence granted by lottery. In the 2014 to 2015 season, 177 bison were taken: 119 males and 58 females.

Other non-ungulate, big game requiring a PHA includes: grizzly bear; black bear coyote; wolf, and wolverine.



**COFFEE GOLD MINE**

**Game Management Areas**

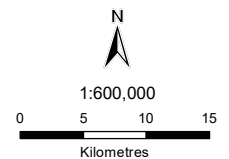


**Legend**

- Highway
- Project Footprint
- Local Assessment Area
- Non-Traditional Land and Resource Use Regional Assessment Area
- Conservation Officer Subdistricts
- Game Management Zone
- Game Management Subzones
- Caribou 2015 Permit Hunt Authorization

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Game Management Zone and Caribou data from Geomatics Yukon 2016.



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Figure 8-8	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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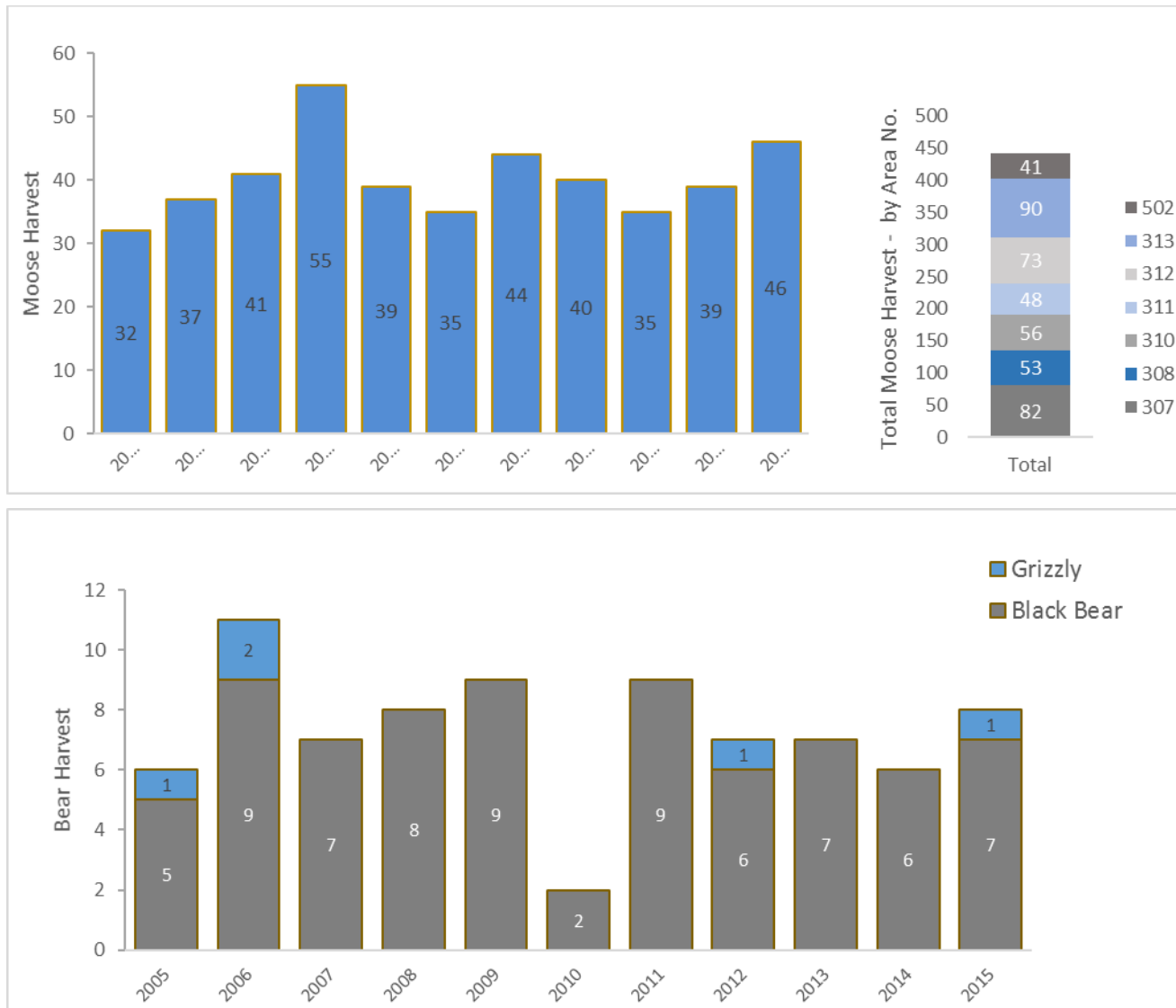
### ***Game Management Zone 3 and Zone 5***

Game Management Area 3 overlaps with the NAR north of the Yukon River. Currently, caribou and sheep hunting is closed in the GMA 3. Moose are the most popular target animal in the zone. Trapping and small animal hunting is also considered popular within GMA 3, for the following species: lynx, marten, wolf, wolverine, mink, beaver, otter, and fox. Coyote and bear (both black and grizzly) are not currently popular target species (Interview 13, Pers Comm. 2016).

Game Management Area 3 covers most of the proposed access road. Primary data collection indicates access to GMA 3 is mainly road access and ATV, primarily for moose hunting. During the summer months, the Yukon River is well used, however, tourists using the river are not permitted to hunt for large game without a guide. They are permitted to hunt for small game with a hunting license. Further, placer mining activity in the zone is high.

In GMA 3, the current access and land use described above leads to a high level of human-wildlife conflict. While there are few road-kill incidents due to the need for slow driving on the access road, there are poor human waste handling practices. Should an area become a serious concern with repeated incidents of human-wildlife conflict, there is scope for Conservation Officers to designate some areas to be closed to human use (Interview 13, Pers Comm. 2016).

Large game takes (moose and bear) for GMA 3 and GMA 5 are summarized in **Figure 8-9**.



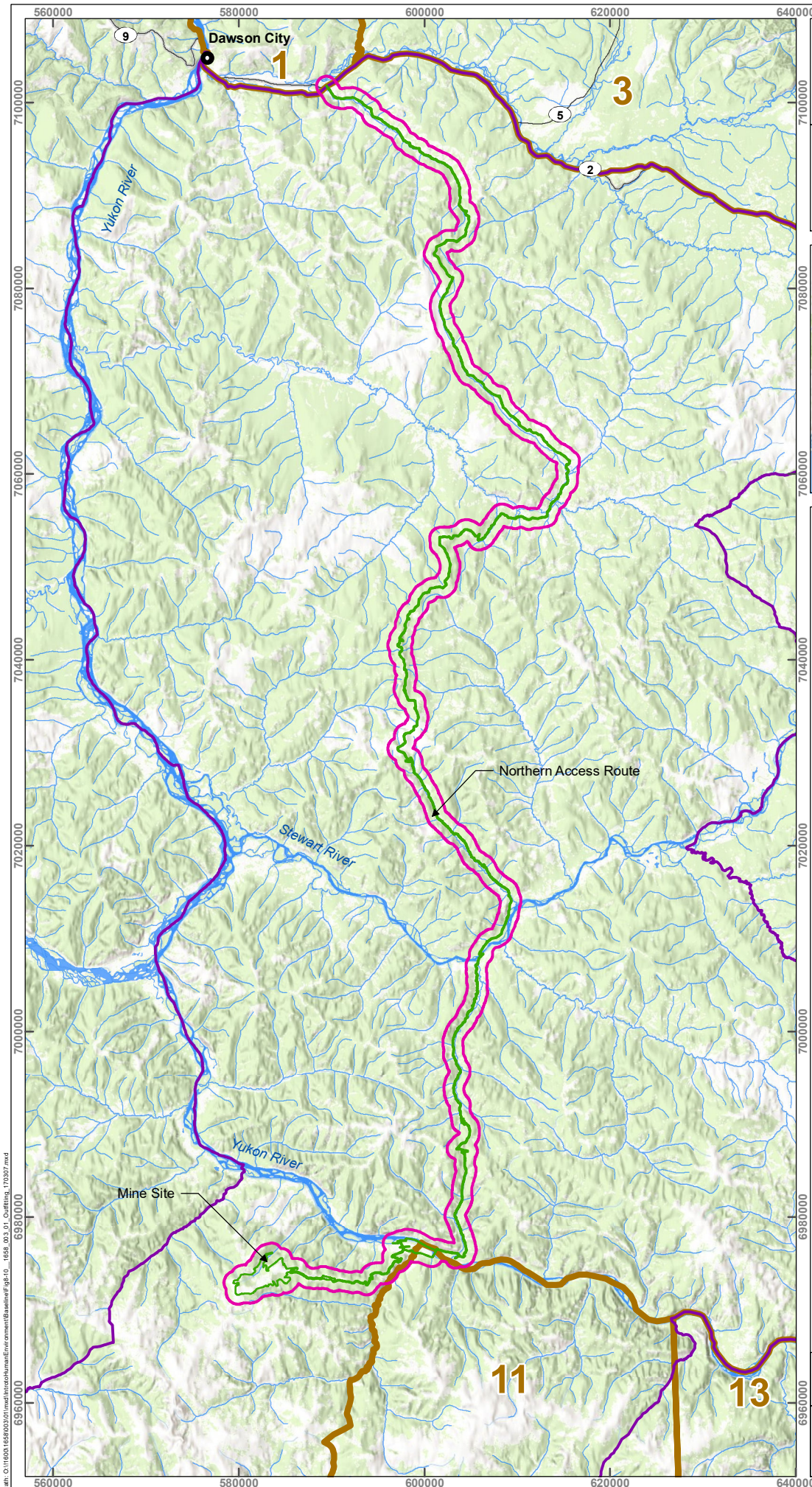
**Figure 8-9 Large Game Species Taken in GMA 3 and GMA 5, 2005-2015**

#### **8.4.2.5 Guide Outfitting**

Environment Yukon defines Outfitter Concessions as: "...legal boundaries that define an area where the holder of the concession has the exclusive right to outfit non-residents for the purpose of hunting big game animals (excepting special guiding licenses). If non-residents wish to hunt in Yukon they must do so accompanied by a Yukon resident--either a private individual who does this for free, or a commercial operator who does this as a business (an outfitter)" (YG 2016i).

As noted above, no guide outfitting concessions overlap with the Mine Site (**Figure 8-10**). The NAR overlaps with guide outfitter concession area ID 11 at the barge crossing of the Yukon River and the winter ice road between the Yukon River and Coffee Creek. Guide outfitter concession area ID 11 is registered to a tenure holder (Yukon Outfitters Association 2016).





**COFFEE GOLD MINE**

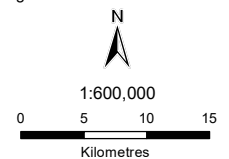
**Game Outfitters Concession Areas**



- Legend**
- Highway
  - Local Assessment Area
  - Non-Traditional Land and Resource Use Regional Assessment Area
  - Outfitting Concession

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Outfitting data from Environment Yukon 2016.



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Figure 8-10	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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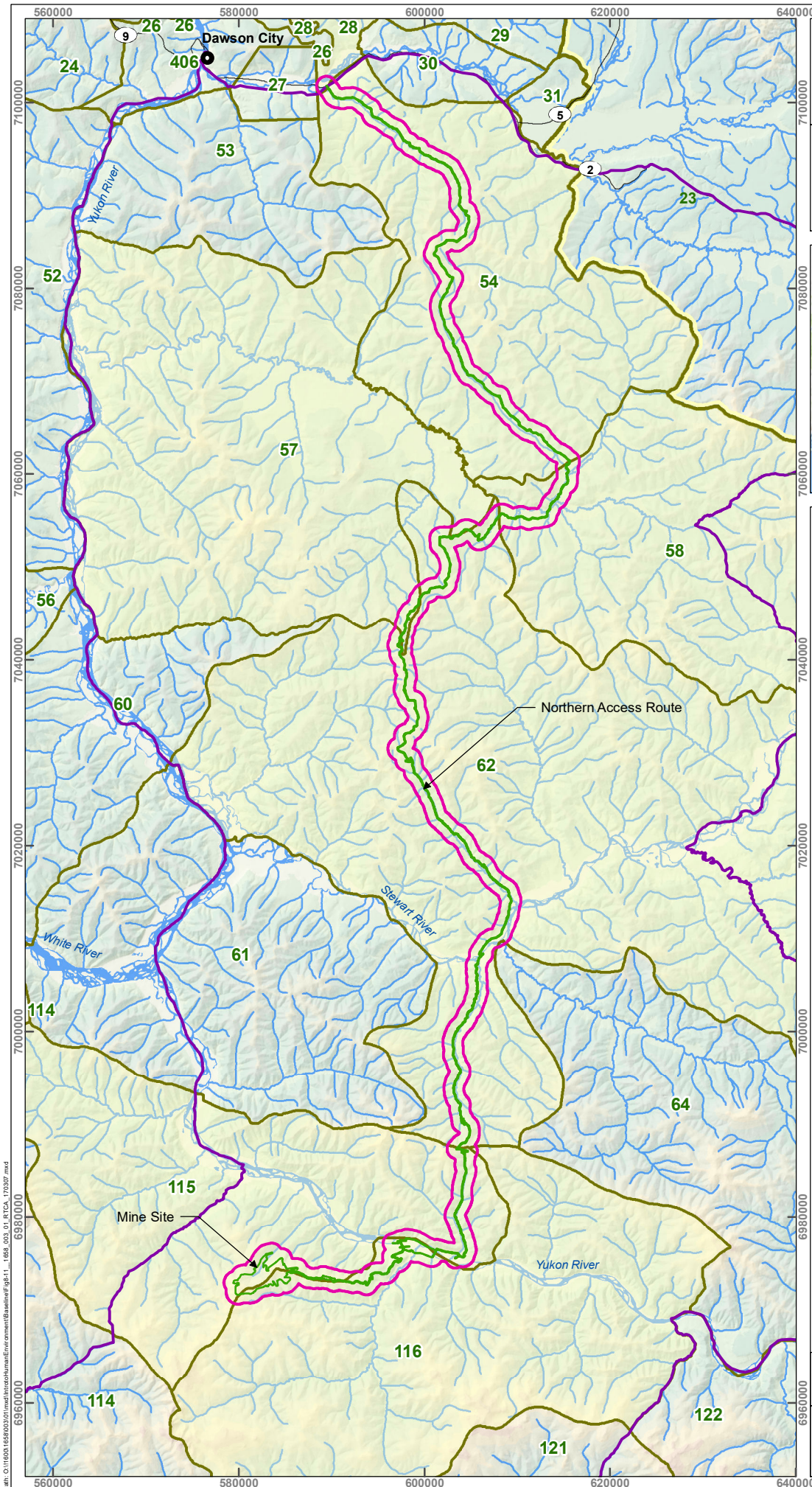


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#### **8.4.2.6 Trapping**

Environment Yukon defines RTCs as: “legal boundaries that define an area where the holder of the concession has the exclusive right to trap furbearing animals.” Seven RTCs overlap the Project Footprint, specifically RTC 28, 54, 57, 58, 62, 115, and 116 (**Figure 8-11**).

Primary data collection indicated traplines provide income from furs, tourism, and meat. Some trapline holders indicated the trapline was their main source of income (Interview 22, Pers. Comm. 2016). Traplines are held by families for several decades, and provide a means to teach intergenerational values (Interview 22, Pers. Comm. 2016, Interview 14, Pers. Comm. 2016). While trapline harvest varies seasonally, harvest of furbearers can be in the order of 40 to 120 marten per season (Interview 22, Pers. Comm. 2016).



**COFFEE GOLD MINE**

**Registered Trapline  
Concession Areas**

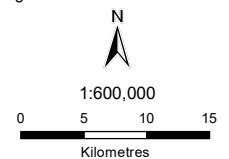


**Legend**

- City/Town
- Highway
- ▭ Project Footprint
- ▭ Local Assessment Area
- ▭ Non-Traditional Land and Resource Use Regional Assessment Area
- ▭ Single Registered Trapping Concession (shaded signifies overlap with project footprint)
- ▭ Group Registered Trapping Concession

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Trapping data from Environment Yukon 2016.



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Figure 8-11	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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#### **8.4.2.7 Subsistence Harvesting**

##### **Hunting**

The following are the small game species currently listed in Environment Yukon's Regulation Summary for Yukon Hunting: snowshoe hare, Arctic ground squirrel, porcupine. Game birds include: spruce (ruffed) grouse, dusky (blue) Grouse, sharptailed grouse, and ptarmigan.

In Yukon, a valid Yukon hunting licence is required, as well as a federal Migratory Game Bird Hunting Permit with a Canadian Wildlife Habitat Conservation Stamp to hunt migratory game birds including duck, goose, rail, coot, sandhill crane, and snipe.

##### **Fishing**

"Chum salmon feeds lots of people in this area" (Interview 11, Pers. Comm. 2016). Fishing takes place at Coffee Creek and Ballarat Creek. Species include whitefish, grayling, pike, and Salmon. People fish for salmon in eddies near the mouth of Ballarat Creek. Salmon that are fished and smoked are sent to family members far away (Interview 14, Pers. Comm. 2016).

##### **Harvesting of Edible Plants and Berries**

Morel mushrooms "tend to "fruit" in abundance in burned areas of coniferous forests in the spring following a summer fire" (YG 2016j) and are harvested commercially or recreationally. Significant wildfire disturbance occurred in 2004 (FRMP 2013) in proximity to the LSA, indicating a potential for future wildfires that would subsequently support morel harvesting in the vicinity.

Primary data indicate berry picking by trapline holders (Interview 14, Pers. Comm. 2016, Interview 22, Pers. Comm. 2016).

#### **8.4.2.8 Parks and Protected Areas**

Parks and protected areas are regions that are protected due to the significance of their natural, ecological, and other values (IUCN 2012). These protected areas are legally restricted from development or use, purposed solely for environmental conservation (Environment and Climate Change Canada 2016). Forests, wetlands, mountains, and coastal and marine areas are examples of frequently protected regions based on their natural capital. Canada's protected areas are either managed federally or provincially, depending on the park or area. As seen in **Figure 8-12**, there are no parks or protected areas in proximity to the Project area.



COFFEE GOLD MINE

Management Areas,  
Parks, and Protected Areas

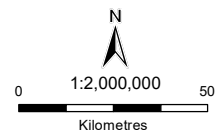


Legend

- Highway
- National/International Border
- Project Footprint
- Management Areas, Parks and Protected Areas

Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Parks and protected areas from geomaticsyukon.ca, 2016.



NAD 1983 UTM Zone 7N

Page Size: 8 1/2" x 11"

Figure 8-12

Date:  
Mar 20, 2017

Drawn by:  
JS

Reviewed:  
DP



#### **8.4.2.9 Resource Development**

Current operational natural resource development within the LSA area includes mineral resource developments and forestry management.

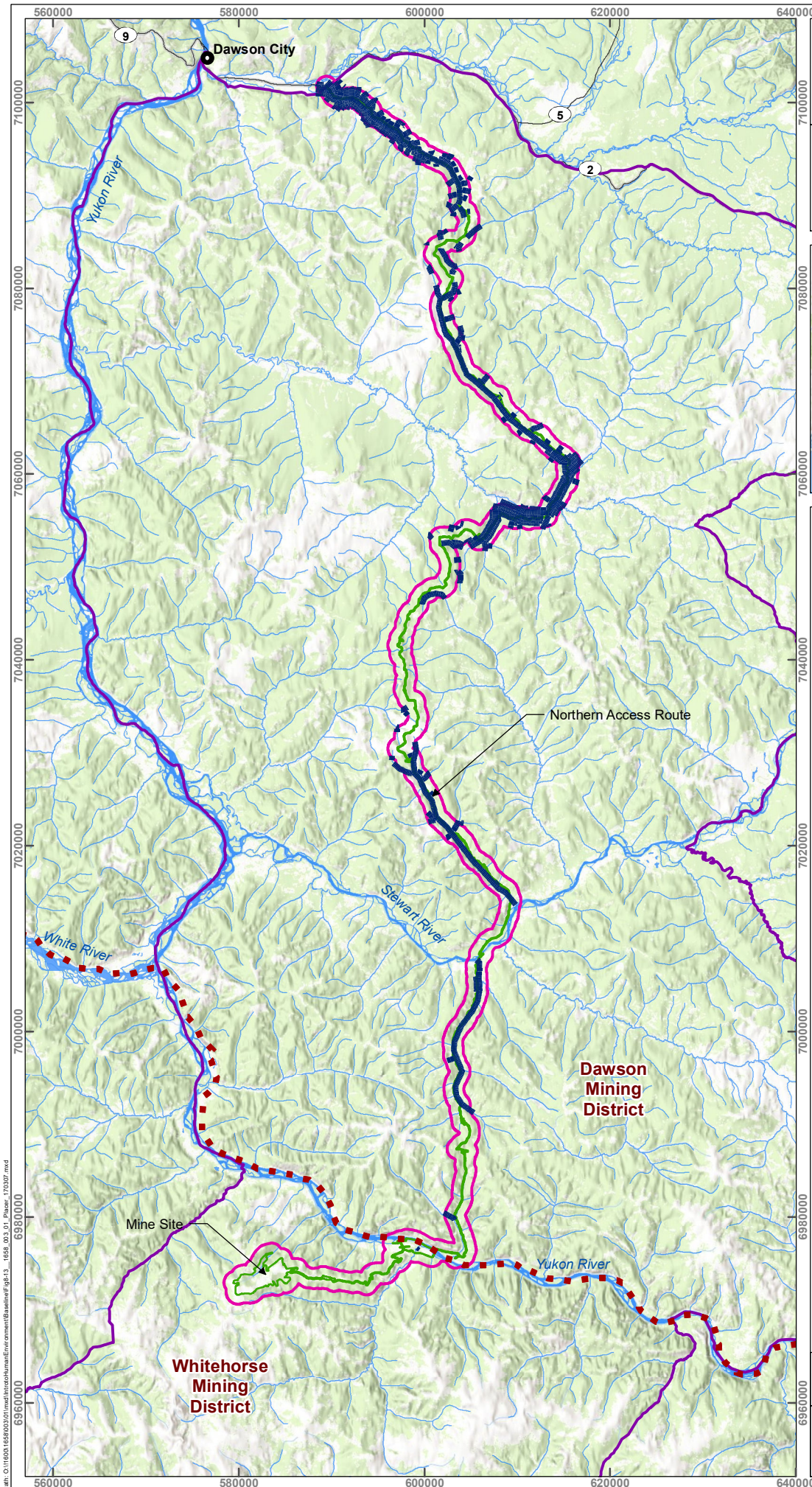
##### ***Mineral Resource Developments***

Yukon hosts deposits of copper, lead, tungsten, zinc, silver, and iron ore. There are also significant hard rock and placer gold deposits and important occurrences of asbestos, barite, and coal (YG 2016k). The proposed Project fall entirely within the Dawson Mining District. Within 1 km of the proposed NAR and the Project Footprint there are currently 34 hard rock claimants (quartz) and 130 placer mine claimants.

Royalties are levied by the Yukon Government under both the *Quartz Mining Act* and the *Placer Mining Act*, SY 2003, c. 13. Royalties are paid to YG, and it has been noted that “significant results from current mining exploration in the region indicate a high potential for economic benefits and impacts on the Klondike” (KDO 2011c, p.4/30).

##### **Placer Mining**

Placer mining is a specific technique in which gold is recovered from gravel (YG 2015m). Placer deposits occur across Yukon; however, most are typically found around Dawson because of its unglaciated properties, which is favourable for placer deposits (YG 2015m). **Figure 8-13** presents placer claims that are located within 1 km of the Project Footprint, which are regulated by YG.



**COFFEE GOLD MINE**

**Placer Mining Claims**



**Legend**

- Highway
- Project Footprint
- Local Assessment Area
- Non-Traditional Land and Resource Use Regional Assessment Area
- Mining Districts
- Placer Claim within 1km of the Project Footprint

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Placer claims from Geomatics Yukon 2016.

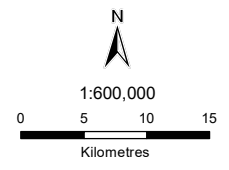


Figure 8-13	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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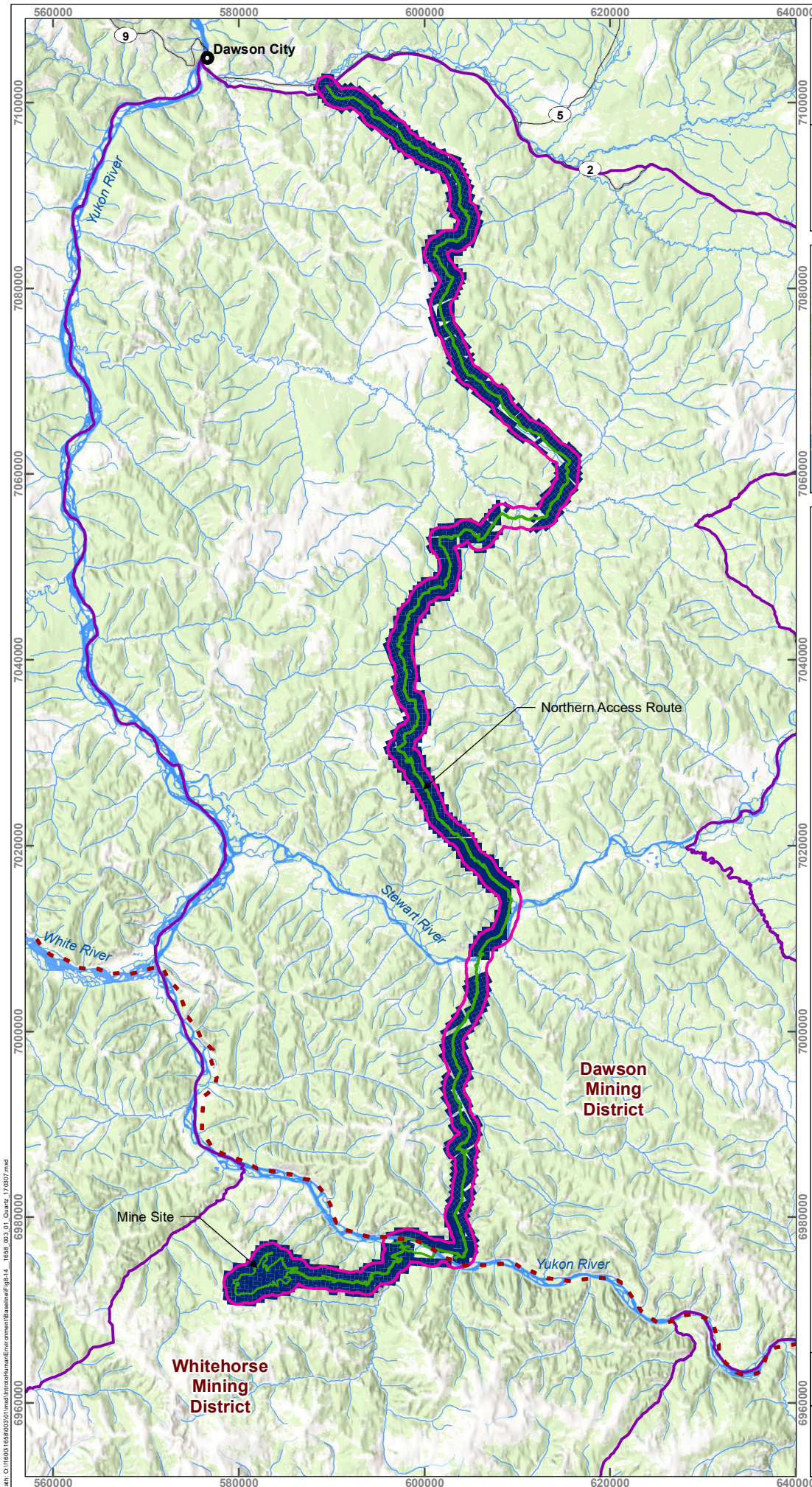


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### **Quartz Mining**

A Quartz Mining license under the Yukon *Quartz Mining Act* [SY 2016, c.5], is required for all hard rock mining in Yukon. **Figure 8-14** illustrates quartz mining claims located within 1 km of the Project Footprint, which are regulated by YG.





**COFFEE GOLD MINE**

**Quartz Mining Claims**

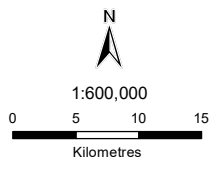


**Legend**

- Highway
- Project Footprint
- Local Assessment Area
- Non-Traditional Land and Resource Use
- Regional Assessment Area
- Mining Districts
- Quartz Claim within 1km of the Project Footprint

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Quartz data from Geomatics Yukon 2016.



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Figure 8-14	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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### **Forest Resources**

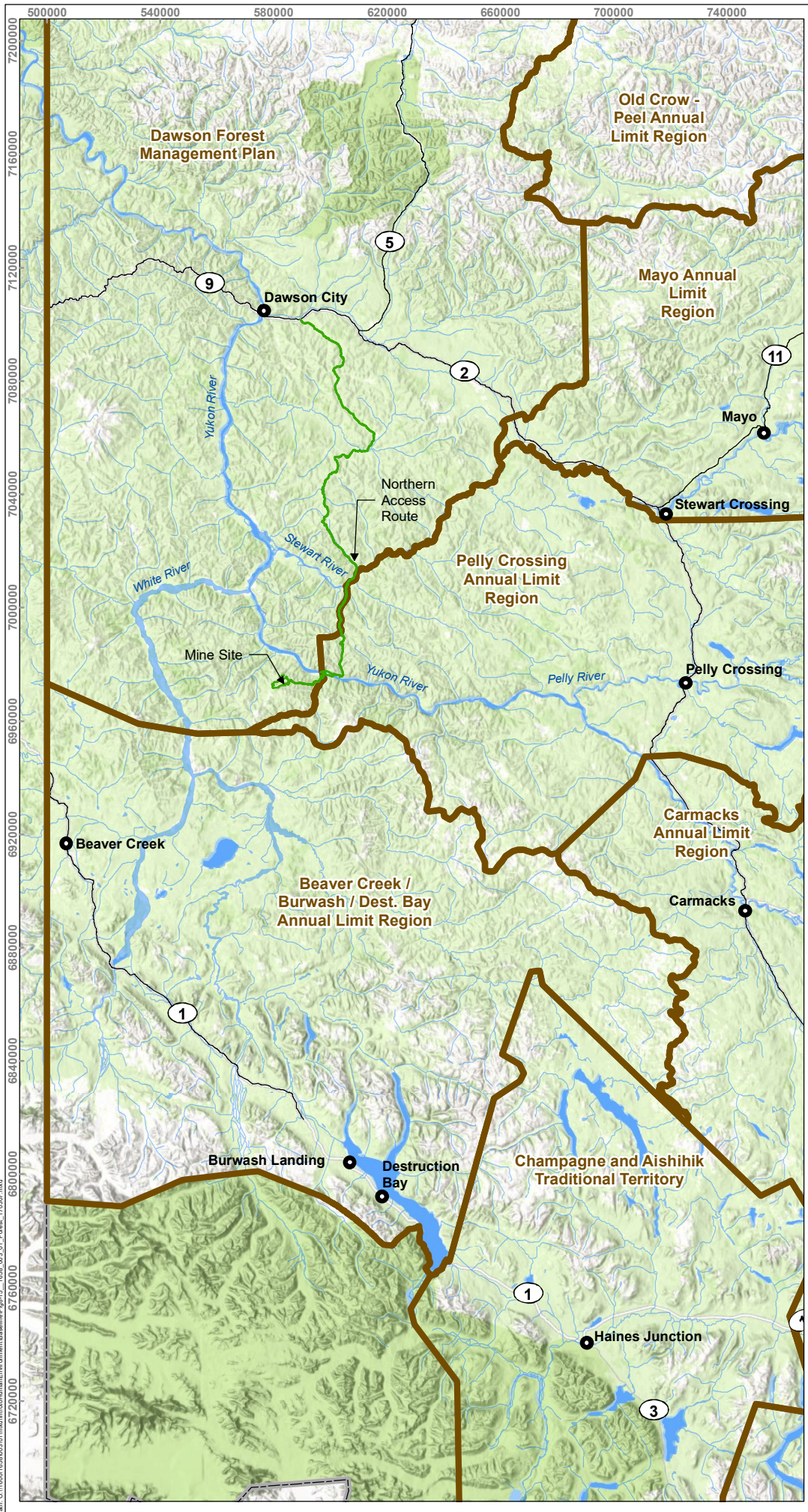
As of 2011, Yukon's total forest land was 7,884 ha, where 214 ha were reserved and 7,669 ha were non-reserved (Statistics Canada 2013c). Boreal forest covers 57% of Yukon, and white spruce and lodgepole pine dominate commercial tree species (YG 2015a). Yukon Government manages forestry resources within the province, establishing three levels of forest planning: Forest Resources Management Plans (FRMPs), Timber Harvest Plans, and Site Plans. These plans range from overarching landscape plans (FRMPs), regional development plans (Timber Harvest Plans), to site-specific management plans (Site Plans) (YG 2016l). **Figure 8-15** outlines the FRMPs surrounding the general Project area, whereas **Figure 8-15** uses a more refined scale to identify the specific Landscape Management Units which overlap with the Project Footprint.

Yukon Government also utilizes the *Forest Resources Act*, SY 2008, c. 15 to ensure responsible forestry management. The *Forest Resources Act* and associated regulations provide conditions for tenures, planning, and compliance, as well as enforcement (Invest Yukon n.d.). The territory also follows strict Annual Allowable Cut and Annual Limit zones that dictate the maximum harvest volume for a given period (Invest Yukon n.d.).

The Project is located within the forest planning region of the Dawson FRMP (**Figure 8-15**). This plan is a joint effort between TH, the Dawson District Renewable Resource Council, and Yukon Government. This region comprises approximately 34,000 km<sup>2</sup>, and includes landscapes such as forests, tundra, waterbodies, wetlands, exposed rock, and human developments (FRMP 2013). The timber and non-timber values which characterize this region are equally diverse.

Currently, Pelly Crossing has no FRMP, and so is considered an Annual Limit Region with an assigned annual cut limit, which is decided through the Forest Resources Regulation as follows:

- 5,000 m<sup>3</sup>/year coniferous trees
- 2,000 m<sup>3</sup>/year deciduous trees.



COFFEE GOLD MINE

Dawson Forest Management Plan Areas

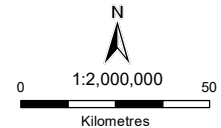


Legend

- Highway
- Project Footprint
- Forest Resources Management Plans
- National/International Border

Notes

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Parks and protected areas from geomaticsyukon.ca, 2016.



NAD 1983 BC Environment Albers

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Figure 8-15	Date: Mar 20, 2017	Drawn by: NK	Reviewed: DP
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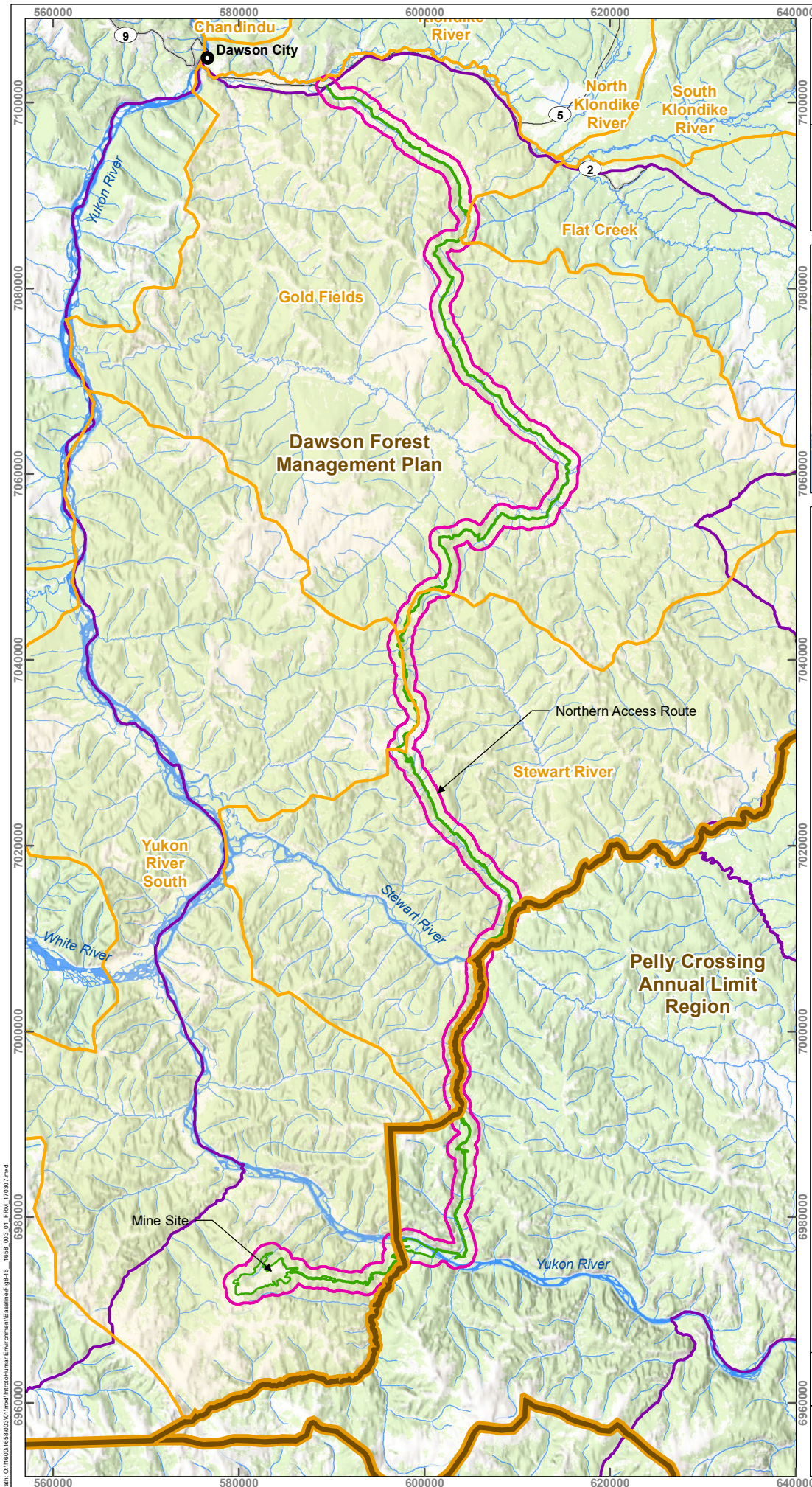
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The FRMP region is divided into 17 landscape management units (LMUs) according to physiographic boundaries. A Forest Resource Use Designation (FRUD) is determined for each LMU, based partly on key concerns for the LMU. Draft strategic forest land use zones have been determined for the Dawson FRMP Land Use Management Zones as follows (Dawson Forest Resources Management Planning Team 2013)  
FRUD Strategic forest land use zones:

- Hinterland Forest Zone (HFZ) – not included in the timber supply analysis. Generally limited to associated resource developments
- Forest Resource Management Zone: (FRMZ) – location for most forest management activities
- Community Forest development Zone: municipal and other developed areas (not contributing to forest use).

The three FRMP LMUs that overlap with the Project are Yukon River South, Stewart River, and Gold Fields; a summary of these landscape units is presented below in **Figure 8-16** and **Table 8-6**. Both the Yukon River South and the Stewart River were designated as Hinterland Forest Zones, and as having medium and low planning priority. However, the Gold Fields area has a high planning priority and is designated as Forest Resource Management Zone. This provides for a strategic overview including high conservation focus, general forest management activities with are specific / special management guidelines for identified wildlife, ecosystem, habitat, and cultural-recreational values (FRMP 2013).

Landscape management units provide for more detailed planning and analysis. The analysis of each LMU provides for the creation of Forest Resource Use Designations, which are based partly on key concerns identified for each LMU. Both the Yukon River South and the Stewart River are designated as Hinterland Forest Zones, and as having medium and low planning priority. The Gold Fields has a high planning priority, however, and is designated as a Forest Resource Use Designation of Forest Resource Management Zone. This designation includes a strategic overview including high conservation focus, and general forest management activities with specific management guidelines for identified wildlife, ecosystem, habitats and cultural-recreational values (FRMP 2013).



**COFFEE GOLD MINE**

**Forest Resource Management**

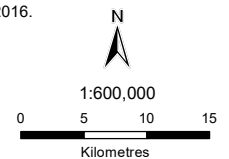


**Legend**

- Highway
- Project Footprint
- Local Assessment Area
- Non-Traditional Land and Resource Use Regional Assessment Area
- Landscape Management Units (shaded signifies overlap with project footprint)
- Forest Resources Management

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Forest Resources data from Geomatics Yukon 2016.



NAD 1983 UTM Zone 7N

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Figure 8-16	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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**Table 8-6 Summary of Forest Resource Management Plan Landscape Units and Key Values**

Landscape Unit Name	Key Values	Priority for Planning	Draft Strategic Forest Land Use Zone Designation
Yukon River South	<ul style="list-style-type: none"> <li>• Yukon River corridor is a high-value heritage resource area</li> <li>• Visual quality</li> <li>• Significant wildfire disturbance in 2004</li> <li>• Considerable placer claims and operations</li> <li>• Peregrine falcon and golden eagle key habitat on Yukon River</li> <li>• Barren-ground caribou winter range</li> <li>• Raptor nest sites</li> <li>• High moose density</li> <li>• Trapping concessions</li> <li>• Non-renewable resource activity</li> </ul>	<ul style="list-style-type: none"> <li>• Medium</li> </ul>	<ul style="list-style-type: none"> <li>• HFZ</li> </ul>
Stewart River	<ul style="list-style-type: none"> <li>• Significant wildfire disturbance in 2004</li> <li>• Placer claims and operations, and considerable quartz claims</li> <li>• High moose density</li> <li>• Whitehorse Dawson Overland Trail passes through the LU</li> <li>• Historic resources related to early mining and the Overland Trail</li> <li>• TH settlement land parcels</li> <li>• Trapping concessions</li> <li>• Non-renewable resource activity</li> </ul>	<ul style="list-style-type: none"> <li>• Low</li> </ul>	<ul style="list-style-type: none"> <li>• HFZ</li> </ul>
Gold Fields	<ul style="list-style-type: none"> <li>• Numerous historic resources</li> <li>• Whitehorse Dawson Overland Trail passes through the LU</li> <li>• Significant wildfire disturbance in 2004</li> <li>• Numerous placer claims and operations; landscape has been significantly altered through industrial mining activity</li> <li>• Extensive quartz mining claims</li> <li>• Ridge Road Heritage Trail</li> <li>• Potentially high timber values in this area</li> <li>• Barren-ground caribou winter range</li> <li>• Raptor nest sites</li> <li>• Beaver key habitat (year-round)</li> <li>• Sharptail grouse key habitat (year-round)</li> <li>• Ungulate mineral licks</li> <li>• High moose density</li> <li>• High visitor use area</li> <li>• Trapping concessions</li> <li>• Non-renewable resource activity</li> </ul>	<ul style="list-style-type: none"> <li>• High</li> </ul>	<ul style="list-style-type: none"> <li>• FRMZ</li> </ul>

**Source:** Adapted from the Dawson Forest Management Planning Team 2013, p.44-45.

#### **8.4.2.10 Oil and Gas**

While there is a potential for future production of oil and gas in Yukon, in northern Yukon and the south-east corner of the territory, there is no known potential in the LSA.

#### **8.4.2.11 Utilities**

Currently, there are no operational utility facilities in the LSA of the Project Footprint; however, there is a potential wind energy site located along the NAR.

#### **8.4.2.12 Recreation and Tourism**

Recreation in the LSA has been identified as an important economic opportunity for the community by the KDO, stating the “importance of quality and variety of recreation opportunities in attracting and retaining residents as a key part of community economic development” (2011c, p.12/30). The 2011 KDO Household Survey found recreation (18%) was the second change recommended to improve the Dawson area, after improved housing (p.5/26). The Tr’ondëk Hwëch’in Resource Report (2012) discusses the potential for tourism, and states that the tourism industry provides a natural fit to a modernized traditional economy. The range of tourism products include: eco-tourism, cultural tourism, health-oriented product and recreational events: “...it is good to show people the land and to tell our stories...” (Tr’ondëk Hwëch’in 2012a). However, any tourism development would need to have careful attention paid to safety, both for people and the land. “Elders feel that any new developments must be small-scale and leave a small footprint.” (Tr’ondëk Hwëch’in 2012a, 46-47).

In addition to considering new tourism opportunities, there are several annual races held within the Project area, which attract locals and international participants (**Figure 8-17**). These include:

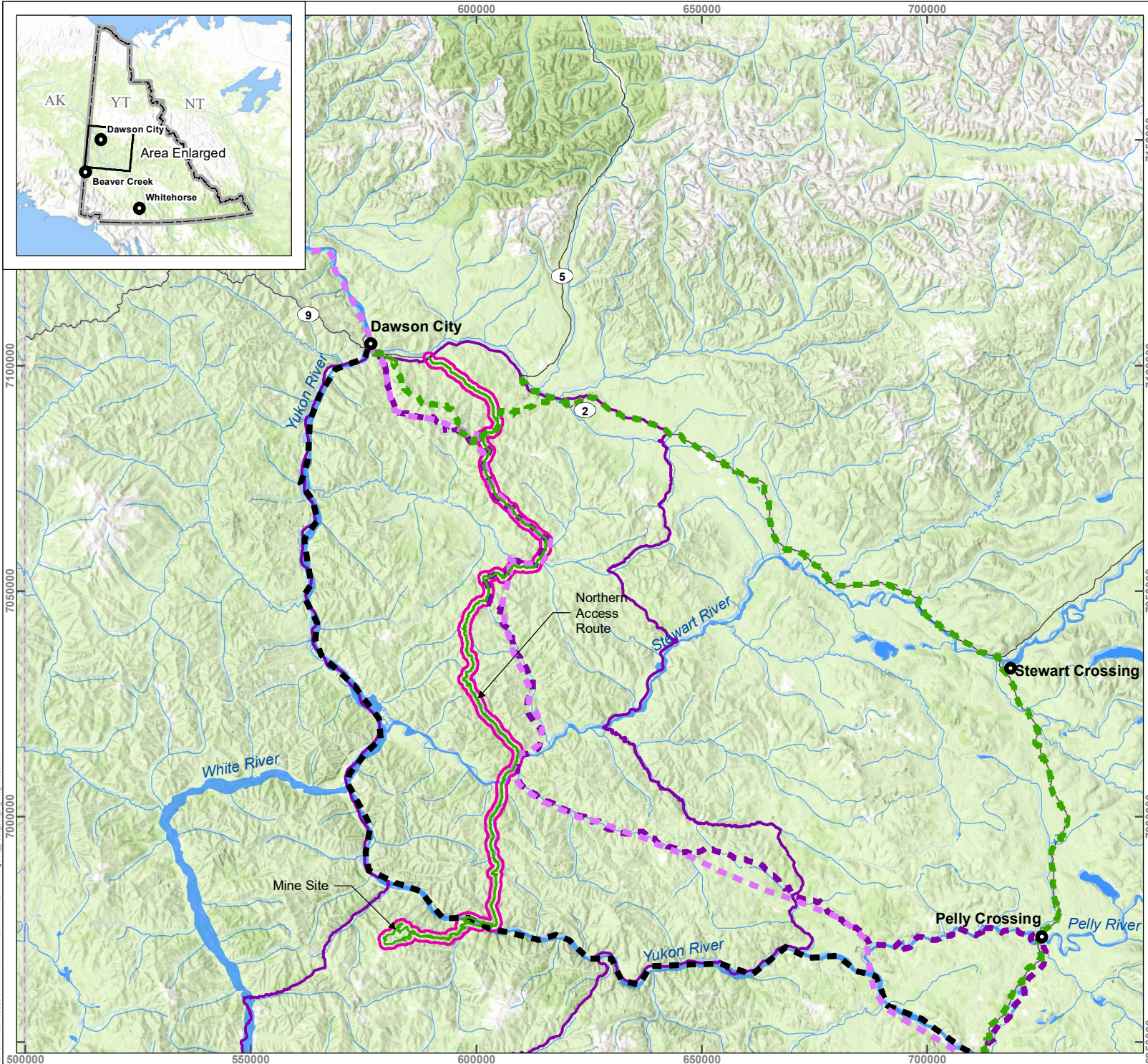
- Yukon River Quest (summer race): world’s longest canoe and paddle race (716 km) from Whitehorse to Dawson, Yukon
- Yukon Quest Sled Dog (winter race): a 1,600-km sled-dog race from Fairbanks Alaska to Whitehorse, Yukon
- Yukon Arctic Ultra (winter race): takes place on the Quest Trail from Whitehorse, to Dawson.

Further, there are tourist attractions including the Trans Canada Trail following the Klondike Highway and commercially offered Yukon River canoe tours (Yukon Wide Adventures (YWA) n.d.).

Primary data collection describes international participation at all events and tourist attractions; approximately 80% of Yukon Wide Adventures’ clients are Europeans from Germany, Austria, and Switzerland, while Australia and Asia are increasing (Interview 29, Pers. Comm. 2016). This is similar to the Yukon River Quest where 12 countries are represented in the 2016, including Australia, Africa, and Europe (Interview 30, Pers. Comm. 2016). Both the Yukon River Quest and Yukon Wide Adventures will be increasing outreach to overseas markets.

Currently, the Trans Canada trail is well used by local residents; however, primary data indicate the trail is potentially not well used outside of the limits of the City of Dawson, as it crosses challenging terrain; people would use the Quest Trail, if they wanted to use a winter trail (Interview 25, Pers. Comm. 2016).





**COFFEE GOLD MINE**

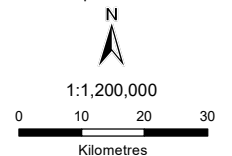
**Recreational Use**

**Legend**

- Highway
- Project Footprint
- Local Assessment Area
- Non-Traditional Land and Resource Use Regional Assessment Area
- Trans Canada Trail
- Yukon Quest Trail
- Yukon River Quest Route
- Yukon Arctic Ultra Route

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
2. Route data interpreted from descriptive or conceptual route maps.



NAD 1983 UTM Zone 7N

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Figure 8-17	Date: Mar 21, 2017	Drawn by: JS	Reviewed: DP
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## 9.0 COMMUNITY HEALTH AND WELL-BEING

This section describes the baseline conditions of community health and well-being in the LSA and RSA, with a focus on the following topics:

- Social Determinants of Health:
  - Crime
  - Food Security
  - Accidents and Injuries
  - Infectious Disease
  - Mental Health and Wellness
  - Health Services Structure and Capacity.

Where possible, health trends are identified and discussed. The overview of social determinants of health provides a summary of baseline conditions related to crime rates; food spending and harvesting; workplace (mine site) injury rates, and workplace health concerns; transportation-related accidents and injuries; infectious disease rates; self-harm; and health system efficiency.



Photo courtesy of Tr'ondëk Hwëch'in

**Photo 9-1 Canoeing**

## 9.1 COMMUNITY HEALTH AND WELL-BEING OVERVIEW

The selection of community health and well-being was informed by the consultation process. A meeting with Yukon’s Chief Medical Officer of Health was held, which identified health as an important community value. Community health and well-being reflects the importance of considering health in the broader context by including elements such as food security and mental health and wellness.

## 9.2 COMMUNITY HEALTH AND WELL-BEING STUDY AREA

The study areas for community health and well-being include an LSA and RSA, summarized in **Table 9-1**:

**Table 9-1 Summary of Spatial Boundaries for Community Health and Well-being Study Areas**

Component	Topic(s)	Local Study Area	Regional Study Area
Community Health and Well-being	<ul style="list-style-type: none"> <li>• Crime</li> <li>• Food Security</li> <li>• Accidents and Injuries</li> <li>• Infectious Disease</li> <li>• Mental Health and Wellness</li> <li>• Health Services Structure and Capacity</li> </ul>	Whitehorse Area, City of Dawson, Beaver Creek, Mayo, and Pelly Crossing	Includes the LSA and Yukon Territory

### 9.2.1 Local Study Area

The LSA for community health and wellbeing includes those communities – and the people therein – that have the potential to experience health and well-being changes as a result of the Project. This includes a 1 kilometer (km) buffer around the Project footprint, the City of Whitehorse, Dawson, Beaver Creek, Pelly Crossing, and Mayo.

Dawson is the closest incorporated community to the Project site, including the NAR. Whitehorse and Dawson are anticipated to serve as locations for staff pickup and drop-off. Consequently, the Project may result in changes in patterns of employment and level of income for community members, population influx, and increased demand for resources related to health and well-being, including health services.

The LSA for community health and wellbeing also encompasses the Project footprint and the communities of Beaver Creek, Pelly Crossing, and Mayo, thereby capturing data related to the administrative centers of the WRFN, SFN, and FNNND, respectively, and reflecting the availability of data at the community scale (**Figure 9-1**). Although these smaller communities are a further distance from the Project location and are unlikely to experience population influxes associated with the Project, it is anticipated that the communities may experience changes in income from potentially providing a source of labour, goods, and services associated with the Project.

### 9.2.2 Regional Study Area

The RSA encompasses the LSA and includes the Yukon Territory communities in general. The RSA provides a larger regional context for findings related to Community Health and Well-being within the LSA.



**COFFEE GOLD MINE**

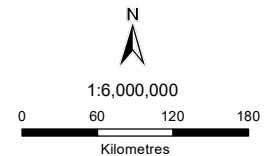
**Community Health and Well-being Study Areas**

**Legend**

- Highway
- National/International Border
- Project Footprint
- Local Study Area
- ▭ Local Assessment Area
- ▭ Community Health and Well-being Regional Study Area

**Notes**

1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.



NAD 1983 UTM Zone 8N

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Figure 9-1

Date:  
Mar 21, 2017

Drawn by:  
JS

Reviewed:  
DP



### 9.3 COMMUNITY HEALTH AND WELL-BEING INFORMATION SOURCES

#### 9.3.1 Desktop Research

Baseline information was obtained from the following sources, which are summarized in **Table 9-2**.

Where available, data were obtained at the community level; however, data were frequently only available at the territorial level. For the purposes of this report, data from Yukon are used as a proxy because of the lack of availability of information for these communities and due to confidentiality concerns.

**Table 9-2 Summary of Key Community Health and Well-being Secondary Data Sources**

Community Health and Well-being	
Statistical Databases	Statistics Canada. CANSIM (database) (2015e, 2016c). Canadian Institute for Health Information (CIHI). 2016. Your Health System (interactive database) Government of Yukon Socio-Economic Web Portal (2015 d,e,f,g,h,i).
Statistical Reports	Allen, M. and Perreault, S. 2013. <i>Police-reported crime in Canada's Provincial North and Territories</i> . Statistics Canada. Arriagada, P. 2016. Aboriginal peoples: Fact sheet for Yukon. Statistics Canada: Social and Aboriginal Statistics Division. Statistics Canada. 2015. <i>Family violence in Canada: A statistical profile</i> , 2013. Canadian Centre for Justice Statistics.
White Papers	Angel A. 2014. Beyond the “Roughneck” Stereotype: Revealing the Actual Face of Mobile Workers in the Alberta Oil Sands and North Dakota’s Bakken Oil Region and Why It Matters to Health. Target Logistics white paper. Conservation Klondike Society. 2011. Dawson Community Food Survey and Market Expansion Strategy. Institute for Sustainable Food Systems at Kwantlen Polytechnic University in Partnership with the Arctic Institute of Community Based Research and Tr’ondëk Hwëch’in First Nation. 2015. Our Food Security Today and Tomorrow in Tr’ondëk Hwëch’in First Nation.
Health Impact Assessment Guidelines and Toolkits	Birley, M. 2011. <i>Health Impact Assessment: Principles and Practice</i> . Routledge. ISBN: 978-1849712774 International Petroleum Industry Environmental Conservation Association. 2005. A Guide to Health Impact Assessments in the Oil and Gas Industry. Minister of Public Works and Government Services Canada. The Canadian Handbook on Health Impact Assessment. 2004. Ross C, Orenstein M, Botchwey N. 2014. Health Impact Assessment in the United States. Springer: New York.
Peer-reviewed Publications	Goldenberg SM, Shoveller JA, Ostry AC, Koehoorn M. 2008. Sexually transmitted infection (STI) testing among young oil and gas workers: the need for innovative, place-based approaches to STI control. <i>Can J Public Health</i> . 99(4):350-4. Paci, C and Villebrun, N. 2005. Mining Denendeh: A Dene Nation Perspective on Community Health Impacts of Mining. <i>Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health</i> 3(1).
Health Impact Assessments	State of Alaska Health Impact Assessment Program Department of Health and Social Services. 2011. Health Impact Assessment: Point Thomson Project.
Data Requests	Yukon Government, Highways and Public Works. December 30, 2015. Information request for traffic collisions. Yukon Workers’ Compensation Health and Safety Board. June 12, 2015 Information request for mining-related injuries.

## 9.3.2 Primary Research

### 9.3.2.1 Interviews

Semi-structured information interviews were conducted with representatives from government departments, various agencies, and organizations to enhance the understanding of and confirm desktop research findings (**Table 9-3**). Information related to the community infrastructure and services were discussed in addition to related socio-economic factors, which influence these conditions.

**Table 9-3 Summary of Community Health and Well-being Interviews**

No.	Organization	Date of Interview	Method of Contact
1	Yukon Women's Transition Home Society	December 16, 2015	In-person Interview
2	Yukon Workers' Compensation Health and Safety Board	December 22, 2015	In-person Interview
3	Yukon Emergency Medical Services	January 13, 2016	In-person Interview
4	Dawson City Community Hospital	February 8, 2016	In-person Interview
5	Tr'ondëk Hwëch'in, Health and Social Department	February 9, 2016	In-person Interview
6	Healthy Families, Healthy Babies	February 9, 2016	In-person Interview
7	City of Dawson Women's Shelter	February 11, 2016	Phone Interview
8	Dawson City RCMP	March 2, 2016	In-person Interview
9	Dawson Search and Rescue, Canadian Rangers	April 11, 2016	Phone Interview

## 9.3.3 Data Limitations

### 9.3.3.1 Data Availability

The availability and quality of community health and well-being-related data limits the ability of study authors to present representative baseline data for all communities. For most topics, data were only available at the territorial level. Health data are not typically reported at a finer scale due to confidentiality and validity-related risks; therefore, this baseline has been limited in its ability to present community-level data for all topics discussed. Where community-level data were not available or appropriate, Yukon or territory level data were presented as a proxy.

### 9.3.3.2 Statistical Data

When Statistics Canada eliminated the long-form Census and replaced it with a voluntary household survey, low response rates were observed (Grant 2015). Thus, statistical data from Statistics Canada may not be available to analyze trends in data related to health and well-being. Please see **Section 2.6** for additional discussion on the limits to statistical data presented in this report.

## **9.4 COMMUNITY HEALTH AND WELL-BEING RESULTS AND DISCUSSION**

These results are presented primarily at the territorial level due to data availability, with additional primary data focusing on the LSA. See the Health Impact Assessment (**Appendix 18-B**) and Human Health Risk Assessment (**Appendix 18-C**) for further details on health-related baseline information.

### **9.4.1 Social Determinants of Health**

The health and well-being of individuals and communities are influenced by such social issues as living conditions, economic conditions, and community and family structure. The influence that these factors may have on health and well-being are complex. It is important to consider social determinants of health, while recognizing that there typically is no direct cause-and-effect relationship between social determinants of health and health outcomes.

#### **9.4.1.1 Children in Care**

The Child and Family Services division of Yukon Government Health and Social Services provides child placement services including adoption, foster care, and child abuse treatment services (YG 2016m). The Child Protection branch provides programming intended to reduce family violence, child abuse, and neglect, including family home workers who can provide intensive in-home support (YG 2016n).

A recent Aboriginal Children in Care report specified that 64% of Yukon children in care are Aboriginal, although 33% of the child population is Aboriginal (Aboriginal Children in Care Working Group 2015). A total of 4% of Yukon Aboriginal children aged 14 and younger were in foster care in 2014 (Arriagada 2016). There were 30% fewer Aboriginal children in care in 2013 and 2014 as compared to 2007 and 2008 (Aboriginal Children in Care Working Group 2015).

Yukon's 2010 *Child and Family Services Act*, SY 2008, c. 1 established a Cooperative Planning Process for Child Welfare Services, which mandated First Nations involvement in all aspects of planning and decision-making for their children (Aboriginal Children in Care Working Group 2015). This legislation, developed in collaboration with Yukon First Nations, includes collaborative and inclusive decision-making, and incorporates culture and community. In 2012, the Department of Health and Social Services and Kwanlin Dün First Nation developed the Child Protection Memorandum of Agreement regarding child welfare services provided to Kwanlin Dün First Nation families, which fully included Kwanlin Dün First Nation in the delivery and evaluation of child welfare services; it is anticipated that similar Memorandums of Agreement will be developed with other Yukon First Nations (Aboriginal Children in Care Working Group 2015).

### **9.4.1.2 Early Childhood**

The Social Inclusion Survey conducted in 2010 by YG reported that 31% of parents had difficulty finding child care and 28% had difficulty finding affordable child care, particularly for people living outside of Whitehorse. Of the families surveyed with children under 14 living in their households, 45% had a full-time, stay-at-home parent (the mother in 72.3% of families), and 30.4% of families had a parent work reduced hours to care for children (the mother for 73.3% of families) (YG 2010c).

Child care is often a necessity for working parents, especially when families do not have the support of extended family or for lone-parent households. Access to child care is a challenge throughout Canada, with one estimate suggesting that day care centres only have space for approximately 20% of children needing care. The quality of child care also play a role in language and cognitive development as well as emotional development (Cohen et al n.d.).

#### **Local Study Area**

Dawson is currently experiencing a shortage in child care availability. In June 2015, the wait list at the Little Blue Early Child Care and Learning Centre was longer than the number of spaces (Windeyer, 2015a), and the lack of child care has been impacting people's ability to work (Windeyer, 2015b). The Centre has 20 spaces for children.

Young families in Dawson are also serviced by Healthy Families, Healthy Babies, which is part of the Canadian Prenatal Nutrition Program funded by the Public Health Agency of Canada. This program offers programming for approximately 40 families with children up to the age of 2, and has two staff members, each working 30 hours per week. The program's coordinator is responsible for programming, coordinating lending resources such as breast pumps and other higher-cost baby-related equipment, securing funding, and providing support for families. A respite worker provides individual support and respite care for participating families, and can support up to six clients at a time (Interview 9, Pers. Comm. 2016).

Tr'ondëk Hwëch'in operates a daycare facility, Trinke Zho, which offers care for both First Nations and non-First Nations children, including the Headstart Program. Trinke Zho can accommodate 60 children. Tr'ondëk Hwëch'in citizens are also supported by a prenatal group offered through the Community Centre. The importance of family, children, and youth was mentioned frequently by TH citizens, with the birth of children being particularly important to show strong family ties. Many Elders care for children in the community. Tr'ondëk Hwëch'in government provides support for pregnant women, families with young children, Elders, and others needing support, working in collaboration with other resources in the community. Elders receive support with health needs, practical needs such as completing tax returns, and activities and outings (Interview 6, Pers. Comm. 2016).



### 9.4.1.3 Crime

Community safety is an important component of a community's well-being. Crime affects not only the victims, but also indirectly affects the overall well-being of members of a community; a high violent crime rate has a social cost by contributing to fear. It has also been found that crime rates have a stronger negative effect on well-being in smaller geographic areas (Cornaglia et al 2014).

The Crime Severity Index (CSI) is a tool that is weighted to account for the severity of police-reported crime, using Canada in 2006 as a reference point of 100. The following section includes reported incidents as well as the reported CSI.

#### *Regional Assessment Area*

In 2014, the crime rate in Yukon was the third highest in Canada, behind Nunavut and NWT, at 23,919 incidents per 100,000 population (Statistics Canada 2016b). This reflected an increase of 0.3% over the 2013 rate and an increase of 7.8% over the 2005 rate (YBS 2015d). There were 8,733 *Criminal Code* violations in Yukon in 2014, with 19.0% being violent, as compared to 20.6% for Canada. The majority (41.9%) was "other" violations, primarily disturbing the peace (2,634 incidents) and administration of justice (840 incidents). A total of 39.1% were property crimes, as compared to 61.4% nationally. This positioned the territory as the lowest in the country for property crimes, the sixth lowest for violent violations, and the highest for "other" violations (YBS 2015d).

Overall, the total number of violations has shown an increasing trend over time in Yukon, with a total of 8,670 violations in 2013 and 8,733 in 2014, as compared to 7,914 in 2004 (**Table 9-4**). Similarly, violent *Criminal Code* violations have increased in number in recent years, with 1,525 and 1,660 violations reported in 2013 and 2014 respectively (**Table 9-4**) (YBS 2015d).

Similarly, to the other territories, Yukon has a higher CSI than Canada; Yukon's CSI showed an increasing trend in 2013 and 2014, but the 2014 rate of 188.03 was substantially lower than the 2004 rate of 245.46 (Statistics Canada 2016c). For the same period, there was an increase of 50% in Yukon's violent crime severity index, with an increase from 157.21 in 2013 to 238.91 in 2014 (**Table 9-4**).

#### *Local Assessment Area*

Whitehorse reported a high of 6,380 total violations in 2014, and a low of 4,354 violations in 2006, reflecting a generally upward trend in recent years (Statistics Canada 2016b). Violent *Criminal Code* violations for Whitehorse were variable for 2004 to 2014, with a peak of 1,070 in 2014 and a low of 671 in 2006 (**Figure 9-2**) (YBS 2015d). Whitehorse had an increase of 83% in its violent CSI from 2013 (111.72) to 2014 (204.05) (**Table 9-4**) (Statistics Canada 2016c).

Overall in Dawson, there is a reasonably consistent pattern of violations for the period between 2004 and 2014, with total violations ranging from a high of 377 in 2005 and a low of 319 in 2006 (Statistics Canada 2016b). Violent *Criminal Code* violations ranged from a low of 45 in 2013 to a high of 83 in 2005 (**Figure 9-2**) (YBS 2015d). Dawson had an increase of 137% in its violent CSI from 2013 (90.71) to 2014 (214.90) (**Table 9-4**) (Statistics Canada 2016c); however, in a small community, several incidents can generate a large increase, and local RCMP have not observed a noticeable change; an increase of 80 to 100 incidents per year would be of concern (Interview 26, Pers. Comm. 2016).

Beaver Creek reported a high of 60 total violations in 2009, and a low of 24 violations in 2014, reflecting a generally downward trend in recent years (Statistics Canada 2016b). Violent *Criminal Code* violations were variable for 2004 to 2014, with a peak of 16 in 2012 and a low of 4 in 2014 **Figure 9-2** (YBS 2015d).

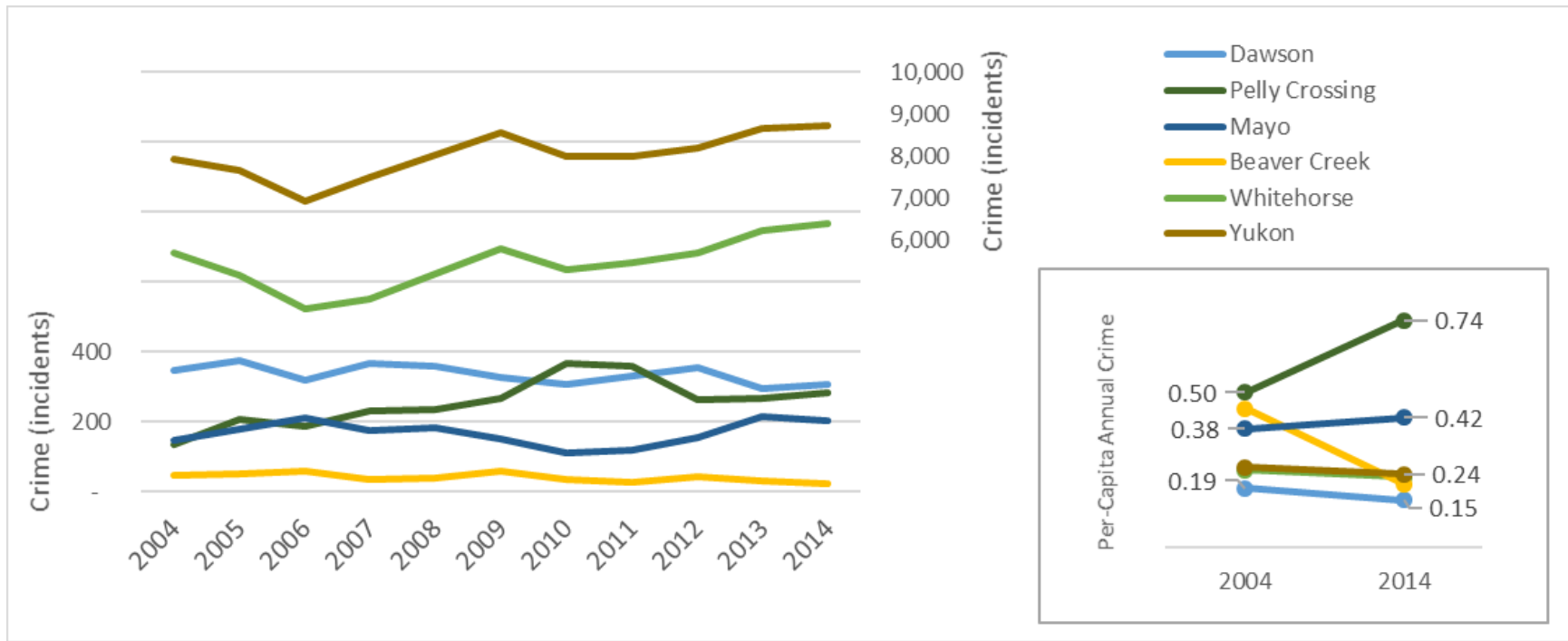
Pelly Crossing had a range of 135 (2004) to 368 (2010) total violations, with violent *Criminal Code* violations ranging from 32 in 2005 and 2006 to 74 in 2010 (**Figure 9-2**) (Statistics Canada 2016b; YBS 2015d).

Mayo had a range of 113 (2010) to 214 (2013) violations for the reported period, with 17 (2008) to 60 (2014) violent *Criminal Code* violations. The highest reported rates were observed in 2013 and 2014 for both categories (**Figure 9-2**) (Statistics Canada 2016b; YBS 2015d).

**Table 9-4 Police-reported Crime Severity Index, Yukon and Dawson, 2004 to 2014**

Geography	Statistics	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Yukon	Crime severity index	245.46	199.41	180.43	186.25	182.79	180.86	171.00	154.74	156.19	169.80	188.03
	% change in crime severity index	-5.11	-18.76	-9.52	3.23	-1.86	-1.06	-5.45	-9.51	0.94	8.71	10.74
	Violent crime severity index	294.33	166.86	158.10	198.41	195.49	200.22	186.20	176.61	163.47	157.21	238.91
	% change in violent crime severity index	22.82	-43.31	-5.25	25.50	-1.47	2.42	-7.00	-5.15	-7.44	-3.83	51.97
Whitehorse	Crime severity index	205.99	168.53	147.70	140.88	150.14	142.55	135.91	121.40	125.85	137.24	159.15
	% change in crime severity index	-10.05	-18.19	-12.36	-4.62	6.57	-5.06	-4.66	-10.68	3.67	9.05	15.96
	Violent crime severity index	200.35	138.67	116.03	145.78	172.53	151.47	142.70	115.45	124.84	111.72	204.05
	% change in violent crime severity index	0.24	-30.79	-16.33	25.64	18.35	-12.21	-5.79	-19.10	8.13	-10.51	82.64
Dawson	Crime severity index	255.82	185.17	158.96	194.48	168.57	176.72	176.10	240.90	160.41	168.45	193.95
	% change in crime severity index	-11.63	-27.62	-14.15	22.35	-13.32	4.83	-0.35	36.80	-33.41	5.01	15.14
	Violent crime severity index	409.86	174.88	157.61	162.18	144.94	167.27	143.06	401.93	117.01	90.71	214.90
	% change in violent crime severity index	-19.22	-57.33	-9.88	2.90	-10.63	15.41	-14.47	180.95	-70.89	-22.48	136.91

Source: Statistics Canada 2016c



Source: Statistics Canada 2016b

Figure 9-2 Actual Incidents of Crime 2004-2014

### 9.4.2 Food Security

The City of Dawson Official Community Plan includes food security as a priority, defining it as "...the ability to secure nutritious, affordable and culturally appropriate food through healthy systems" (City of Dawson 2012). Yukon households both with and without children have rates of food insecurity somewhat above the national average (**Table 9-5**), and food security has been mentioned as a concern (Interview 9, Personal Communication 2016).

**Table 9-5 Percentage of Households Reporting Moderate and Severe Food Insecurity**

Geography	Presence of Children in Household	2007 / 2008	2011 / 2012
Canada	Total of households (%)	7.7	8.3
	Child(ren) less than 18 years old present (%)	9.7	10.3
	No children less than 18 years old present	6.8	7.5
Yukon	Total of households (%)	11.3	11.4
	Child(ren) less than 18 years old present (%)	12.9	12.1
	No children less than 18 years old present (%)	10.6 <sup>E</sup>	11.2

<sup>E</sup> Use with caution.

**Source:** Statistics Canada 2013d.

Tr'ondëk Hwëch'in has launched several initiatives to enhance food security, including a collaborative Teaching and Working Farm in collaboration with Yukon College, with classes beginning in Spring 2016 (Tr'ondëk Hwëch'in n.d.a). The Farm School includes both formal classroom instruction and field experience.

A recent community-based study in collaboration with TH found that sharing and trading food remains a common practice that strengthens the community's spiritual development (Institute for Sustainable Food Systems 2015).

### 9.4.3 Accidents and Injuries

Yukon has very high rates of unintentional injuries causing death; it is typically ranked as the third leading cause of death (the second leading in 2009), behind cancer and heart disease, whereas in Canada, unintentional injury is the fifth leading cause of death (see **Appendix 18-B Health Impact Assessment Report**). In 2009, unintentional injury was ranked as the second leading cause of death, together with heart disease. The rates of injuries requiring hospitalization are generally about 1.5 to 2 times the national average; this may be partly attributed to higher-risk recreational opportunities in Yukon, such as snowmobiling (YG 2013h).

According to the Canadian Community Health Survey, approximately 15 to 20% of Yukoners typically report an injury that has limited their normal activities in the past year; approximately 11%, on average, looked for medical attention for their injuries

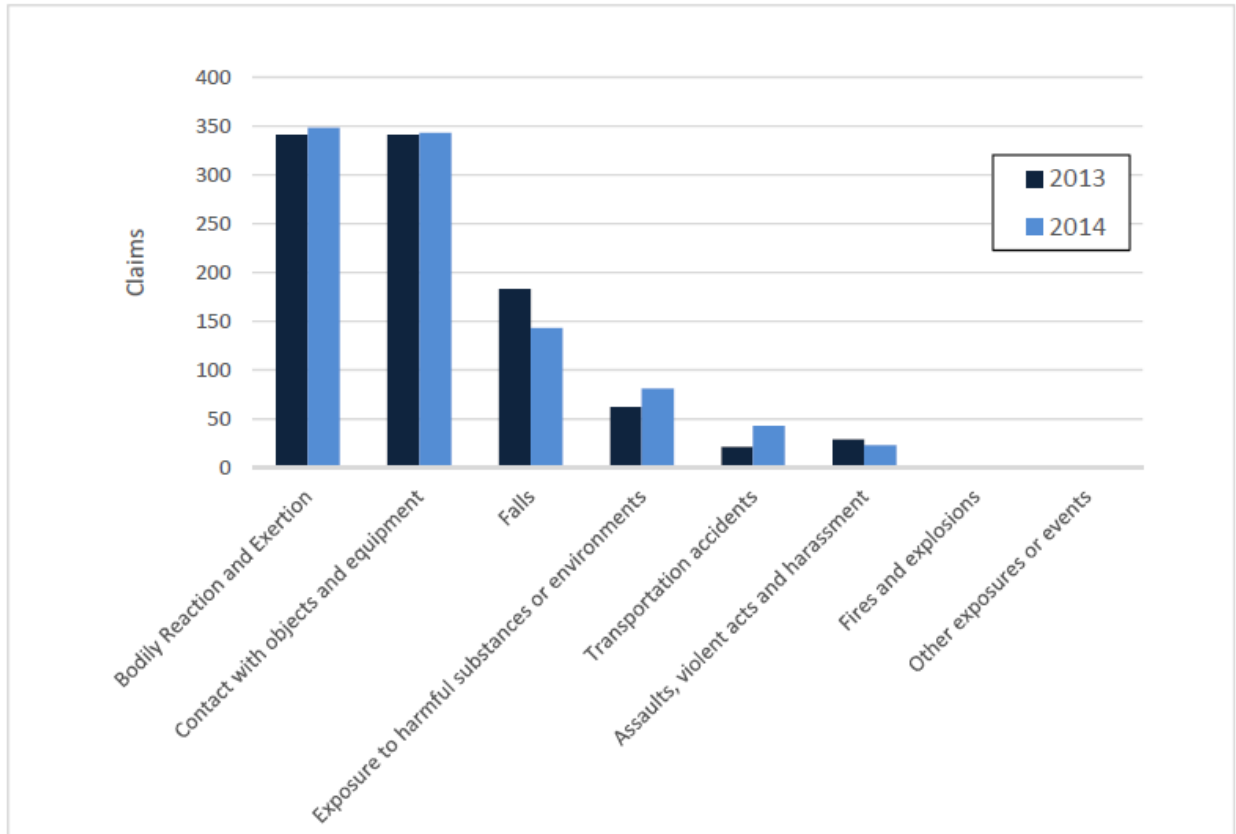
#### **9.4.4 Workplace Health and Safety**

Overall, Yukon workers' compensation claims are most commonly due to contact with objects and equipment, bodily reaction and exertion, and falls (**Figure 9-3**). Transportation accidents; fires and explosions; and assaults, violent acts, and harassment are less commonly the cause of an accepted workplace claim.

The occupational category with the highest published number of claims in 2013 and 2014 is for Trades, Transport and Equipment Operators and Related Occupations, with 427 and 430 claims respectively, of a total of 979 and 982 claims, or 43.6% and 43.8% of all claims (YWCHSB 2014).

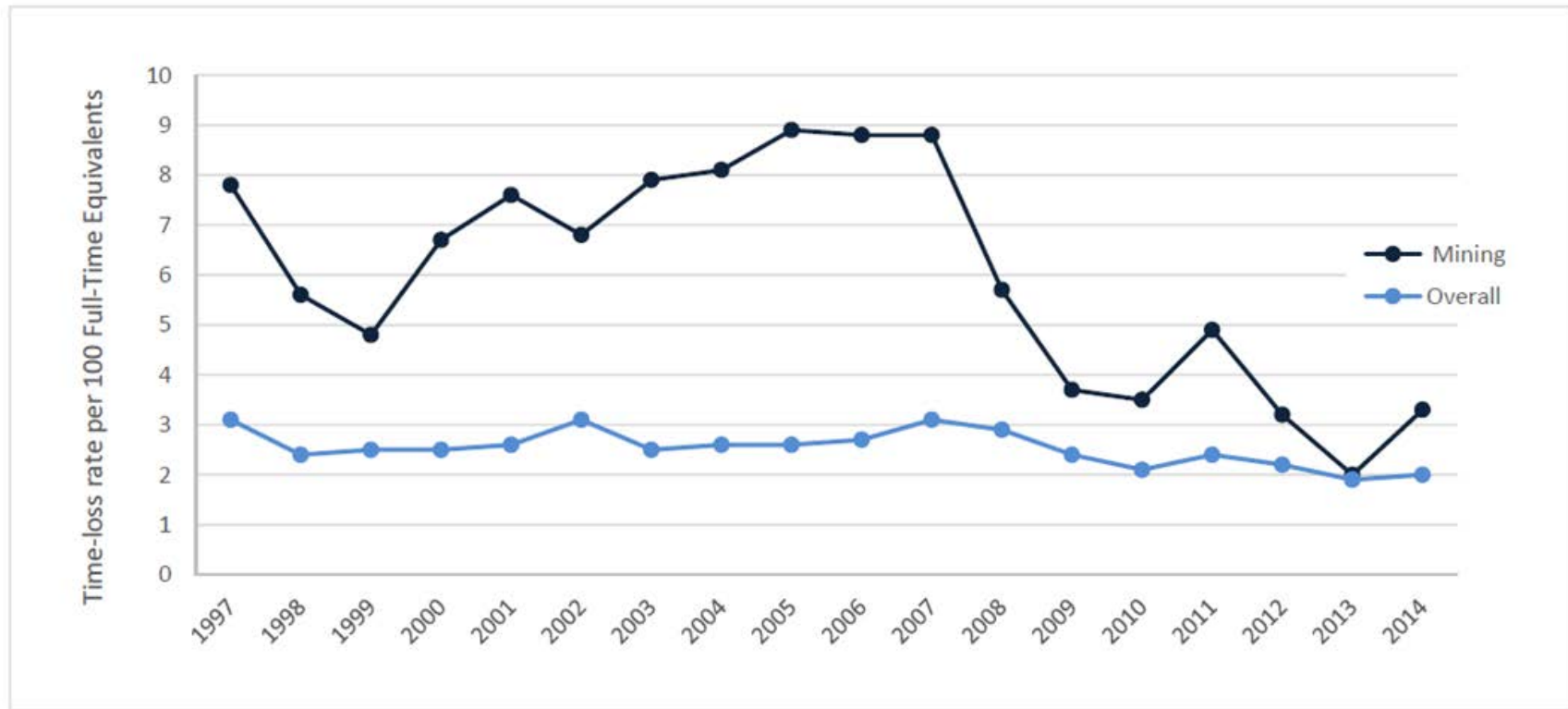
Similarly, workplace injuries for mining-related industries in Yukon have shown consistently higher rates for lost time as compared to all industries from 1997 to present (**Figure 9-4**). For the purposes of Yukon Workers Compensation Health and Safety Board data reporting, mining-related activities include the following categories: diamond drilling, drilling gas or oil wells, drilling water wells, exploration, gravel crushing or stockpiling, mapping, surveying, or prospecting; therefore, these results must be interpreted with caution. Looking at trends over time, mining-related lost-time rates appear to be higher in the earlier years of the reporting period (1997 to 2008) and decrease in more recent years, with 2013 lost-time rates for mining approximating the overall rate (2.0 vs. 1.9 respectively). The Yukon mining industry has been noted to have strong health and safety practices and regulations (Interview 1, Pers. Comm. 2016).

Other mining-specific workplace health concerns include the presence of dust in the crushing area and pit, as well as for the camp and access road (Interview 33, Pers. Comm. 2015). Baseline monitoring for dust fall and air quality have taken place, and models for air quality and noise considerations are included in **Appendix 18-C Human Health Risk Assessment Report**.



Source: YWCHSB 2014

**Figure 9-3 Accepted Workers Compensation Claims by Event or Exposure in Yukon, 2013 to 2014**



**Source:** YWCHSB 2014

**Note:** For this chart, mining includes the following YWCHSB industries: diamond drilling, drilling gas or oil wells, drilling water wells, exploration, gravel crushing or stockpiling, mapping, surveying, or prospecting.

**Figure 9-4 Workers Compensation: Lost-time Rates per 100 Full-time Equivalents for Mining-related Industries in Yukon**



#### 9.4.4.1 Transportation-related Injuries

In 2011, traffic fatalities appeared to be higher in Yukon than the rate for Canada with a territorial rate of 11.6 per 100,000, as compared to a national fatality rate of 6.5 per 100,000 (Transport Canada 2012).

Annually, motor vehicle collisions in Yukon average about 770 per year (680 to 832) with an average of 8.6 fatal collisions (5 to 13) and 216 injury collisions (174 to 271) for the reporting period of 2002 to 2012 (YG 2015o) (**Table 9-6**). For commercial traffic, an average of 65 collisions were reported annually (range 42 to 96), or approximately 8.4% of all collisions; no fatal collisions were recorded, and an average of 13 injury collisions (5 to 21), or approximately 6% of all collisions were reported for the same period (**Table 9-7**). The North Klondike Highway experienced 6.7% of all collisions for this reporting period, with 14% of the total fatalities and 13% of injury collisions, suggesting that collisions are less likely to occur on this highway as compared to the Yukon territory, but are more likely to be of consequence (**Table 9-8**). It is probable that most collisions happen in Whitehorse, where the population is concentrated, and where fewer collisions would take place at highway speed. Concern has been expressed, however, about safety on the proposed access route to the Project due to speeding, drinking and driving, and tourists unfamiliar with the roads (Interview 34, Pers. Comm. 2016).

**Table 9-6 Motor Vehicle Collisions by Severity, Yukon, 2002 to 2012**

Year	Total	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Collision Severity</b>												
Total Collisions	8477	751	756	680	691	771	796	803	825	828	744	832
Fatal Collisions	78	12	7	5	6	13	5	8	7	1	9	0
Injury Collisions	2381	271	233	213	195	232	208	240	174	224	191	200

Source: YG 2015o

**Table 9-7 Motor Vehicle Collisions by Severity, Yukon Commercial Traffic, 2002 to 2012**

Year	Total	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Collision Severity</b>												
Total Collisions	722	58	46	69	42	68	70	68	67	83	55	96
Injury Collisions	145	18	5	19	9	13	17	18	19	21	12	11

Source: YG 2015o

**Table 9-8 Motor Vehicle Collisions by Severity, North Klondike Highway, 2002 to 2012**

Year	Total	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Collision Severity</b>												
Total Collisions	568	52	53	45	38	45	57	64	68	50	52	44
Injury Collisions	313	39	34	20	22	23	32	35	31	29	24	24

Source: YG 2015o

#### 9.4.5 Infectious Disease

Respiratory and gastrointestinal (enteric, food, and waterborne) diseases can spread quickly in close living quarters such as those experienced in a work camp. Yukon experiences outbreaks of norovirus, and reports giardiasis most commonly, as well as other infections such as campylobacteriosis, salmonellosis, and cryptosporidiosis. Laboratory-confirmed influenza rates reached a high of 497.1 per 100,000 in 2009 for the reporting period 2007 to 2012. Tuberculosis rates declined in 2012 to 2.9 per 100,000 from a peak of 24.2 cases per 100,000 in 2008. (YG 2013i).

An influx of mobile workers can be associated with increased rates of sexually transmitted infections (STIs). For example, the in-migration of young, predominantly male oil and gas workers in northern British Columbia corresponded with increased chlamydia rates, 22% higher than the provincial average rate (Goldenberg et al 2008). Treatment is available for many STIs and they can often be prevented. Should STI rates increase, the Dawson City Community Hospital has the capacity to treat them (Interview 3, Pers. Comm. 2016).

Reported chlamydia rates are higher in Yukon than in southern Canada (PHAC 2010), but have been showing a steadily decreasing trend in Yukon from 2007 to 2012 (**Table 9-9**). Similarly, Hepatitis C rates have also been showing a decreasing trend (**Table 9-9**). Syphilis was reported in the territory in 2009 and 2012 (**Table 9-9**).

**Table 9-9 Sexually Transmitted Infections, Yukon**

Rate per 100,000	2007	2008	2009	2010	2011	2012
Chlamydia	740.6	703.0	632.4	654.3	600.0	502.9
Gonorrhea	53.1	51.5	44.1	88.6	20.0	25.7
Syphilis	0.0	0.0	8.8	0.0	0.0	5.7
Human Immunodeficiency Virus	0.0	6.1	8.8	2.9	2.9	2.9
Hepatitis C	128.1	87.9	94.1	60.0	62.9	60.0

Source: YG 2013i

#### 9.4.6 Mental Health and Wellness

Mental health is an important issue in Yukon and Dawson, and was frequently mentioned as an issue of concern (Interview 9, Pers. Comm. 2016, Interview 16, Pers. Comm. 2016). Many Rivers offers services in Dawson, with one visiting counsellor. One mental health nurse serves the community as well as Pelly Crossing and Mayo. The territory is served by two psychiatrists based in Whitehorse.

Community consultation found that access to mental health services was a concern (Interview 16, Pers. Comm. 2016). Because Many Rivers currently has a male counsellor in Dawson, it was thought that some women, particularly those who had experienced an assault or abuse from a man, might not be comfortable receiving support from a male counsellor (Interview 16, Pers. Comm. 2016). It was also mentioned that the mental health nurse is only in Dawson part-time and, due to limitations of time, can only provide services to those with more severe and persistent mental illness (Interview 16, Pers. Comm. 2016). The hospital has a secure space for those who might pose a risk to themselves or others, but it is not appropriate for longer-term care (Interview 3, Pers. Comm. 2016, Interview 16, Pers. Comm. 2016). The issue of confidentiality was also raised as a challenge of receiving mental health services in a small community (Interview 16, Pers. Comm. 2016).

Connection to the land has been mentioned as an important element for mental health, particularly for First Nations people, but also for everyone (Interview 31, Pers. Comm. 2015). Impacts on the land, such as mining, have consequences on mental health for both individuals and communities (Interview 31, Pers. Comm. 2015) (**Photo 9-2**).



Photo courtesy of Tr'ondëk Hwëch'in

**Photo 9-2** Tr'ondëk Hwëch'in citizens boating near Coffee Creek

Perceived health, mental health, and life stress levels are important gauges for wellness and quality of life. Overall, Yukoners report high rates of community belonging and life satisfaction, although perceived mental health has been decreasing over the past decade (**Table 9-10**). Perceived life stress has remained relatively consistent over the reporting period, varying from 17.4% (2010) to 21.4% (2008). The clear majority of Yukoners reported having a sense of community belonging, ranging from 69.1% (2005) to 81.1% (2010). Similarly, life satisfaction rates were high, ranging from 88.4% (2003) to 10.1% (2011) (Statistics Canada 2014).

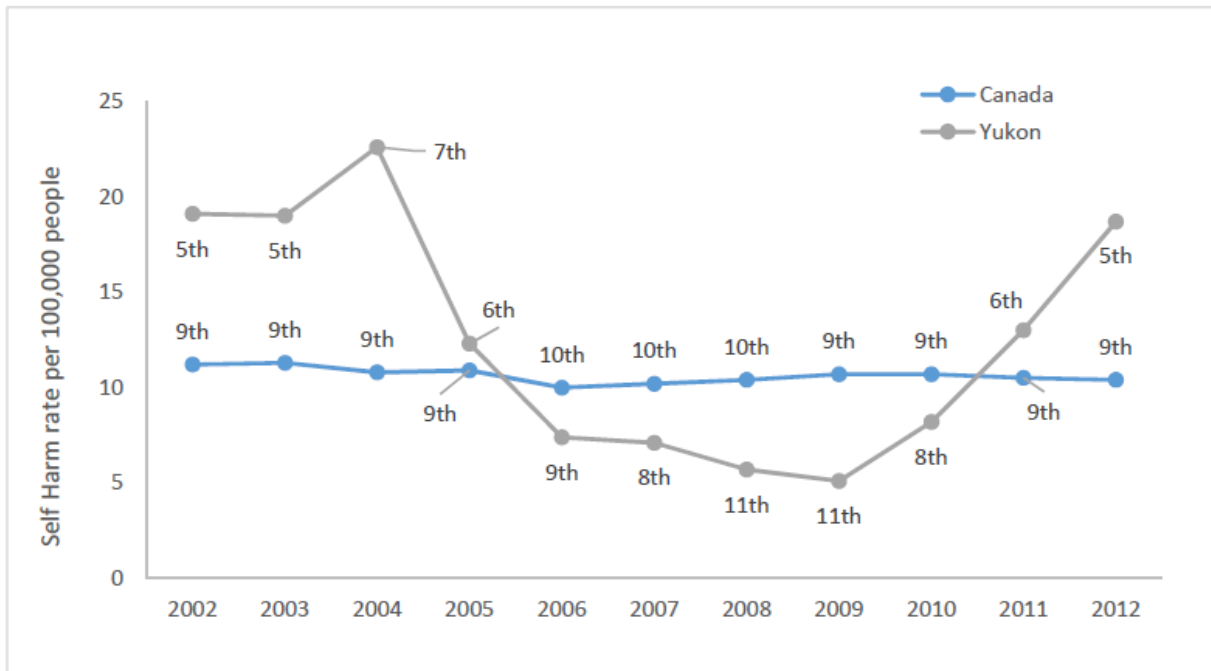
Reported rates of mood disorders also appear lower in Yukon than Canada but these statistics are to be used with caution due to response rate. It is generally understood that about one in five Canadians will experience a mental health issue in any given year (Canadian Mental Health Association 2016).

**Table 9-10 Mental Health and Wellness Characteristics, Yukon**

Characteristic	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Perceived health; very good or excellent (%)	54.3	N/A	57.4	N/A	55.8	61.6	60.8	57.8	60.1	57.1	59.7
Perceived health; fair or poor (%)	11.6	N/A	9.8	N/A	11	9.6	10.5	11.9	11.5	10.9	10
Perceived mental health; very good or excellent (%)	74.7	N/A	75.5	N/A	72.8	73.5	75.5	72.1	66.1	70.9	66.4
Perceived mental health; fair or poor (%)	3.9	N/A	4	N/A	3.1	7.2	5.5	6.3	6.5	4.7	6.8
Perceived life stress (%)	16.8	N/A	21.8	N/A	20.9	21.4	19.9	17.4	20.9	21.1	21
Sense of community belonging (%)	70.1	N/A	69.1	N/A	71	72.7	71.1	81.1	78.9	73.5	72.2
Life satisfaction; satisfied or very satisfied (%)	88.4	N/A	91	N/A	91.3	89.2	90.6	93.4	95	92.6	90.9
Mood Disorder (%)	3.9		6.1		7.2	8.3	9.9	10.8	10.1	5.2	7.6

**Source:** Statistics Canada 2014

Rates of intentional self-harm have been showing an increasing trend in Yukon (**Figure 9-5**). It was the 11th leading cause of death in 2008 with a rate of 5.7 per 100,000, below the national rate of 10.4 per 100,000. In 2012, it had increased to the fifth leading cause of death with a rate of 18.7 per 100,000, exceeding the national average of 10.4. Over the corresponding period, the national rate remained relatively steady, fluctuating between 10.4 and 10.7 per 100,000 (Statistics Canada 2015f).



**Figure 9-5 Intentional Self-harm Rate, Canada and Yukon**

Source: Statistics Canada 2015f

### 9.4.7 Health Services Structure and Capacity

Health services in Dawson and Yukon are described in detail in **Section 7.4.3**.

## 10.0 SUMMARY

The Project is located in a northern, remote location and local communities in remote areas are typically characterized by small populations. The consultation and engagement program indicated that, with respect to human environment, local communities are primarily concerned about the economic issues associated with boom and bust cycles, training and employment opportunities and preservation of traditional land use and cultural values.

The human environment baseline conditions described in this report are intended to inform the analysis of the Demographics Intermediate Component (IC) (**Appendix 19-A**) and the assessments of potential Project-related effects for the following Valued Components (VCs): Economic Conditions (**Appendix 20-A**), Social Economy (**Appendix 21-A**), Community Infrastructure and Services (**Appendix 22-A**), Education Services (**Appendix 23-A**), Land and Resource Use (**Appendix 24-A**), and Community Health and Well-being (**Appendix 25-A**).

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## 11.1 PERSONAL COMMUNICATIONS

Interview 1. January 13, 2016. Manager, Yukon EMS Community Operations, Whitehorse, Yukon.

Interview 2, February 8, 2016. Anonymous Contributor. Yukon College, City of Dawson, Yukon.

Interview 3, February 8, 2016. Anonymous Contributor. Dawson City Hospital, City of Dawson, Yukon.

Interview 4. February 8, 2016. Building Maintenance, Public Works Lead Head, Fire Chief, City of Dawson Public Works Department, Dawson City Fire Department, City of Dawson, Yukon.

Interview 6, February 9, 2016. Anonymous Contributors. Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Health & Social Department, city of Dawson, Yukon.

Interview 7. February, 9 2016. Development Officer, Community Development and Planning Services, City of Dawson, Yukon.

Interview 8, February 9, 2016. Anonymous Contributors. Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Housing and Infrastructure Department, Dawson City, Yukon.

Interview 9,. February 10, 2016. Program Coordinator, Canada Prenatal Nutrition Program, City of Dawson, Yukon.

Interview 10. February 10, 2016. Traditional Knowledge Specialist, Director, Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Heritage Department, City of Dawson, Yukon.

Interview 11. February 10, 2016. President, Vice-President, Board Member, Conservation Klondike Society (CKS), City of Dawson, Yukon.

Interview 12. February 10, 2016. Programs Manager, Klondike Institute of Art and Culture, City of Dawson, Yukon.

Interview 13. February 12, 2016. Manager, Conservation Officer Services, City of Dawson, Yukon.

Interview 14, February 10, 2016. Anonymous Contributor. Registered Trapping Concession, City of Dawson, Yukon.

Interview 15. February 11, 2016. Registered Trapping Concession #58, City of Dawson, Yukon.

Interview 16. February 11, 2016. Assistant Director, Dawson Women's Shelter, City of Dawson, Yukon.

Interview 17. February 11, 2016. Community Education Liaison Coordinator, Education Manager, Principle, Education Outreach Coordinator, Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Education Department, Robert Service School, City of Dawson, Yukon.

Interview 18, February 12, 2016. Anonymous Contributor. Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Land and Resources Department, City of Dawson, Yukon.

Interview 19. February 11, 2016. Vice President, President, City of Dawson Chamber of Commerce, City of Dawson, Yukon.

Interview 20, February 12, 2016. Anonymous Contributor. Klondike Development Organization (KDO), City of Dawson, Yukon.

Interview 21. February 17, 2016. Realtor, Coldwell Banker Redwood Realty, City of Dawson, Yukon.

Interview 22. February 29, 2016. Registered Trapping Concession #54, City of Dawson, Yukon.

Interview 23, March 1, 2016. Anonymous Contributor. Klondike Outreach, City of Dawson, Yukon.

Interview 24. March 1, 2016. Heritage Officer, Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Heritage Department, City of Dawson, Yukon.

Interview 25. March 2, 2016. Executive Director, Marketing and Events Assistant, Marketing and Events Manager, Klondike Visitors Association, City of Dawson, Yukon.

Interview 26. March 2, 2016. Sergeant, RCMP Dawson City Detachment, City of Dawson, Yukon.

Interview 27. March 2, 2016. Employment and Training Officer, Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Human Resources, Education and Training Department, City of Dawson, Yukon.

Interview 28. March 4, 2016. Project Manager, Klondike Development Organization (KDO), City of Dawson, Yukon.

Interview 29. March 22, 2016. Owner, Yukon Wide Adventures, Whitehorse, Yukon.

Interview 30. March 23, 2016. President, Yukon River Quest, Whitehorse, Yukon.

Interview 31. March 1, 2016. Councillor, Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Council, City of Dawson, Yukon.

Interview 32. Dec 16, 2015. Anonymous contributor, Yukon Women's Transition Housing, Whitehorse, Yukon.

Interview 33. Dec 22, 2015. Yukon Workers' Compensation Health and Safety Board, Whitehorse, Yukon.

Interview 34. April 11, 2016. Dawson Search & Rescue/Canadian Rangers, Dawson City, Yukon.

Local Business Focus Group, February 9, 2016. Dawson City Curling Club, City of Dawson, Yukon.

Road Users Focus Group, February 24, 2016. MetroTower III, Burnaby, British Columbia.

Road Users Focus Group, February 24, 2016. Westmark Whitehorse Hotel and Conference Centre,  
Whitehorse, Yukon.

Tr'ondëk Hwëch'in (Tr'ondëk Hwëch'in) Traditional Foods and Traditional Economy Focus Group, March  
1, 2016. Tr'ondëk Hwëch'in Community Hall, City of Dawson, Yukon.

Tr'ondëk Hwëch'in Health, Social and Heritage Analyst – Coffee Gold Mine. Informal Discussion in  
Tr'ondëk Hwëch'in Administration Building. Personal Communication, April 12, 2016.

March Tr'ondëk Hwëch'in TWG Meeting, Pers. Comm. 2016

Yukon Bureau of Statistics, May 4, 2016. Telephone Conversation.

Individual contributor. January 17, 2016. Email



**APPENDIX A**  
**Informed Consent Forms**

## INFORMATION SHEET AND INFORMED CONSENT FORM INDIVIDUAL CONTRIBUTORS

Name of Interviewee(s): \_\_\_\_\_

Name of Interviewer(s): \_\_\_\_\_

Location: \_\_\_\_\_

Date: \_\_\_\_\_

Audio Digital Recording: \_\_\_\_\_

Photos taken: \_\_\_\_\_

### What is the purpose of this interview?

This purpose of this interview is to discuss how the Kaminak Coffee Gold Project (the 'Project') may affect Yukon communities, both positively and negatively.

### Why is your information important?

We recognize that your profession has provided you with a unique and informed understanding about the current Yukon social and economic conditions. We are seeking your involvement and participation in this project to document the existing conditions in the project area, and to later assess any potential changes to these conditions as a result of the proposed Project. We are also interested in developing strategies to avoid or mitigate possible Project impacts and increase positive effects.

### Who is funding this project?

This project is being funded by Kaminak Gold Corporation.

### How will confidentiality be maintained?

Your participation in this project is voluntary. All responses will be summarized and presented as a summary, in order to avoid individual contributors from being identified.

### What will the information collected in this interview be used for?

Your contributions will be used by the Kaminak Gold Corporation to prepare their Yukon Environmental and Socio-economic Assessment Board (YESAB) Project Proposal for the Project. Your contributions will greatly enhance the Proposal and will help guide management decisions and directions.

### Protection of Your Contributions

Your involvement in this Project is voluntary. If you like, we will provide your contributions to you for your review and comment before the Proposal is submitted to YESAB. Please indicate whether you'd like to review and comment on your relevant section:

Yes, I'd like to review and comment on my contributions. My preferred method of contact is: \_\_\_\_\_

No, I do not want to review and comment on my contributions.

**Confidentiality**

All the information shared with us will be held in confidence and used only for the YESAB Proposal. Please indicate if you would like to be acknowledged by name in the study, or if you prefer to participate anonymously.

Yes, I'd like to be acknowledged by name.

No, I'd prefer to participate anonymously. Though my name will not be mentioned, the organization that I work for may be named.

**Storage and Archiving of Socio-Economic Information and Contributions**

Information and contributions gathered in this study will be securely stored. Computer files will be password protected and written files will be kept in a locked file cabinet in Hemmera's Whitehorse office.

**Questions, Suggestions, or Information Requests**

If you have any questions, suggestions, or requests for additional information regarding the Proposal, please feel free to contact the Human Environment Team Lead:

**Shena Shaw, Socio-Community Specialist**

**Phone:** 867-456-4865 ext. 714

**Email:** [sshaw@hemmera.com](mailto:sshaw@hemmera.com)

A copy of this form will be provided to you for your records.

Interviewee Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Interviewer Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## **APPENDIX B**

### **Local Business and Economic Development Survey**

## **Kaminak Coffee Gold Project** **Local Business & Economic Development Survey**

**PROJECT OVERVIEW:** The proposed Coffee Gold Project (the ‘Project’) fully owned by Kaminak Gold Corporation (‘Kaminak’), is a proposed open pit, heap leach gold mining project located 130km south of Dawson City. The proposed access for the Project is a 214 km access road from the Klondike Highway turn-off 15km east of Dawson City, utilizing and upgrading existing roads such as Hunker, Sulphur and Barker, where possible and requiring only approximately 37 km of new road construction to connect portions of existing isolated road. The Stewart and Yukon rivers will be crossed by barge in summer and ice roads in winter. For more information about Kaminak and/or the Project, please feel free to visit our website, [www.kaminak.com](http://www.kaminak.com).

**WHO IS CONDUCTING THIS SURVEY:**

We are a team of socio-economic and health consultants who are working for Kaminak to prepare the socio-economic and health effects assessment for the Kaminak Coffee Gold Project. This survey is being funded by Kaminak.

**SURVEY PURPOSE:** The closest community to the Project is the City of Dawson. The purpose of this survey is to gain a better understanding of the local economic setting. The results of this survey will help Kaminak to identify any potential Project-related effects to the local economy and economic development, as well as help to develop ways to minimize any potential negative effects and enhance any positive effects.

**WHO IS INVITED TO COMPLETE THE SURVEY:** All businesses located and/or operating in the Dawson City area are invited to complete the survey. The survey may be completed online, or a paper copy can be requested from Shena Shaw (T: 867-456-4865, EXT. 714; E: [sshaw@hemmera.com](mailto:sshaw@hemmera.com)).

**SURVEY RESULTS:** The results from this survey will be shared with those who have responded through Kaminak Community Consultation events and communications. The results from this survey will also be analyzed and presented in a compiled format as part of the Kaminak Yukon Environmental and Socio-economic Assessment Board (YESAB) Project Proposal. More specifically, this includes the Project’s socio-economic and health baseline, effects assessment, and any related monitoring and/or management programs which may be subsequently developed.

**CONFIDENTIALITY:** The raw data from this survey will not be provided to Kaminak nor any external party and will be stored in a secure drive until the project is over and then destroyed.

**QUESTIONS:** If you have any questions or comments about this survey, please feel free to get in touch with Shena Shaw at (T: 867-456-4865, EXT. 714; E: [sshaw@hemmera.com](mailto:sshaw@hemmera.com)).

**Thank you for taking the time to complete this survey.  
Your valued contributions are much appreciated.**

## Kaminak Coffee Project Local Business and Economic Development Survey

### Introduction

**1. What sector does your business belong to?**

- Agriculture, forestry, fishing and hunting
- Mining
- Tourism
- Construction
- Transportation and warehousing
- Professional, scientific and technical services
- Government services
- Educational services
- Health care and social assistance
- Arts, entertainment and recreation
- Accommodation and food services
- Other: \_\_\_\_\_

**2. How many years has your business been operating?**

- Less than 1 year
- 1 to 5 years
- 5 to 10 years
- 10 to 20 years
- 20+ years

**3. Does your business operate year-round?**

- Yes
- No

If you answered 'no', please explain what season your business operates. \_\_\_\_\_

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**4. Do you consider your business to be family owned?**

- Yes
- No

5. What is the approximate gross annual revenue of your business?

- Under \$100,000
- \$100,000 to \$249,999
- \$250,000 to \$499,999
- \$500,000 to \$999,999
- Over \$1,000,000
- Prefer not to disclose

6. Where is your main customer basis located?

- Local (within City of Dawson region)
- Northern Yukon
- All of Yukon
- National
- International
- Other

If you selected 'other', please explain. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Employees**

7. How many employees do you have in total? \_\_\_\_\_

8. Of these workers how many are:

- Full-Time: \_\_\_\_\_
- Part-Time: \_\_\_\_\_
- Seasonal/Temporary: \_\_\_\_\_

9. Do any of your employees request time off to pursue traditional or outdoor activities (i.e. hunting, fishing, gathering plants, collecting firewood, etc.)? If so, could you please describe how your business accommodates this arrangement.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. How would you rate the availability of workers for your business?

Poor					Excellent	
1	2	3	4	5		Not Applicable
○	○	○	○	○		○

**11. Please specify what type of worker(s) you typically seek for your business, and explain if availability varies throughout the year.**

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**12. Do you have any specific positions that you could fill if qualified workers were available?**

- Yes
- No

**If you answered 'yes' please describe what these positions are and how you are currently seeking to fill them (i.e. locally, Yukon, etc.).**

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**13. Has your ability to hire workers changed in the last 5 years?**

- Yes
- No

**If you answered 'yes', what do you think has influenced this change?**

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**14. When you hire new worker(s), are they most likely to be:**

<b>Local Residents</b> <small>(i.e. within 50km)</small>	<b>Yukon Residents</b>	<b>People who have recently relocated to the area</b>	<b>People who commute to the area for work, and then return home</b>	<b>Other</b>
○	○	○	○	○

**If you selected 'other', please explain.**

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**15. How would you rate the quality of workers available to work for your business?**



Poor					Excellent	Not Applicable
1	2	3	4	5		
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your selection. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**16. What is the average wage paid to your employees?**

- \$9/hr (or minimum wage)
- \$10/hr to \$15/hr
- \$15.01/hr to \$20/hr
- \$20.01/hr to \$25/hr
- Over \$25.01/hr
- Other

If you selected 'other', please explain.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**17. In your opinion, would you say that in the last 2 years, the average wage of people living in the area has:**

- Declined
- No Change
- Increased
- Don't know

**Your Business & the Mining Industry**

**18. In your opinion, has the activity of the mining industry affected your business operations and activities in the past 5 years?**

- Yes, positively. Please specify: \_\_\_\_\_  
 \_\_\_\_\_
- Yes, negatively. Please specify: \_\_\_\_\_  
 \_\_\_\_\_
- No
- Don't know

**19. Does your business currently provide goods and/or services to the mining industry?**

- Yes

- No
- Don't know

If you answered 'yes', please explain what these goods and/or services are.

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## Business Environment & Economic Development

20. Other than wages, have your business' operating costs changed in the past 5 years (ex. rent, taxes, etc.)?

- Yes, increase. Please specify: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- Yes, increase. Please specify: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- No
- Don't know

21. Would you say that in the past 5 years there has been an:

- Increase in the demand for the services/goods that your business provides
- No change in demand
- Decrease in the demand for the services/goods that your business provides
- Don't know

If you responded that you've experienced an 'increase' or 'decrease', please explain.

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22. In your opinion, how would you rate the business environment in the Dawson City region?

Poor					Excellent	Not Applicable
1	2	3	4	5		
○	○	○	○	○	○	○

Please explain your selection. \_\_\_\_\_

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23. In the past 5 years, would you say that economic development in the Klondike region has
- had a positive effect on my business
  - had a negative effect on my business
  - had no effect on my business
  - Don't know

24. If you have any other comments, questions or concerns that you would like to share, please feel free to leave those below. If you would like us to respond to you directly, please leave your name and contact details as well.

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**Please return this completed survey by February 5, 2016**

**by:**

1. Mail using the enclosed envelope,

**OR**

2. Drop off the completed survey to *Bonnie Rear* (TH – Coffee Gold Liaison Officer) at the Tr'ondëk Hwëch'in Main Administration Building,

**OR**

3. Contact *Bonnie Rear* to arrange for the survey to be picked up from you (E: [bonnie.rear@trondek.ca](mailto:bonnie.rear@trondek.ca); P: 867-993-7100, EXT.158)

**Thank you!**

# Kaminak Coffee Gold Project Local Business & Economic Development Survey Results

**Note: Please note that only the results to multiple questions are provided in this results summary. Comments and long answer questions are not presented in order to protect the identity and maintain the confidentiality of respondents.**

## 1) What sector does your business belong to?

Number of respondents: 23

Choice	Total	%
Agriculture, forestry, fishing and hunting	4	17.39
Mining	7	30.43
Tourism	6	26.09
Construction	6	26.09
Transportation and warehousing	1	4.35
Professional, scientific and technical services	3	13.04
Government services	2	8.70
Educational services	0	0.00
Health care and social assistance	0	0.00
Arts, entertainment and recreation	1	4.35
Accommodation and food services	2	8.70
Other	11	47.83

## 2) How many years has your business been operating?

Number of respondents: 23

Choice	Total	%
Less than 1 year	0	0.00
1 to 5 years	5	21.74
5 to 10 years	5	21.74
10 to 20 years	3	13.04
20&#43; years	10	43.48

### 3) Does your business operate year-round?

Number of respondents: 23

Choice	Total	%
Yes	17	73.91
No	6	26.09

### 4) Do you consider your business to be family owned?

Number of respondents: 22

Choice	Total	%
Yes	19	86.36
No	3	13.64

### 5) What is the approximate gross annual revenue of your business?

Number of respondents: 23

Choice	Total	%
Under \$100,000	8	34.78
\$100,001 to \$249,999	4	17.39
\$250,000 to \$499,999	1	4.35
\$500,000 to \$999,999	2	8.70
Over \$1,000,000	3	13.04
Prefer not to disclose	5	21.74

### 6) Where is your main customer basis located?

Number of respondents: 23

Choice	Total	%
Local (within City of Dawson region)	12	52.17
Northern Yukon	2	8.70
All of Yukon	3	13.04
National	0	0.00
International	2	8.70
Other	4	17.39

**7) Of these employees, how many are (please select and provide approximate numbers):**

Number of respondents: 23

Choice	Total	%
Full time	13	56.52
Part time	8	34.78
Seasonal or temporary	17	73.91

**8) How would you rate the availability of workers for your business?**

Number of respondents: 23

Choice	Total	%
1 - Poor	1	4.35
2	3	13.04
3	4	17.39
4	6	26.09
5 - Excellent	5	21.74
Not applicable	4	17.39

**9) Do you have any specific positions that you could fill if qualified workers were available?**

Number of respondents: 21

Choice	Total	%
Yes	6	28.57
No	15	71.43

**10) Has your ability to hire workers changed in the last 5 years?**

Number of respondents: 22

Choice	Total	%
Yes	5	22.73
No	17	77.27

**11) When you hire new worker(s), are they most likely to be:**

Number of respondents: 19

Choice	Total	%
Local Residents (i.e. within 50km)	14	73.68
Yukon residents	1	5.26
People who have recently relocated to the area	1	5.26
People who commute to the area for work, and then return home	1	5.26
Other	2	10.53

**12) How would you rate the quality of workers available to work for your business?**

Number of respondents: 22

Choice	Total	%
5 - Excellent	7	31.82
4	4	18.18
3	3	13.64
2	3	13.64
1 - Poor	0	0.00
Not Applicable	5	22.73

**13) What is the average wage paid to your employees?**

Number of respondents : 20

Choice	Total	%
Minimum wage (\$10.86)	0	0.00
\$10.87/hr to \$15/hr	0	0.00
\$15.01/hr to \$20/hr	5	25.00
\$20.01/hr to \$25/hr	8	40.00
Over \$25.01/hr	7	35.00
Other	0	0.00

**14) In your opinion, would you say that in the last 2 years, the average wage of people living in the area has**

Number of respondents: 23

Choice	Total	%
Declined	1	4.35
No Change	6	26.09
Increased	12	52.17
Don't know	4	17.39

**15) In your opinion, has the activity of the mining industry affected your business operations and activities in the past 5 years?**

Number of respondents: 23

Choice	Total	%
Yes, positively	18	78.26
Yes, negatively	2	8.70
No	2	8.70
Don't know	1	4.35

**16) Does your business currently provide goods and/or services to the mining industry?**

Number of respondents: 23

Choice	Total	%
Yes	19	82.61
No	4	17.39
Don't know	0	0.00

**17) Other than wages, have your business' operating costs changed in the past 5 years (ex. rent, taxes, etc.)?**

Number of respondents: 23

Choice	Total	%
Yes, increased	17	73.91
Yes, decreased	0	0.00
No	5	21.74
Don't know	1	4.35



**18) Would you say that in the past 5 years there has been an**

Number of respondents : 22

Choice	Total	%
Increase in the demand for the services/goods that your business provides	11	50.00
Decrease in the demand for the services/goods that your business provides	4	18.18
No change in demand	6	27.27
Don't know	1	4.55

**19) In your opinion, how would you rate the business environment in the Dawson City region:**

Number of respondents: 23

Choice	Total	%
5 - Excellent	4	17.39
4	11	47.83
3	6	26.09
2	0	0.00
1 - Poor	1	4.35
Not Applicable	1	4.35

**20) In the past 5 years, would you say that economic development in the Klondike region has...**

Number of respondents: 23

Choice	Total	%
Had a positive effect on my business	16	69.57
Had a negative effect on my business	0	0.00
Had no effect on my business	3	13.04
Don't know	4	17.39

## **APPENDIX C**

### **Tr'ondëk Hwëch'in Traditional Foods and Traditional Economy Survey**

**Kaminak Coffee Gold Project**  
**Tr'ondëk Hwëch'in**  
**Traditional Foods & Traditional Economy Survey**

**What are 'Traditional Foods':**



'Traditional Foods' are considered to be those foods that Tr'ondëk Hwëch'in (TH) citizens harvest from the land. This may include such things as fish (ex. chum, chinook, whitefish, etc.), animals that you hunt (ex. moose, caribou, bear, etc.), animals that you trap (ex. rabbit, beaver, etc.), plants and berries that you gather, as well as other resources that you may use (ex. water from creeks, etc.).

**What is the 'Traditional Economy':**



The TH have lived on their traditional territory for thousands of years, and during this time have developed a complex and sophisticated 'traditional economy'. The 'traditional economy' is different from the 'economy' in general as it:

- Is not based on money
- Reflects the key principles of 'sustainability' and 'reciprocity'
- Is based on the harvesting of natural resources from the land
- Adapts and evolves with the changing surrounding environment

**Proposed Project Overview:**



The proposed Coffee Gold Project (the 'Project') fully owned by Kaminak Gold Corporation ('Kaminak'), is a gold mining project located approximately 180 km south of Dawson City, via a proposed access road which includes *Hunker, Sulphur Road, and Barker*.

**Who is Conducting the Survey:**



We are a team of socio-economic and health consultants from Hemmera who are working for Kaminak to prepare the socio-economic and health effects assessment for the Kaminak Coffee Gold Project. This survey is being funded by Kaminak.

## Survey Purpose:



The proposed Project facility and access road is located on the traditional territory of the TH. As such, the purpose of this survey is to gain a better understanding of how TH citizens are using the lands and resources across their traditional territory. This includes learning about such things as:

- the types and amounts of traditional foods being eaten;
- the 'value' of traditional foods and materials to the economic, health, and well-being of TH citizens; and
- the role of unpaid work to the traditional economy.

Your feedback is appreciated and valued. It will help Kaminak to identify any potential Project-related effects to the traditional economy and/or foods, as well as help to develop ways to minimize any potential negative effects and enhance any positive effects.

## Who is Invited to Complete the Survey:



All TH citizens are invited to complete this survey. The survey may be completed online (via the TH Website or the TH Facebook Page), by phone with Bonnie, in person with Bonnie, or a paper copy can be requested from Bonnie, TH – Coffee Community Liaison Officer (Bonnie Rear, P: 867-993-7100, ext.158; E: Bonnie.Rear@trondek.ca).

## How to Complete the Survey:



The survey will take approximately 15 to 30 minutes to complete. Please feel free to take the survey at your convenience. You may complete the survey in one session, or save and return to complete the survey at a later time.

The survey is anonymous; please feel free to share your honest responses. If you'd like to identify yourself, please feel to provide your contact information at the end of the survey.

Please feel free to respond to all survey questions, though you are not required to answer every question and/or fill in every comment box.

If you have any general comments, questions or concerns you are welcome to share these at the end of the survey.

## Survey Results:



The results from this survey will be shared with TH and its citizens through Kaminak Community Consultation events and communications. The results from this survey will also be presented as part of the Kaminak Yukon Environmental and Socio-economic Assessment Board (YESAB) Project Proposal. More specifically, this includes the Project's socio-economic and health baseline, effects assessment, and any related monitoring and/or management programs which may be subsequently developed.

The results from this survey will be used only for the purpose of the Project, and will be given to the TH archives for TH's future use at the completion of the Project.

**Thank you for taking the time to complete this survey.  
Your valued contributions are appreciated.**

***Mähsì!***

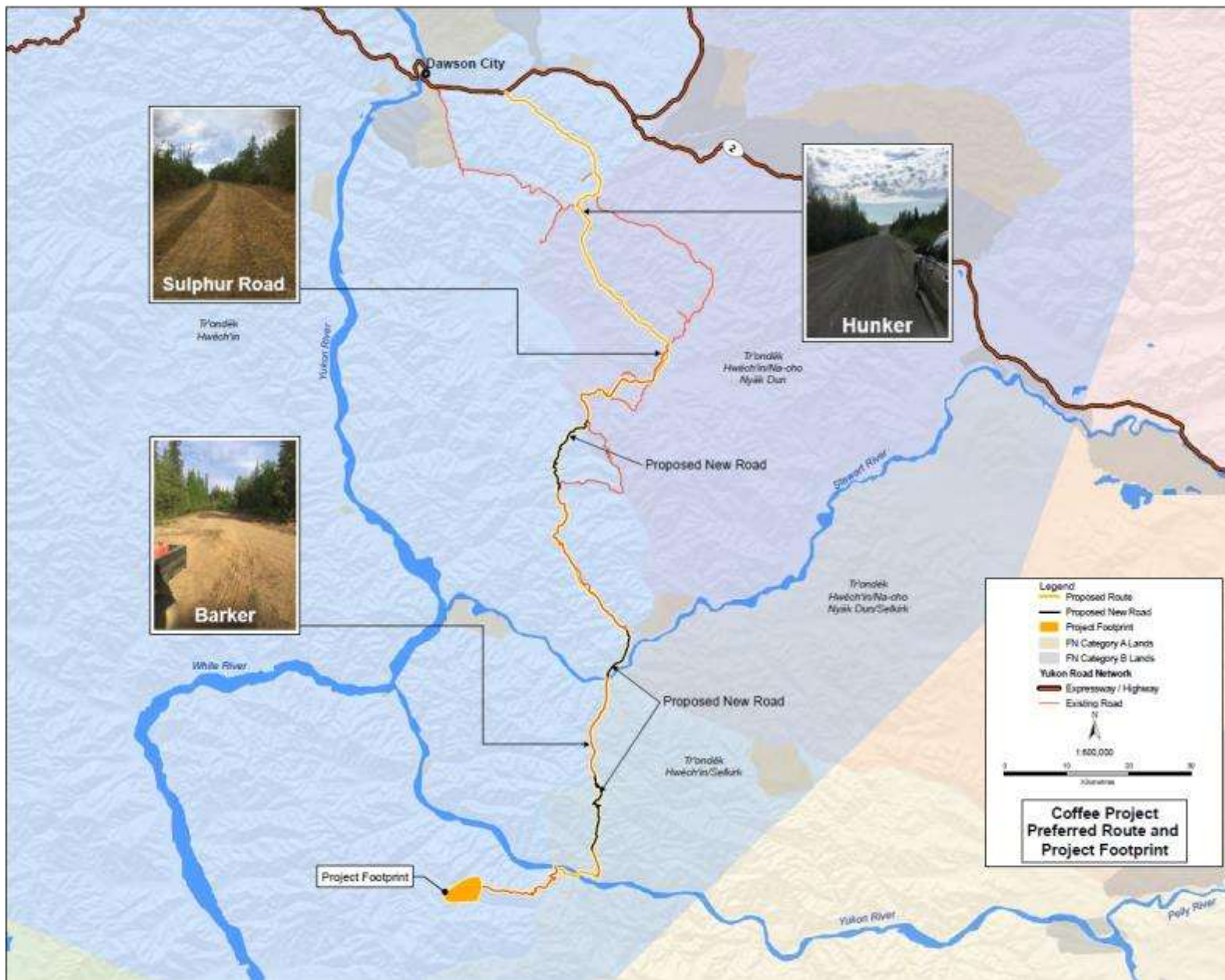


Figure 1 Coffee Project Preferred Route and Project Footprint



## Traditional Foods, Medicines & Natural Resources

1. Do you eat or use traditional foods, medicines and/or natural resources?

- Yes  
 No

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a) If YES, could you please indicate how OFTEN you and your household eat and/or use the following plants, animals and/or natural resources

	Daily	2-3 per week	Monthly	Occasionally (less than 5 times per year)	Do not currently eat or use this resource, but have in the past and/or may in the future	Don't know
<b>Plants</b>						
Berries						
Roots						
Fruits						
Leaves						
Bark						
Mushrooms						
Conks						
Other (please list)						
<b>Meat</b>						
Moose						
Woodland Caribou						
Barren Ground Caribou						
Sheep						
Grizzly Bear						
Black Bear						
Rabbit						
Beaver						
Fox						
Wolf						
Wolverine						
Marten						
Lynx						
Ducks & birds						
Other (please list)						
<b>Fish</b>						
Chum Salmon						
Chinook Salmon						

	Daily	2-3 per week	Monthly	Occasionally (less than 5 times per year)	Do not currently eat or use this resource, but have in the past and/or may in the future	Don't know
Whitefish						
Grayling						
Burbot/lingcod						
Other (please list)						
<b>Medicinal Resources</b>						
Plants						
Other (please list)						
<b>Other Natural Resources</b>						
Drinking Water						
Other (please list)						

**b) Could you please indicate what TYPES of resources you are harvesting and/or using**

	Yes	If you checked 'YES', please indicate what types	No
<b>Plants</b>			
Berries			
Roots			
Fruits			
Leaves			
Bark			
Mushrooms			
Conks			
Other (please list)			
<b>Meat</b>			
Moose			
Woodland Caribou			
Barren Ground Caribou			
Sheep			
Grizzly Bear			
Black Bear			
Rabbit			
Beaver			
Fox			



<b>Plants</b>	<b>Yes</b>	<b>If you checked 'YES', please indicate what types</b>	<b>No</b>
Wolf			
Wolverine			
Marten			
Lynx			
Ducks & Birds			
Other (please list)			
<b>Fish</b>			
Chum Salmon			
Chinook Salmon			
Whitefish			
Grayling			
Burbot/lingcod			
Other (please list)			
<b>Medicinal Resources</b>			
Medicinal Plants			
Other (please list)			
<b>Other Natural Resources</b>			
Drinking Water			
Other (please list)			

2. **How many people in your household participate in harvesting resources on the land (including such tasks as preparing meat/fish [e.g. skinning, cutting, smoking, drying, etc.]).** Please check all boxes that apply.

	<b>None</b>	<b>Few</b> (less than half)	<b>Most</b> (more than half)	<b>All</b>	<b>Don't know</b>
<b>Hunting</b>					
<b>Fishing</b>					
<b>Trapping</b>					
<b>Harvesting plants and berries to eat</b>					
<b>Harvesting plants for medicinal purposes</b>					
<b>Other</b>					

3. If you, or member(s) of your household harvest resources from the land- do you typically...

	Yes, always	Yes, sometime	No	Don't know
Share with those living in your home				
Share or give to other <b>family</b> members (living outside of your home)				
Share or give to other <b>friends</b> or people living in the community				
Share or give to Elders				
Trade or exchange for other goods, materials and/or services				
Other				

4. Has the amount of time that you spend on the land changed in the past 5 years

- Yes, the amount of time has **decreased**
- Yes, the amount of time has **increased**
- No, it has stayed the same
- Don't know

If YES, could you please explain why this time has increased or decreased: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Do you face any challenges which influence your ability to harvest resources from the land? Please respond for each line.

Potential Challenges	Yes	No	Don't Know
<b>Environmental</b>			
Perceptions or concerns about the <i>quality</i> of resources			
Perceptions or concerns about the amount or <i>availability</i> of resources			
Voluntary closures due to conservation concerns			
Changes to resource(s) due to natural resource development (ex. road development, etc.)			
Climate change effects (ex. quality of ice, etc.)			
<b>Cultural</b>			
Lack of knowledge and/or skills needed for harvesting on the land			
Lack of knowledge about harvesting locations			
General loss of knowledge between generations			
Time limitations (due to work, child care, family responsibilities, etc.)			
Reduced interest in obtaining traditional foods and/or resources			
Availability of commercial foods and medicines			
Cost of conducting activities on the land (ex. gas, supplies, trucks, snowmobiles, etc.)			
Reduced suitability of a harvesting area			

a) Have you participated in any initiatives that support the revitalization of traditional pursuits? (for example taking advantage of time provided by employer to pursue traditional pursuits, or spending time at family's fish camp to prepare fish together, etc.)

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6. If you need equipment to conduct activities on the land and/or unpaid work, what type of equipment do you need?

Equipment Name	Activity that Equipment is Used For	Do you OWN or BORROW this equipment?		Condition of Equipment:			
		Own	Borrow	Excellent	Good	Poor	Needs Repair
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Changes Across the Land**



**Traditional Foods**

7. Has the **QUALITY** of traditional foods changed in the last 5 years?

- Yes, the quality has changed
- No, the quality has not changed
- Don't know

If you answered YES, please explain: \_\_\_\_\_

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8. Has the **AMOUNT** or **AVAILABILITY** of traditional foods changed in the last 5 years (ex. harder to hunt a moose now, more fishing effort required to catch fish, etc.)?

- Yes, the **AMOUNT** or **AVAILABILITY** has increased
- Yes, the **AMOUNT** or **AVAILABILITY** has decreased
- No, the **AMOUNT** or **AVAILABILITY** has not changed
- Don't know

If you answered YES, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Medicines**

9. Has the **QUALITY** of harvested medicines changed in the last in the last 5 years?

- Yes, the quality has changed
- No, the quality has not changed
- Don't know

If you answered YES, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. Has the **AMOUNT** or **AVAILABILITY** of medicines harvested from the land changed in the last 5 years (e.g. not as many gathering areas available, etc.)?

- Yes, the AMOUNT or AVAILABILITY has increased
- Yes, the AMOUNT or AVAILABILITY has decreased
- No, the AMOUNT or AVAILABILITY has not changed
- Don't know

If you answered YES, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Natural Resources (e.g. drinking water, etc.)**

11. Has the **QUALITY** of materials and/or natural resources changed in the last 5 years?

- Yes, the quality has changed
- No, the quality hasn't changed
- Don't know

If you answered YES, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Has the **AMOUNT** or **AVAILABILITY** of materials and/or natural resources harvested from the land changed in the last 5 years (e.g. not as many gathering areas available, etc.)?

- Yes, the AMOUNT or AVAILABILITY has increased
- Yes, the AMOUNT or AVAILABILITY has decreased
- No, the AMOUNT or AVAILABILITY hasn't changed
- Don't know

If you answered YES, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Food, Medicines, and Materials Harvested from the Land in and around the Proposed Project & Access Road**



**14. Do you or any members of your household participate in harvesting foods, medicines and/or materials in and around the proposed Project footprint?**

- Yes, currently
- Yes, in the past but NOT currently
- No and not likely too
- No, but may in the future
- No answer

Please explain your response: \_\_\_\_\_

AM

**15. Do you or any members of your household participate in harvesting foods, medicines and/or materials in or around the proposed Project access road?**

- Yes, currently
- Yes, in the past but NOT currently
- No and not likely too
- No, but may in the future
- No answer

Please explain your response: \_\_\_\_\_

**16. Do you or any members of your household participate in harvesting foods, medicines and/or materials anywhere on TH's traditional territory (not necessarily located in or around the proposed Project or access road) that you feel could be potentially affected by the Project?**

- Yes
- No
- Don't know

Please explain your response: \_\_\_\_\_

**17. Do you think that the proposed Coffee Project could affect the harvest of traditional foods?**

- Yes
- No
- Don't know

Please explain your response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**18. Do you think that the proposed Coffee Project could affect the harvest of medicines?**

- Yes
- No
- Don't know

Please explain your response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**19. Do you think that the proposed Coffee Project could affect the harvest of materials and/or resources?**

- Yes
- No
- Don't know

Please explain your response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Traditional Economy



**20. In the past 5 years, have you received any goods or services in exchange for foods, medicines and/or materials that you harvested from the land?**

- Yes (please describe what you sold): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- No

**21. In the past 5 years, have you received any goods or services in exchange for goods that you made from materials harvested on the land (e.g. furs, art, jewelry, moccasins, paintings, etc.)?**

Yes (please describe the type of goods you created and sold): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

No

**22. In the past year, approximately how much money did you make from selling goods and/or materials that you harvested from the land (e.g. art, jewelry, moccasins, furs, paintings, etc.)??**

- Didn't sell any
- \$0 to \$500
- \$500 to \$2,000
- \$2,000 to \$5,000
- \$5,000 to \$10,000
- More than \$10,000
- Don't know

**Please describe what these goods and/or materials were:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**23. Do you do any of the following jobs without pay? (please check all that apply)**

- Taking care of children
- Taking care of Elders, seniors, family and friends
- Cleaning home and/or yard (of family and/or friends)
- Prepare food harvested from the land for food/meals (e.g. Drying fish, cutting meat, drying berries, etc.)
- Prepare materials harvested from the land for goods and materials (e.g. Prepare skins, furs, etc.)
- Maintaining trapline, fish camp or other traditional use area(s)
- Other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

a) If you selected 'yes' please indicate, on average, how much time per week you spend doing jobs without pay:

- 0 to 5 hours a week
- 5 to 10 hours a week
- 10 to 20 hours a week
- More than 20 hours a week

**24. Do you gather firewood for your household?**

- Yes
- No
- Sometimes
- Don't know

**25. Do you volunteer your time with any community organizations, groups and/or events?**

- Yes
- No
- Sometimes
- Don't know

If you responded, 'yes', please describe: \_\_\_\_\_

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**26. Do you feel that the land and resources on TH's Traditional Territory contribute to your and/or your household's overall health and well-being?**

- Yes
- No
- Don't know

Please describe your response: \_\_\_\_\_

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**27. Do you demonstrate 'reciprocity' or give back to the land and the spirit world in appreciation of the resources you use?**

- Yes
- No
- Sometimes
- Don't know

If you responded, 'yes', please describe: \_\_\_\_\_

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**28. How important is 'sustainability' to you:**

Not Important		Important		Very important	Not Applicable
1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Please explain your response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**29. Do you feel that the land and resources play an important role in the transmission of Traditional Knowledge (TK)?**

Not Important		Important		Very important	Not Applicable
1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Closing**

**29. What is your gender?**

- Male
- Female

**30. How old are you?**

- 15 to 25 years of age
- 26 to 35 years of age
- 36 to 50 years of age
- 50 to 65+ years of age
- 66 years of age or older

**31. Do you currently have a full-time paid job (over 30 hours per week)?**

- Yes
- No

**32. Do you currently have a part-time paid job (less than 30 hours per week)?**

- Yes
- No

**33. Is your job(s) seasonal? (This means that you only work during certain times of the year)**

- Yes
- No

**34. Are you...**

- Self-employed
- Employed by a business or company

