Strategic Level Social Impact Assessment of ACRL

For the Macleod Institute

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Introduction

This is a strategic overview of the social impact of the proposed Alaska Canada Rail Link (ACRL) project. A proper socio-cultural impact assessment can only be achieved after meaningful consultation has taken place with all the communities and institutions affected. It is the task of this strategic level study to inform and provide the basis for the next phase where effective community engagement may take place.

This document is divided into four parts each flowing from the other. The first part is an overview of a socio-cultural and economic context in which the rail link is proposed. In the second section, the strategic social impacts are identified at a broad level. In the third part, this information is summarized in matrices according to eight scenarios in which specific rail link corridors are identified with reference to Aboriginal and non-Aboriginal communities. Specifically, information on population (Aboriginal and non-Aboriginal), employment by industry, unemployment rate, income, language and governance capacity are provided for each of the communities in the rail link corridor. Furthermore, additional information is provided for First Nations in terms of the state of land claims, subsistence activities (bush economy) and governance capacity. While this summary involved painstaking detail due to the high number of communities (within Yukon and British Columbia) that may be affected by the ACRL, key data gaps become apparent and illustrate the need for a comprehensive impact assessment involving meaningful consultation. In the final section, a summary and recommendations are provided.

Context (Literature Review and Data Sources)

1.0 Introduction

This section is the foundation of the social impact assessment that examines the concept of the corridor for the Alaska Canada Rail Link (ACRL). A 200 km catchment area around the various routes for the Yukon Territory and British Columbia has been used to consider social impact (See Figure 1.1: ACRL Corridor).

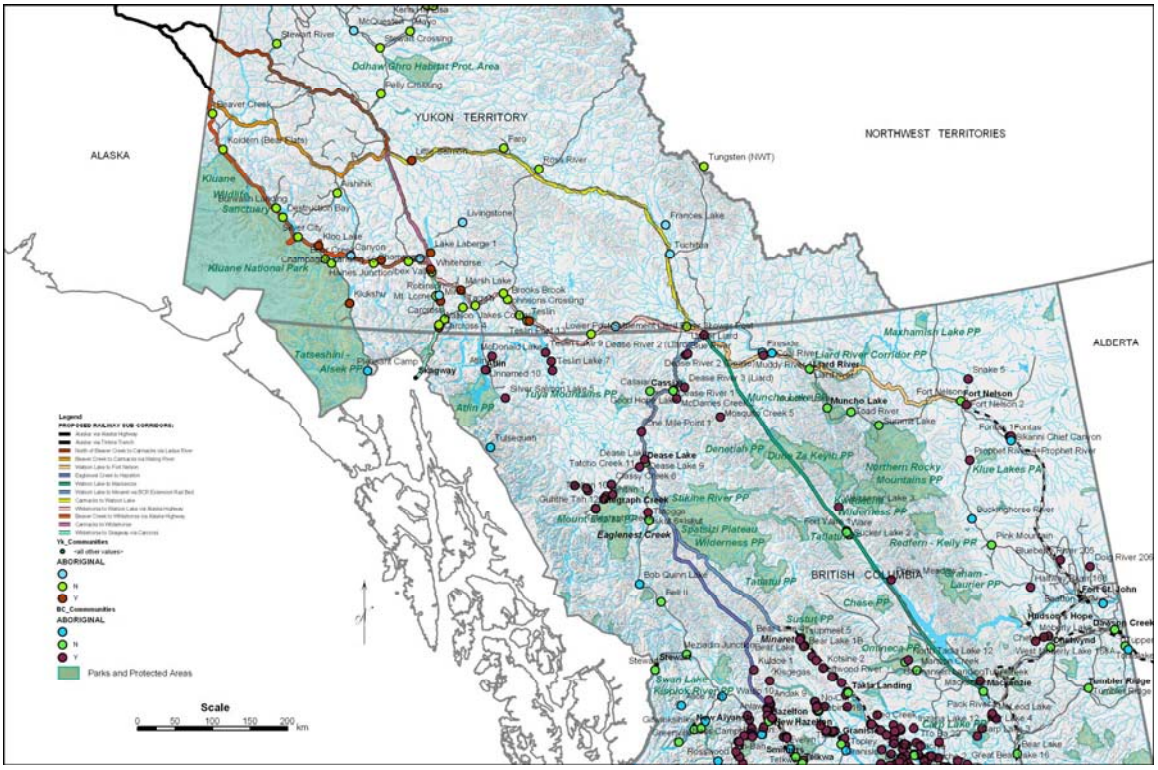


Figure 1.1: ACRL Corridor with Communities

The headings for this section are in the form of questions. These questions form the basis of the structure for examining the context in which the ACRL has been proposed. While these questions are distinct, they are not mutually exclusive. They are related. These questions inform the process by which information sources were approached. Effort was made in asking appropriate and probing questions which would also reveal the data gaps.

For organizational purposes these questions can be categorized into two pillars of a series of inter-related queries. These questions needed to be asked in order to understand the context. The first pillar considers the "who, what and where" within the rail link corridor. The second pillar addresses the "how" of the rules of engagement with communities to gain right-of-way for the rail link. The final question on "human ecological relations" integrates the two pillars.

Pillar 1: Who, What and Where	Pillar 2: How – Rules of Engagement
1. Which communities are within the corridor?	a. What are the Federal and Territorial requirements related to social impacts that affect this project?
2. What is the state of land claims in the corridor?	b. What are the regulatory or statutory requirements for community involvement and consultation?
3. What is the Institutional Capacity (A measure of governance)?	c. Using relevant projects as cases what are lessons learnt from projects that illustrate meaningful community involvement?
4. What demographic information is available?	d. What is the nature of benefit agreements as mechanisms of participation by communities?
What are the Human Ecological relations in the ACRL corridor?	

Table 1.1: Questions the form the Foundation of a strategic Social Impact Assessment

Figure 1.2 (below) illustrates how the response to each question in a particular order informs the socio-cultural context as it relates to a strategic level social impact assessment.

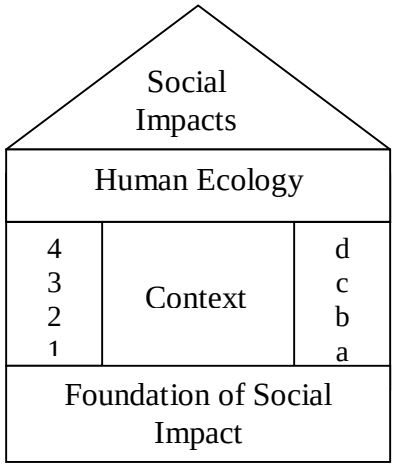


Figure 1.2: Conceptual Architecture for Foundation of Social Impact

Pillar 1

First we will engage in questions that inform the who, what and where of the social impact of the rail link corridor.

2.0 Which communities are within the corridor?

The response to the question "which communities are within the corridor" proved to be a demanding task. In total there are approximately 338 communities, including 262 First Nation Reserves within the rail link corridor. Several data sources were utilized: Statistics Canada, Highway Maps, Natural Resources Canada, Indian and Northern Affairs Canada, The Council of First Nations, The Ministry of Environment (Park Locations), The Ministry of Energy, Mines, and Petroleum Resources (Mining information), and Tourism BC, to name a few. In total there were approximately 117 sources consulted to determine the number of communities in the region. Finally, a map was constructed to illustrate the spatial dimensions of settlement in the corridor (see Figure 3: Communities within the ACRL Corridor).

In the Yukon Territory there are approximately 37 communities within the corridor ranging in population from 5 to 19,058. These communities contain mixed Aboriginal and non-Aboriginal populations. In addition, there are 12 First Nations reserves or settlements that are within the rail link corridor. Based on preliminary research there are three communities not in use and two First Nations reserves not in use (see Box 2.1).

Box 2.1: Locating Communities in the Yukon

In the Yukon Territory there are numerous communities that were not indicated on the Highway Map, but were listed in Statistics Canada profiles. These communities include Carcross 4 (Native Reserve), Champagne Landing (Native Settlement), Ibex Valley (Hamlet), Kloo Lake (Native Settlement), Lake Laberge (Native Reserve), Mt. Lorne, Teslin Post 13 (Native Reserve), Two and One Half Mile Village (Native Settlement), and Two Mile Village (Native Settlement).

In the province of British Columbia there are approximately 301 communities within the corridor ranging in population from 5 to 85,035. These communities contain mixed Aboriginal and non-Aboriginal populations. In addition, there are 250 First Nations reserves that are within the rail link corridor. Based on preliminary research there

is one community and four First Nations reserves not in use (see Box 2.2). There are a total of seventeen unverifiable communities in British Columbia (see Box 2.3).

Box 2.2: BC Communities without Residents

A group of communities listed on both the highway map and in Statistics Canada profiles have no residents. These communities include Fontas, Kluachon Lake 1 (0.27km^2), Sowchea, and Tsay Cho (0.43km^2). In 1996 there were 6 people living on both the Fontas and Sowchea reserve. However, as of the 2001 census there were no residents living in Fontas. Kluachon Lake 1 and Tsay Cho are communities classified as native reserves, but in the 2001 census there was no recorded population living there. These areas remain relevant as they are classified as reserves. Consultation will be required to gain right of way through such areas.

Box 2.3: Importance of Unverifiable Communities

A number of communities mentioned on the British Columbia Highway Map are not verifiable. Nonetheless, these places are of interest to the rail link corridor. For instance, Alice Arm is located approximately 70 kilometres south of Stewart and 120 kilometres north of Terrace, BC. Statistics Canada does not have demographic data available for Alice Arm; however the Land and Water British Columbia Inc (LWBC) website states that there is a fluctuating population of approximately 20 people. The Kitsault Dam is located upstream from Alice Arm. This damn is privately owned and is considered abandoned. There is another dam located 5km downstream from the Kitsault Dam that has not been inspected due to lack of access. The region is prone to washouts during high water events that render Highway 82 and 83 impassable and restrict access to the community. Furthermore, 14 kilometres from Alice arm, there was a drill program in 2005 undertaken by the Tenajon Resources Corp, referred to as the Ajax Property (molybdenum). Tenajon is intending to commence a comprehensive drill program for Ajax starting in 2006. On May 4, Tenajon announced budget plans for the 2006 field season and allotted $2 million for the 7,000 meter drill program.

3.0 What is the state of land claims in the corridor?

Understanding of the state of Aboriginal claims in this region is fundamental to right of way for the rail link. The Canadian Library of Parliament states that:

> Federal policy divides Aboriginal land claims into two broad categories. [First,] comprehensive land claims are based on the assertion of continuing Aboriginal rights and title that have not been dealt with by treaty negotiations or other legal means in British Columbia. [Second,] specific land claims arise from alleged non-fulfillment of treaties or other legal obligations, or from the alleged improper administration of lands and other assets under the *Indian Act* or other formal agreements.[1]

Discussion of land claims are separated into the two categories used by the Federal government. Each section will be broken down according to territory and province, followed by a brief discussion of the issues (see Figure 3.1: Comprehensive Land Claims within the ACRL Corridor).

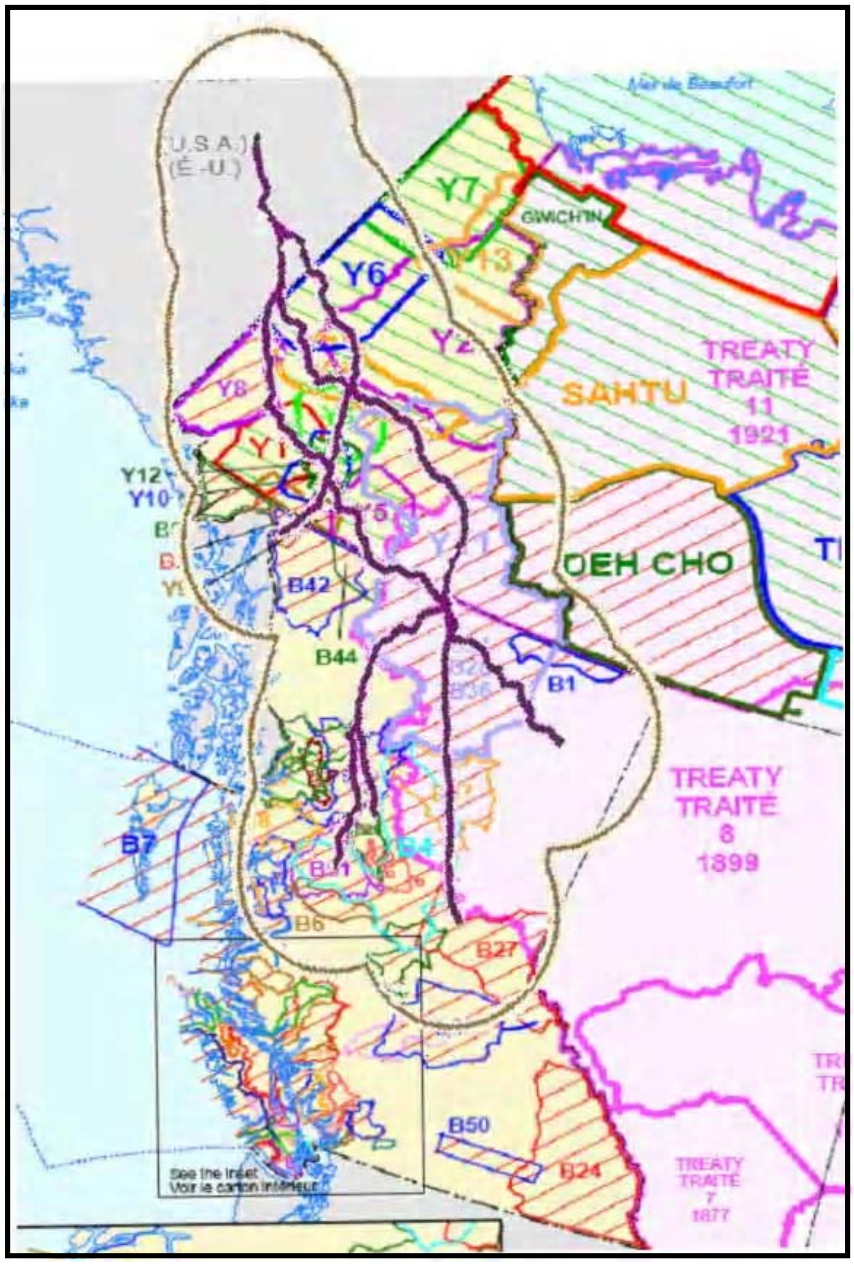


Figure 3.1: Comprehensive Land Claims within the ACRL Corridor

3.1 Specific Land Claims

In the Yukon there are seven settled specific land claims, all of which are in the study area. There are seven unsettled specific land claims in the Yukon, all of which are also in the study area. The unsettled specific land claims are all under review, there are no specific land claim negotiations underway.

In British Columbia there are 81 settled specific land claims, 22 of which are in the study area. The province has 329 unsettled specific land claims, of which 40 specific land claims are under negotiation and 289 under review. The corridor has 83 unsettled specific claims with 67 cases under review and 16 under negotiation.

3.2 Comprehensive Land Claims in Yukon Territory

In 1990, the Yukon finalized an Umbrella Agreement. It is the overall agreement of the Yukon Land Claims and provides for the general agreement made by the First Nation, Federal Government and Yukon Government in a number of areas. It is not a legal document, but a political agreement between the three parties.[2] The Umbrella Agreement is a framework for each of the fourteen Yukon First Nations groups to conclude a final claim settlement agreement.

There are currently **eleven settled** comprehensive claims in the Yukon, ten of which are in the study area:

- Carcross / Tagish First Nation
- Champagne and Aishihik First Nations (Haines Junction)
- First Nation of Na-Cho Nyak Dun (Mayo)
- Kwanlin Dun First Nation
- Kluane First Nation
- Little Salmon / Carmacks First Nation
- Selkirk First Nation (Pelly Crossing)
- Teslin Tlingit Council
- Tr'on Dek Hwech'in First Nations (Dawson)
- Ta'an Kwach'an Council (Lake Laberge)

Currently there are **three unsettled** claims in the Yukon, which are also in the study area:[3]

- Ross River Dena Council
- Liard River First Nation
- White River First Nation (Beaver Creek)[4]

3.3 Analysis of Comprehensive Land Claims in Yukon Territory

There are claims that overlap in British Columbia, the Yukon, and Treaty 8 lands which are difficult to classify, and have been placed in each provincial category as necessary.

- The Acho Dene Koe First Nation Land Claim overlaps with Treaty 8, and as previously mentioned, the First Nation has experienced regression in settling their comprehensive claim with British Columbia.
- Carcross / Tagish First Nations have settled in the Yukon, and are on the verge of an Agreement in Principle in BC.
- The Carrier Sekani Tribal Council overlaps with Treaty 8, and is almost at the stage of an Agreement in Principle to share the land.
- The Kaska Dene in the Yukon have an unsettled claim, and are referred to as the Kaska Dene Nation. In British Columbia they are represented as the Kaska Dene Council. They overlap Treaty 8 and are in the process of making an Agreement in Principle. The two groups have different governing structures, but are of similar cultural and linguistic background.
- Since 2004, there has been a split in the Kaska Dene Nation in the Yukon, and have split into the Ross River Dena Council and the Liard River First Nation, although the Kaska Dene Council still remains.
- The Ross River Dena Council is a First Nations group that stretches from the southeast Yukon into northeastern British Columbia, but they have been classified under the Kaska Dene Nation in British Columbia, and as the Ross River Dena Council in the Yukon. The Ross River land claim overlaps with Treaty 8, as well as the Kaska Dene claims in Yukon and British Columbia.
- The Teslin Tlingit Council is negotiating an Agreement in Principle in BC, and has settled a claim in the Yukon.

- Tsay Keh Dene Band has an Agreement in Principle with British Columbia, and overlaps with Treaty 8.
- The Liard First Nation is preparing for negotiations to assess readiness (Stage 2 in treaty process) in British Columbia, as one of the groups that have moved forward in the Treaty Process.[5] It is classified under the Kaska Dene Nation in the Yukon, which is an unsettled claim. The Liard Nation also overlaps with Treaty 8 lands.

3.4 Comprehensive Land Claims in British Columbia

The British Columbia Treaty Commission (BCTC) uses a six-stage process to settle comprehensive land claims.[6] In order to settle comprehensive land claims, nationhood must be established. BCTC says that the treaty process was conceived in 1991 to "establish a new relationship based on mutual trust, respect, and understanding – through political negotiations." Each stage of the process has policies and procedures to follow, which will be briefly summarized in sequence.[7]

3.4.1 Stage 1 – Statement of Intent

The community must file a Statement of Intent (SOI) to negotiate a treaty, which includes how the governing body of the community is organized. There must be some shared sense of identity, language, laws and customs among the aboriginal people. The community must have some historical exercise of control over a distinct traditional territory that is not wholly shared or disputed. There must be a degree of historical existence as a governing body and a reasonably sizeable population of aboriginal people able to sustain the effective negotiation and implementation of a treaty. The SOI also include maps of the traditional lands of the community.

There are currently no communities in Stage 1 of negotiating a treaty in the province.

3.4.2 Stage 2 – Negotiations to Assess Readiness

The participants – the First Nation, Federal and Provincial Governments – establish readiness for a meeting. The purpose of the initial meeting is to review the SOI and supporting documents and discuss what issues the three parties would like to

negotiate, as well as the expectations of interim measures for each party. The Commission discusses each party's current state of readiness for negotiating a treaty. Each party must complete a "readiness submission" that must meet the criteria of the BCTC. If it does not, the parties must continue the three-party discussions with the BCTC to establish readiness and begin Framework Negotiations.

- There are eight First Nation groups classified as Stage 2 in the province of which three First Nation groups are within the study area:
    - Acho Dene Koe First Nation
    - Liard First Nation
    - Ross River Dena Council

3.4.3 Stage 3 – Framework Agreement

A Framework Agreement is a negotiated agenda for Stage 4. It should identify the subjects for and objectives of the negotiations, and establish a timetable and the procedural arrangements for the negotiations. In Stage 3, it is expected that the parties will discuss all of the issues each party identified in Stage 2. The BCTC monitors the negotiations in order to maintain a public record. Upon completion of negotiations, the BCTC reports the outcome.

- There are two First Nations groups classified as Stage 3 in the province of which one First Nation is within the study area:
    - Cheslatta Carrier Nation

3.4.4 Stage 4 – Agreement in Principle

The negotiation of the agreement in principle is to take place in Stage 4. This is the agreement that will form the basis of the treaty. It should be the product of a thorough examination of the subjects set out in the Framework Agreement. The Agreement in Principle should contain the essential points of agreement among the parties. The BCTC continues its monitoring and reporting, as started in Stage 3.

- There are forty-one First Nations groups classified as Stage 4 in the province of which fifteen First Nation groups are within the study area:
    - Carcross/Tagish First Nation

- Carrier Sekani Tribal Council
- Champagne and Aishihik First Nation
- Gitanyow Hereditary Chiefs
- Gitxsan Hereditary Chiefs
- Haisla Nation
- Heiltsuk Nation
- Kaska Dene Council
- Lake Babine Nation
- Nazko Indian Band
- Taku River Tlingit First Nation
- Teslin Tlingit Council
- Tsay Keh Dene Band
- Tsimshian Nation
- Wet'suwet'en Hereditary Chiefs

3.4.5 Stage 5 – Negotiating a Final Treaty

Negotiating a final treaty and making amendments as necessary from the Agreement in Principle from Stage 4.

There are six First Nations groups classified as Stage 5 in the province of which two First Nation groups are within the study area:

- Lheidli T'enneh Band
- Yekooche First Nation

3.4.6 Stage 6 - Implementation

Implementation of the final treaty. There are currently no First Nation groups classified as Stage 6 in the province.

3.5 Analysis of Comprehensive Land Claims in British Columbia

As the comprehensive claims in British Columbia are more wide-ranging, they require some attention. There are currently **twenty-one unsettled** comprehensive claims

in the study area which range from submitting documents establishing readiness for negotiating a framework agreement, to negotiating a final agreement. The BCTC treaty process does not always move forward, as the Liard First Nation and Ross River Dena Council have regressed from Stage 3 in the last four years. It is currently unclear why these two First Nation groups have experienced regression in negotiations.

In order to understand the timelines involved in moving through the process, the Lheidli T'enneh Band submitted its Statement of Intent (Stage 1) in 1993, and began negotiations for a Final Agreement (stage 5) in 2003. Similarly, the Yekooche Band submitted its Statement of Intent in 1995, and began negotiations for a final agreement in 2005. Outside of the area, the Sliammon First Nations took nine years to go from Stage 1 to Stage 5. This is in contrast with the length of the Nisga'a Tribal Council's claims to traditional land, which began with the launching of legal action in 1968 and culminating in a final agreement in 1999.

As there have not been any comprehensive settlements reached since the Nisga'a Final Agreement in British Columbia, it is difficult to say how long the negotiations with the Lheidli T'enneh Band and Yekooche Band will last. However, it should be noted that this is a time consuming process and will directly affect right-of-way negotiations for the ACRL.

4.0 What is the Institutional and governance capacity of Communities?

This section uses community organizations and institutions as an indicator of governance capacity. For our purposes, governance capacity is defined as a measure of institutional infrastructure in relevant communities or First Nations. This capacity within communities in the corridor will be key in facilitating a "meaningful consultative" process to the proposed ACRL.

4.1 Yukon

The majority of the population (67%) of Yukon currently resides in the city of Whitehorse and this serves to explain why the bulk of government offices are located in the city. The Yukon Government is organized by into the following Departments and Crown Corporations:[8]

- Community Services
- Economic Development
- Education
- Energy, Mines, and Resources
- Environment
- Executive Council Office
- Finance
- Health and Social Services
- Highways and Public Works
- Justice
- Tourism and Culture
- Women's Directorate
- Public Service Commission
- Yukon Energy Corporation
- Yukon Housing Corporation
- Yukon Liquor Corporation
- Yukon Workers' Compensation Health and Safety Board

Since the majority of the population is located within the boundaries of Whitehorse and there is an organized governmental presence, it is fair to say that there is a strong capacity for governance within the Yukon Territory. It is also fair to say that in relation to the ACRL, there can be an effective coordination of the consultation process. It should also be noted that a significant proportion of the population that are not living in Whitehorse are aboriginal, the majority of which have status as Registered Natives.[9] The governance capacity of the First Nations population will be discussed in the following paragraphs.

Yukon First Nations

The Council for Yukon Indians (CYI) was originally formed to deal with the land claim negotiation process. However, in 1980 the Yukon Native Brotherhood and the Yukon Association of Non-Status Indians amalgamated with the Council of the Yukon

Indians and later became known as the Council of the Yukon First Nations (CYFN). There are eleven Yukon First Nations that are members of the CYFN, nine of which have reached land claims and self-government agreements. These First Nations include the Vuntut Gwitchin First Nation, the Champagne and Aishihik First Nations, the Teslin Tlingit Council, the First Nation of Nacho Nyak Dun, the Selkirk First Nation, the Little Salmon Carmacks First Nation, the Tr'ondek Hwech'in First Nation, the Ta'an Kwach'an Council, the Kluane First Nation, the White River First Nation (no land claim or self-government agreement) and the Carcross/Tagish First Nation (no land claim or self-government agreement). There are also three other First Nations within the Yukon Territory and they are the Liard First Nation, the Kwanlin Dun First Nation, and the Ross River Dena Council, who chose to work independently of CYFN.[10] All of the First Nations listed above, with the exception of the Vuntut Gwitchin, fall within the boundaries of the study area.

As an administrative centre, the CYFN is comprised of the Office of the Grand Chief, Executive Services, Finance and Administration, Claims and Devolution, Health and Social Development, Implementation, Education, Circumpolar Relations, and the Yukon Native Language Centre. All of the First Nations have administrative centres, with varying degrees of complexity, which are displayed in the following table.

FIRST NATION	LOCATION	DEPARTMENTS
Dakh Ka Tlingit Tribal Council	Whitehorse	• General Contact Information
Kaska Tribal Council	Watson Lake	• Administration
Northern Tutchone (Tribal Council)	Pelly Crossing	• General Contact Information
Southern Tutchone (Tribal Council)	Pelly Crossing	• General Contact Information
Carcross/Tagish First Nations	Carcross	• Council • Administration • Health and Social Programs • Capital Projects/Housing • Finance • Land Claim and Mapping
Champagne/Aishihik First Nations	Whitehorse Haines Junction	• Administration • Education, Employment, and Training • Secretariat • Social Development • Heritage, Lands, Resources, Education, Employment, and Training • Finance and Administration

		• Housing and Municipal Services
First Nation of Na-Cho Nyak Dun	Mayo	• Administration • Council • Capital and Housing Department • Lands and Resources Department • Health, Education, and Social Programs Department
Kluane First Nation	Burwash Landing	• Council • Administration • Capital and Infrastructure • Lands, Resource, and Heritage • Health and Social Programs
Kwanlin Dun First Nation	Whitehorse	• Council • Administration • Finance • Land Claims • Economic Development • Housing • Education • Justice • Health Programs • Ashea Daycare
Liard First Nation	Watson Lake	• Council • Administration • Finance • Housing • Social • Health • Education • Aboriginal Head Start • Justice • Lands and Resources
Little Salmon/Carmacks First Nation	Carmacks	• Council (Representatives from the Wolf Clan and Crow Clan) • Administration
Ross River Dena Council	Ross River	• Council • Economic Development Office • Capital • Finance • Social Programs
Selkirk First Nations	Pelly Crossing	• Administration
Ta'an Kwach'an Council	Whitehorse	• Administration • Finance Department • Lands and Resources • Implementation • Health and Social • Mundessa Development Corporation
Teslin Tlingit Council	Teslin	• Council • Executive • Finance and Administration • Capital and Infrastructure • Education • Health and Social Programs Healing Centre

		• Lands and Resources • Justice • Heritage • Tle'nax T'awei Ltd
Tr'Ondek Hwech'in	Dawson City	• Council • Administration • Housing and Finance • Culture and Education • Health and Social Programs • Lands/Fish and Wildlife
White River First Nation	Beaver Creek	• Council

Table 4.1: First Nations Administrative Centres.[11]

As stated earlier, there are varying degrees of representation for the Yukon First Nations. Even the most simplistic administrative centres have contact information and this implies the potential capacity to govern, despite being on a smaller scale. Unfortunately, there are some native reserves that are lacking adequate representation. However, many of the First Nations have departments that deal with lands and resources, social programs, and economic development, which are major themes to the ACRL. The majority of the First Nations have councils in place and this will be important in facilitating the consultation process. These institutions display the ability of First Nations to negotiate; thereby ensuring that their interests are considered.

4.2 British Columbia

Communities in British Columbia are divided into Regions, and sub-divided into Districts, and by larger communities. Among the lists of communities there is a further division into a Designated Place, District Municipality, City, Town, or Village (all of which will be discussed in the Demography section). The regions that fall within our area of study are as follows: The North East Region, the Nechako Region, the Cariboo Region, and the North Coast Region. Not all of the communities located in the Cariboo and North Coast Region are located in the catchment area, therefore for illustrative purposes only the North East Region and Nechako Region will be presented in detail.

The North East Region of British Columbia is separated into two Regional Districts, the Northern Rockies Regional District and the Peace River Regional District. The larger communities located in the region are Arras-Devereaux (Designated Place),

Charlie Lake (Designated Place), Chetwynd (District Municipality) Dawson Creek (City), Dokie-Wildmare (Designated Place), Fort Nelson (Town), Fort St. John (City), Fort St. John Airport (Designated Place) Grand Haven/Clairmont (Designated Place) Hudson's Hope (District Municipality), Kelly Lake (Designated Place), Mile 62.5/63 (Designated Place), Moberly Lake (Designated Place), Pouce Coupe (Village), Prespatou (Designated Place), Rolla (Designated Place), Taylor (District Municipality), and Tumbler Ridge (District Municipality).

The Nechako Region is divided into the Bulkley-Nechako Regional District and the Stikine Region. The communities noted in the region are Dease Lake (Designated Place), Decker Lake (Designated Place), Evelyn (Designated Place) Fort Fraser (Designated Place), Fort St. James (District Municipality) Fraser Lake (Village), Granisle (Village), Houston (District Municipality), Smithers (Town), Southbank (Designated Place), Telkwa (Village), Tintagle (Designated Place), Topley (Designated Place) and Vanderhoof (District Municipality).[12]

All British Columbia Regions are separated in a similar fashion. The categorization of BC communities displays the various levels of organization, typically based on population size. It is reasonable to assume that the larger communities would have greater governance capacity. If this is the case, there are many smaller communities within the province of British Columbia whose ability to have its concerns aired in the development process will be greatly restricted, especially when there is no discernable administrative structure. (See Box 4.1)

Box 4.1: Communities with No Verifiable Administrative Structure:
For example, the only reference found regarding Bell II included tourist lodges or vehicle services stating that "the longest distance between gasoline pumps is from Bell II Crossing to Tatogga Lake." There was no other community descriptions found for this area. With Pink Mountain, there was tourist information that describes the small community of Pink Mountain, though there was no specific data describing the community. Similarly, the community of Germansen Landing has no specific data. It is known that there is a community of Germansen Landing, but no demographic information was found, only a reference to the community on the government of British Columbia's provincial park website. The provincial park located near Germansen Landing was Omineca Provincial Park and Protected area. Nass Camp is another unique situation in that there was no information found on Nass Camp, but information on Nass Valley. Nass Valley is located near Terrace and there are tourist sites, bed and breakfasts, and campsites, which implies the existence of a community.

In addition to being organized by regional districts, the province is separated by Strategic Land Use Plans, which may affect the negotiation and consultation process of the ACRL.

Strategic Land Use Plans (SLUP) provide useful insight into the governance capacity of British Columbian communities.

> Strategic land use planning is a process for determining how British Columbia's publicly owned lands will be used, both now and in the future…Strategic land use plans (either Land and Resource Management Plans (LRMPs) or Regional Plans) help ensure that resource management decisions take into account the needs of communities, the economy and the environment.[13]

In the study area, the regions of Dawson Creek, Fort Nelson, Fort St. John, Fort St. James, Prince George, Vanderhoof, Bulkley, Cassier Iskut Stikine, Kispiox, Mackenzie, and Muskwa-Kechika have completed a SLUP which have been approved by the Government of British Columbia. The regions of Atlin-Taku, Dease Liard, Nass, and Morice have not completed a SLUP and this may pose a difficulty for the proposed rail link. The SLUPs for British Columbia are represented in the following map (Figure 4.1):

Figure 4.1 Strategic Land Use Plans – British Columbia

The implementation of SLUPs implies the ability for co-management within the regions and that communities as stake holders can have an active role in the development process. As such SLUPs are yet another indicator of governance capacity and institutional sustainability.

British Columbia First Nations

According to the BC Treaty commission, comprehensive treaties will address such things as: First Nations government structures and related financial arrangements; jurisdiction and ownership of lands, waters and resources; and cash settlements.[14] When a First Nation begins the treaty process it is necessary to create a group of official representatives that will be engaged in negotiations. This is relevant to the issue of governance capacity in that there is an organizational structure that can become engaged during the consultation process of the ACRL.

NATION	LOCATION	MEMBERS
Cheslatta Carrier Nation	Southbank, on south shore of Francois Lake, 23 km south of Burns Lake. (Eight reserves on 1,402.8 hectares. All reserves at least 5km apart.)	
Carrier Sekani Tribal Council	Central B.C., west and northwest of Prince George	• Burns Lake Indian Band • Nadleh Whut'en Band • Nak'azdli Indian Band • Saik'uz First Nation • Stellat'en First Nation • Takla Lake First Nation • Tl'azt'en Nation • Wet'suwet'en First Nation
Gitxsan Treaty Society	The member bands are located in valleys along the Skeena, Bulkley and Kispiox Rivers. All are within a 40 km radius of Hazelton, in north-western B.C.	• Gitanmaax Band Council • Gitsegukla Indian Band • Gitwangak Band Council • Glen Vowell Indian Band • Kispiox Band Council
Haisla Nation	Main community is Kitamaat Village, 10 km south of Kitimat, at the head of Douglas Inlet, on B.C.'s North Coast. (17 reserves on 665.4 hectares.)	
Kaska Nation	Member bands are located in northern B.C. and southern Yukon, with traditional territories extending across the B.C./Yukon boundary	• Kaska Dena Council (British Columbia) • Dease River • Kwadacha Band • Lower Post First Nation (aka Daylu Dena Council & Liard FN Reserve #3) • Liard First Nation (Yukon) • Ross River Dena Council (Yukon)
Lake Babine Nation	Main community is on the Woyenne Indian Reserve #27, adjacent to the village of Burns Lake, 230 km west of Prince George, in the B.C. Interior. (24 reserves on 3,093.9 hectares.)	
Lax Kw'alaams First Nation	Main community is on Lax Kw'alaams Indian Reserve #1, at Port Simpson, approximately 30 km northwest of Prince Rupert. Reserves are located primarily on the Skeena River, Portland Inlet and Work Channel, on B.C.'s North Coast. (78 reserves on 11,898.7 hectares.)	
Lheidli T'enneh Nation	On the Fraser and Nechako Rivers, near Prince George. Main community is on Fort George (Shelley) Indian Reserve #2, which is split by the Fraser River and referred to as North Shelley and South Shelley, 16 km northeast of Prince George. (Four reserves on 685.6 hectares)	

Northern Regional Negotiations Table	Participating First Nations are located in the south-western part of the Yukon Territory and the north-western corner of B.C.	• Carcross/Tagish First Nations (Yukon) • Champagne and Aishihik First Nations (Yukon) • Taku River Tlingit First Nation (B.C.) • Teslin Tlingit Council (Yukon)
Office of the Gitanyow Hereditary Chiefs	The community of Gitanyow, also known as Kitwancool, is located 20 km north of Gitwangak (or Kitwanga), or approximately 140 km northeast of Terrace, in north-western B.C. (Three reserves on 850.4 hectares.)	
Office of the Wet'suwet'en	The Hagwilget and Moricetown bands are located within a 40 km radius of Hazelton	• Hagwilget Village Council • Moricetown Band Administration
Tahltan Nation	Telegraph Creek and Iskut	• Tahltan Indian Band • Iskut First Nation
Treaty 8 First Nations	Treaty 8 First Nations are located in northeastern British Columbia from Fort Nelson in the north to McLeod Lake in the south.	• Blueberry River First Nations • Doig River First Nation • Fort Nelson First Nation • Halfway River First Nation • McLeod Lake/Tse K'hene First Nation • Prophet River First Nation • Saulteau First Nations • West Moberly First Nations
Tsay Keh Dene Band (Formerly Ingenika Indian Band)	Just south of where the Finlay River flows into the north end of Williston Lake. (Three reserves on 201 hectares and two federal land parcels yet to be designated as reserve.)	
Tsimshian First Nations	Member bands are located across a wide area on B.C.'s North Coast between Bella Bella and north of Prince Rupert, and inland to just east of Terrace	• Gitga'at Nation • Kitasoo/Xai'xais Nation • Kitselas Indian Band • Kitsumkalum Band • Metlakatla Band
Yekooche First Nations	Most band members living on reserve live on the Ye Koo Che Indian Reserve #3, on the south shore of Stuart Lake, approximately 50 km northwest of Fort St. James. (Four reserves on 379.8 hectares.)	

Table 4.2: Official Representatives.[15]

The above table displays the British Columbia First Nations ability to organize collectively and thus influence their ability to participate in the railway link planning. Furthermore, on a smaller organizational scale, the majority of registered bands have a Band Office located within the community, thus illustrating their institutional capacity.[16]

5.0 What demographic information is available?

Getting a sense of the demographic context is key to assessing the social, cultural and economic impacts. Information on communities, Aboriginal presence, labour force participation, and economic and industrial activity will help determine the positive as well as the adverse impacts of the ACRL. Noted below is demographic information for regions in Yukon and British Columbia within the rail link corridor. The data has been selected from the Statistics Canada,[17] BC Stats,[18] and the British Columbia Regional Index.[19]

5.1 Yukon Territory

The demographic information for Yukon Territory is categorized under the headings of communities and population; aboriginal population; labour force activity; and economy and industrial activity. It is preliminary baseline data that will inform aspects of the impact analysis.

5.1.1 Communities and Population

In 2001, Yukon Territory had a population of 28,674 people living on 474,700 square kilometres. The three largest communities in Yukon are Whitehorse, Dawson City, and Watson Lake, with populations of

	May 2001 Census Population			May 2001 Population Yukon Health Care Files		
	2001	1996	% Change	**2001**	1996	% Change
Yukon	**28,674**	30,766	-6.8	**30,309**	32,682	-7.3
Beaver Creek	**88**	131	-32.8	**112**	140	-20.0
Burwash Landing	**68**	58	17.2	**78**	84	-7.1
Carcross*	**201**	277	-27.4	**403**	424	-5.0
Carmacks	**431**	466	-7.5	**408**	476	-14.3
Dawson	**1,251**	1,287	-2.8	**1,849**	2,013	-8.1
Destruction Bay	**43**	34	26.5	**49**	47	4.3
Faro	**313**	1,261	-75.2	**359**	1,255	-71.4
Haines Junction	**531**	574	-7.5	**769**	821	-6.3
Ibex Valley	**315**	322	-2.2	**-**	-	-
Keno Hill	**20**	24	-16.7	**-**	-	-
Mayo	**366**	324	13.0	**436**	501	-13.0
Mt. Lorne	**379**	399	-5.0	**-**	-	-
Old Crow	**299**	278	7.6	**283**	289	-2.1
Pelly Crossing	**328**	238	37.8	**293**	284	3.2
Ross River	**337**	352	-4.3	**352**	389	-9.5
Tagish**	**206**	164	25.6	**163**	122	33.6
Teslin***	**267**	309	-13.6	**443**	487	-9.0
Upper Liard	**159**	111	43.2	**-**	-	-
Watson Lake	**912**	993	-8.2	**1,648**	1,791	-8.0
Whitehorse****	**20,695**	21,065	-1.8	**22,523**	23,380	-3.7
Yukon, Unorganized	**1,221**	1,859	-34.3	**-**	-	-
Other	**244**	240	1.7	**141**	179	-21.2

Table 5.1: Yukon Population by Communities

21405, 1287, and 993, respectively. (See Table 5.1: Yukon Population by Communities).

In 2004, many Yukon communities reported an increase in their population over the previous year as positive net migration continued for a second year in a row in 2004. The median age of the population of Yukon is 36.1 with 79% being over the age of 15 years old. English is the first language of 86% of the population. The number of people who have lived in Yukon for five or more years is also 86%.

5.1.2 Aboriginal Population

Within Yukon 6,545 people claimed Aboriginal identity (23% of the total population). The median age of the Aboriginal population is 28.6 with 69.9% of the population over the age of 15 years old (see Table 5.2: Median Age Population Reporting Aboriginal Identity, Canada and Yukon). In 2001, 45% of the Aboriginal population of the Yukon reported knowledge of an Aboriginal Language. 585 Aboriginal people lived in a different province/territory or country five or more years ago.

Median Age for Population Reporting Aboriginal Identity and for Population Reporting North American Indian Identity, Canada and Yukon, 2001

	-------- Median age (years) --------		
	Aboriginal identity	North American Indian identity	Non-aboriginal population
Yukon	28.6	27.9	37.7
Canada	24.7	23.5	37.7

Table 5.2: Median Age Population Reporting Aboriginal Identity, Canada and Yukon

Due to a smaller percentage of Aboriginal population (unlike the Northwest Territory and Nunavut) major private and government institutions in the Yukon tend to be represented by a majority of non-aboriginal Canadians. Nonetheless, the communities of Carmacks, Old Crow, Pelly Crossing, Ross River and other small settlements have predominantly Aboriginal residents (see Figure 5.1: Percentage of Total Population Reporting Aboriginal Identity). According to Statistics Canada the communities of Pelly Crossing, Old Crow and Ross River are considered as part of the non-reserve population in the Yukon Territory.

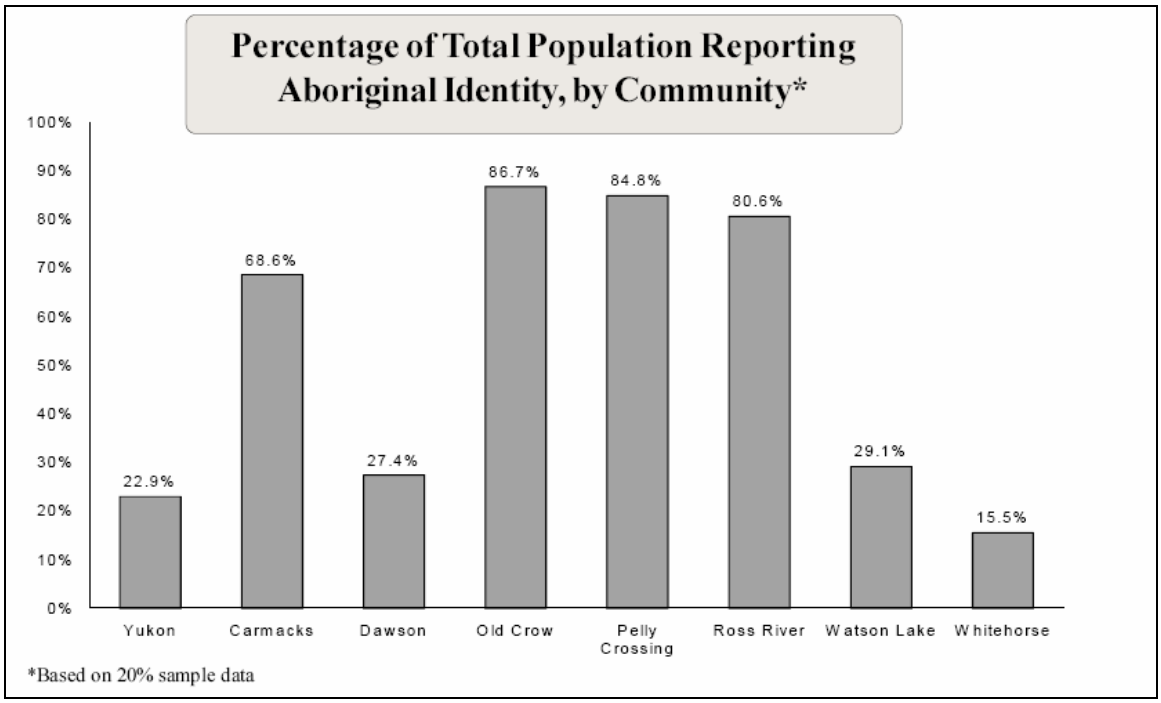


Figure 5.1: Percentage of Total Population Reporting Aboriginal Identity

5.1.3 Labour Force Activity

The 2005 unemployment rate is reported at 6.1%, (down from 10.4% in 2003. The rate of participation in the labour force is 79.8%. The top three industries by labour force are public administration at 21.1%, retail trade at 11% and accommodation and food services at 9.1%. Government activity and employment account for nearly one third of all employment in the Yukon. In 2005, early indications of opportunities in construction, natural resources and other industries forecast an increase in labour force and an average unemployment rate of 6.0 %. Yukon largely depends on government and service sector employment. Natural resource exploitation is limited to primary activities with little or no valued-added manufacturing activity. Thereby making the Yukon economy dependent largely on government institutions, service sector and resource extraction (see Table 5.3).

Unemployment is most strongly felt in the Aboriginal population in the Yukon. In certain communities unemployment ranges from 16 to 45 percent. In 2001, the communities with the highest Aboriginal population also had the highest unemployment rate (comparison of Figure 5 to Figure 6: Unemployment Rate and Aboriginal Population by Community). Any development from a rail link and resulting opportunities will need

to address development of opportunities through training for Aboriginal participation in the Yukon economy.

Labour Force 15 Years and Over by Selected Industry Divisions, Yukon, 2001 Census

	2001 (no)	2001 (%)
Total labour force	17,950	
Industry - Not applicable	280	
All industries	17,665	
Public administration	3,730	21.1
Other services (except public administration)	720	4.1
Accommodation and food services	1,600	9.1
Arts, entertainment and recreation	555	3.1
Health care and social assistance	1,585	9.0
Educational services	1,180	6.7
Administrative and support, waste management and remediation servic	585	3.3
Management of companies and enterprises	0	0.0
Professional, scientific and technical services	740	4.2
Real estate and rental and leasing	200	1.1
Finance and insurance	370	2.1
Information and cultural industries	695	3.9
Transportation and warehousing	770	4.4
Retail trade	1,945	11.0
Wholesale trade	330	1.9
Manufacturing	385	2.2
Construction	1,400	7.9
Utilities	150	0.8
Mining and oil and gas extraction	430	2.4
Agriculture, forestry, fishing and hunting	285	1.6

Table 5.3: Labour Force by Selected Industry divisions

Similarly, income characteristics by community of the Aboriginal population are significantly lower than non-Aboriginal Yukon residents. In communities with largely an Aboriginal population, the income levels are often less than half the Yukon average (comparison of Figures 5.1 and 5.2 to Table 5.4: Income Characteristics of Aboriginal Population by Community).

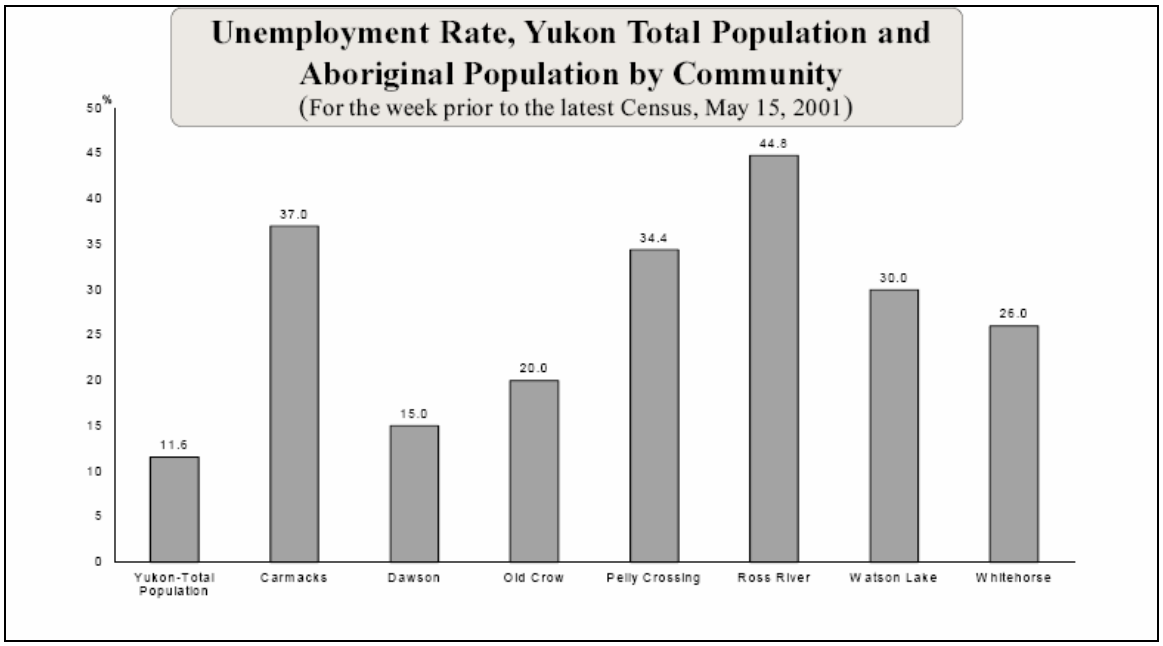


Figure 5.2: Unemployment Rate and Aboriginal Population by Community

Income Characteristics, Total Yukon Population and Aboriginal Population by Community

	Total Yukon Population	Yukon Aboriginal Population	Carmacks	Dawson	Old Crow	Pelly Crossing	Ross River	Watson Lake	Whitehorse
		Aboriginal population							
Income									
Persons aged 15 + with income	**21,675**	**4,295**	175	235	180	195	185	130	2,100
Median total income of persons aged 15+	**$26,488**	**$16,223**	$12,528	$19,307	$13,376	$15,008	$12,560	$17,472	$17,925
Median Household Income	**$51,930**	**$39,614**	$27,904	$35,712	$24,928	$34,304	$22,400	$33,280	$45,734
Composition of total income									
Earnings- % of income	**85.6%**	**79.7%**	68.7%	89.1%	76.0%	75.3%	78.3%	80.1%	81.3%
Gov't transfers- % of income	**8.6%**	**17.2%**	22.8%	9.5%	17.6%	22.6%	20.8%	17.3%	15.7%
Other money- % of income	**5.8%**	**3.2%**	7.8%	1.4%	5.5%	1.2%	0.9%	1.9%	3.0%

Table 5.4: Income Characteristics of Aboriginal Population by Community

Economy and Industry

Mining is Yukon's largest industry and accounts for thirty percent of the economy. The dependence on mining has placed the Yukon economy at the mercy of the cycles of the mining industry. A strong rebound has occurred in the mining and exploration sectors since 2003 and all signs indicate continued growth. Exploration levels

have significantly increased, major mine developments are at or near approval stage and several major mineral deposits are advancing to development stage. In addition, sales of two mineral properties, United Keno Hill and Minto, were initiated in 2004.

Output of Yukon forest products remained low in 2004. Low production is resulting from decreased volumes of timber harvesting for export while value-added production has remained fairly constant. The first Strategic Forest Management Plan in the Yukon has received joint approval by the Yukon Government and the Champagne & Aishihik First Nations (CAFN). This strategic plan addresses the forested land-base within the CAFN traditional territory minus overlaps with adjacent traditional territories of other First Nations. When fully implemented, this effort will identify the extent of forest salvage opportunities within the 400,000 plus hectare (and growing) area that are affected by the ongoing spruce bark beetle infestation from a forest land-base renewal perspective. Given the nature and configuration of the resource in this region, innovative approaches to harvest and marketing will be required to achieve the goals outlined in the strategic plan.

Recently Yukon has been diversifying into the oil and gas sector, tourism and agriculture. Nonetheless, this diversification is still limited to resource extraction rather than value-added activities and keeps the Yukon economy vulnerable.

Tourism is the second largest industry and attracts people with the promise of beautiful scenic scapes and the history of the Klondike Gold rush. Anecdotal information from Yukon tourism businesses suggests they will experience a good winter and a busy summer season in 2006. Wilderness adventure operators, who specialize in dog sledding and northern lights viewing, are showing strong bookings and an increase over last season. The wilderness adventure and accommodation sectors are generally optimistic about summer activities too. The number of wholesalers featuring high quality tour programs continues to increase as well as the availability of these programs throughout the year.

The fur trade still exists and supports 3% of the population. The hunting and trapping is largely dominated by the Aboriginal people in the Yukon.

Finally, the recent settlement of many of the Yukon Aboriginal land claims has allowed for new economic activity by the First Nations that contributes to all Yukoners.

Furthermore, the certainty that has emerged from the settled land claims will attract new investment.

5.2 British Columbia

From among the eight provincially designated regions in British Columbia, four fall within the catchment area for the rail link. Each region is further subdivided into districts (see Figure 5.3: Regions of British Columbia).

The demographic information for British Columbia consists of a general summary of the Aboriginal Population followed by an examination of each of the four regions under the headings of communities and population; labour force activity; and economy and industrial activity. The following information may serve as a starting point for the collection of further baseline data relevant to the ACRL.

Region 1: Vancouver Island/Coast
Region 2: Mainland/Southwest
Region 3: Thompson/Okanagan
Region 4: Kootenay
Region 5: Cariboo
Region 6: North Coast
Region 7: Nechako
Region 8: North East

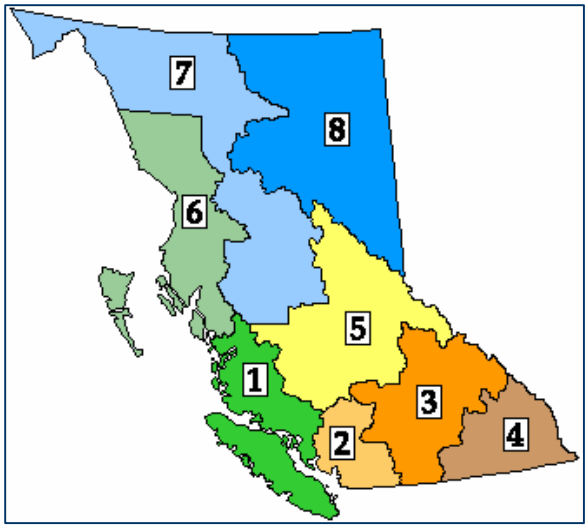


Figure 5.3: Regions of British Columbia

The four regions, Cariboo, North Coast, Nechako, and North East, within the rail link corridor in British Columbia are summarized below according to the three industries and employable population (Table 5.5).

Region	Top 3 Industries by Labour Force	Employable Population (15 years and over)
Region 5: Cariboo • Fraser-Fort George	1. Education, health, public administration 2. Logging and forestry manufacturing 3. Wholesale and retail trade	53, 860
Region 6: North Coast • Kitimat-Stikine • Skeena-Queen Charlotte	1. Education, health, public administration 2. Wholesale and retail trade 3. Logging and forestry manufacturing	31, 695
Region 7: Nechako • Stikine • Bulkley-Nechako	1. Logging and forestry manufacturing 2. Education, health, public administration 3. Wholesale and retail trade	22, 395
Region 8: North East • Northern Rockies • Peace River	1. Education, health, public administration 2. Wholesale and retail trade 3. Mining, oil, gas extraction and processing	33, 360

Table 5.5: Summary of Top Three Industries and Employable Population

5.2.1 British Columbia Overview

General Summary of Aboriginal Population

This section contains a general summary of the Aboriginal population in Canada with some specific data for regions in British Columbia.

Across British Columbia, 123,645 persons not living on an Indian Reserve identified themselves as an Aboriginal person, of who 74,210 identified as North American Indian only, 43,750 as Métis, 780 as Inuit and the remaining 4,910 as other or mixed Aboriginal identity. Those who indicated being a member of a Band or First Nation numbered 58,815.

In 2005, the off-reserve, Aboriginal population (15 and over) had an unemployment rate of 13.7%.

The differences in employment rates between North American Indians living off-reserve and non-Aboriginal people in northern British Columbia are particularly staggering. According to Statistics Canada (2001), in northern British Columbia, while three out of four employable non-Aboriginal persons are able to find work, in contrast, only 43 per cent of North American Indians are able to do so. A positive sign in the data is that when the employment rates are compared between Aboriginal and non- Aboriginal residents who have the same levels of education, many of the differences in labour

market outcomes disappear. Approximately 78% of North American Indians who have a high school diploma plus a post secondary certificate or diploma have a job compared to 81% among non-Aboriginal people.

As so much of the differences between the Aboriginal and non-Aboriginal groups can be explained by the differences in their education levels, it is critical to understand how disadvantaged North American Indians are when it comes to education. Approximately 28% of the working-aged population have neither a high school diploma nor post secondary credentials. Only 5% have a university degree, compared to 11% for the Métis and 22% for the non-Aboriginal population.

The gender differences in educational attainment are also of interest. Women in off-reserve Aboriginal communities far surpass men in their education levels.

The disparity in educational attainment means the skill levels of the jobs that are available to Aboriginal peoples are considerably lower than those available to non-Aboriginal people. Few Aboriginal peoples have university degrees, so most professions are not accessible. Aboriginal peoples are more than equally represented in the Technical group of occupations, particularly in the trades.

Other interesting information from the data is that Aboriginal peoples are twice as likely as non-Aboriginal people to work in the forest sector and less likely to work in either the health or education sectors. As these sectors consist primarily of unionized, public sector jobs, Aboriginal peoples tend to be under-represented in the public sector and have lower levels of unionization.

Aboriginal peoples are returning to school as adults. The percentage appears fairly small at 6%. However, if 6% of all Aboriginal adults complete a post secondary credential each year, education attainment levels could improve very quickly.

5.2.2 Regional Profiles
Cariboo Region: Fraser-Fort George District

Communities and Population

The Fraser-Fort George Census Division (Regional District) has a population of approximately 95,315 people. Within the regional district, 8,870 people claimed Aboriginal identity. It is 52,000 square kilometres including the City of Prince George (population 72,406), the District of Mackenzie (5,206), Valemount (1,195), McBride (711) as well as smaller communities and reserves with under 500 people. Between 1996 and 2001, all age groups below 45 years of age had a drop in population, while the population older than 45 increased by almost 4000 people. The Watson Lake to Mackenzie sub-corridor of the ACRL would directly impact this region of British Columbia.

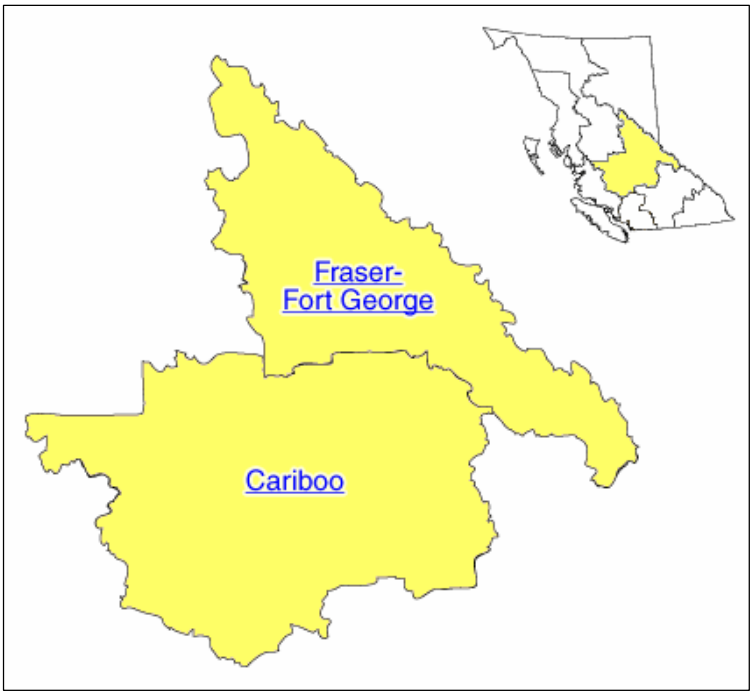


Figure 5.4: Cariboo Region: Fraser-Fort George District

Labour Force Activity

In 2001, there were 53,860 employable people (15 years or older). In 2005, there was a 68.2% participation rate in the labour force with an overall unemployment rate of 7.4%.[20]

In 2001, the top three industries by labour force were: education, health, and public administration at 21.8%, logging and forestry manufacturing at 17% and wholesale and retail trade at 15.2%.

Table 5.6 (below) illustrates the significant concentration of the labour force in education, health and public administration, which are all linked to public investment, for employment. The service sector collectively provides the remainder of the employment

lead by retail and wholesale trade. In turn this is reflected in labour force occupations (Table 5.7) which are predominantly associated with government and other services.

Fraser-Fort George Regional District				
Type of Industry [1]		% Distribution		
Experienced Labour Force		District	Region	Prov.
All industries	**52,565**	**100.0**	**100.0**	**100.0**
Agriculture, food and beverages products	800	1.5	2.8	3.0
Fishing and fish processing	45	0.1	0.1	0.5
Logging and forestry manufacturing	8,955	17.0	19.4	4.7
Mining, oil, gas extraction and processing	835	1.6	1.6	2.0
Non-resource-based manufacturing	755	1.4	1.3	3.9
Construction	2,995	5.7	5.8	5.9
Transportation, storage and utilities	3,745	7.1	6.4	6.2
Business, professional, related services	4,010	7.6	6.9	10.9
Information, entertainment, other services	4,765	9.1	8.1	10.3
Wholesale and retail trade	7,970	15.2	14.5	15.7
Finance, insurance and real estate	2,130	4.1	3.7	6.1
Accommodation and food services	4,075	7.8	8.2	8.3
Education, health, public administration	11,475	21.8	21.2	22.5

1. Based on the 1997 North American Industry Classification System (NAICS). Experienced labour force in processing and manufacturing activities associated with agriculture, fishing, forestry and mining resource industries is included with those industries.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact BC STATS, Data Services.

Table 5.6: Experienced Labour Force by Industry, 2001

Experienced Labour Force by Occupation, 2001

Fraser-Fort George Regional District Type of Occupation [1] Experienced Labour Force		% Distribution District	 Region	 Prov.
All occupations	**52,560**	**100.0**	**100.0**	**100.0**
Management	4,355	8.3	8.4	10.8
Business, finance and administration	8,515	16.2	14.5	17.6
Natural and applied sciences related	2,865	5.5	5.2	6.1
Health related	2,310	4.4	4.2	5.2
Social science, education and government	3,830	7.3	7.1	8.0
Art, culture, recreation and sport	795	1.5	1.4	3.3
Sales and service	13,230	25.2	24.4	25.6
Trades, transport equipment operating and related	10,110	19.2	19.2	14.3
Primary industry	2,590	4.9	7.6	4.2
Processing, manufacturing and utilities	3,965	7.5	8.1	4.8

1. Based on the 2001 National Occupational Classification for Statistics (NOC–S 2001). The 2001 National Occupational Classification for Statistics is a revision of the 1991 Standard Occupational Classification (SOC). For more information on the NOC-S 2001 see the Statistics Canada Census Dictionary.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact BC STATS, Data Services.

Table 5.7: Experienced Labour Force by Occupation, 2001

Economy and Industry

Forestry is the main resource based activity in the region. The forest industry constitutes the largest component of local economy with direct employment in logging, sawmilling, and the manufacturing of pulp, paper, and plywood. Forage and cattle production are most important sources of farm revenue and tourism is cited as increasingly important.

Manufacturing in the region is dominated by forest industries, both primary and secondary. All thirty of the largest manufacturing employers produce wood products. The largest employers in 2002 were Dunkley Lumber and Slocan Forest Products sawmills in Prince George and Mackenzie, respectively.

Although interest has been expressed in coal deposits on the Bowron River, development has been constrained by marketing and environmental considerations. Limestone is quarried near Prince George.

The region is developing as a tourist destination because of scenic attractions and mountaineering opportunities. Provincial parks and lakes in the area provide for fishing and boating. Hunting is a major attraction with moose, deer, bear and willow grouse. The Lheit-Lit'en Native Heritage Society provides tours of a traditional Fraser River salmon fish camp. A key institution in the region is The University of Northern British Columbia (UNBC); it continues to attract many people to the Prince George area.

North Coast Region: Kitimat-Stikine District and Skeena-Queen Charlotte District

Figure 5.5: North Coast Region: Kitimat-Stikine and Skeena-Queen Charlotte Districts

Communities and Population

The North Coast Region has an approximate population of 62,413. Within the region 18,665 people claimed Aboriginal identity. Although overall population declined from 1996, the aboriginal population grew (in Terrace by 37% between 1996 and 2001). Its 93,570 sq kilometres (12.5% of the land area of the province) include the City of Prince Rupert (population 14,643), the District of Kitimat (10,285),

the City of Terrace (12,109) as well as hundreds of smaller communities and the Nisga'a lands. The region has experienced net outflows of migrants over the last several years and this trend is expected to continue over the short term. The Watson Lake to Hazelton link of the ACRL would directly impact the North Coast Region.

Labour Force Activity

In 2001, there were 31,695 people (15 years or older) who were employable. In 2005, the labour force participation rate was 72.2% resulting in the overall unemployment rate of 8.1%.

In 2001, the top three industries by labour force in the region were: education, health, public administration at 26.2%, wholesale and retail trade at 13.3% and logging and forestry manufacturing at 12.9% (see Tables 5.8 and 5.9).

Experienced Labour Force by Industry, 2001

North Coast			
Type of Industry [1]		**% Distribution**	
Experienced Labour Force		**Region**	**Prov.**
All industries	**31,695**	**100.0**	**100.0**
Agriculture, food and beverages products	260	0.8	3.0
Fishing and fish processing	1,435	4.5	0.5
Logging and forestry manufacturing	4,095	12.9	4.7
Mining, oil, gas extraction and processing	1,960	6.2	2.0
Non-resource-based manufacturing	350	1.1	3.9
Construction	1,840	5.8	5.9
Transportation, storage and utilities	2,280	7.2	6.2
Business, professional, related services	1,655	5.2	10.9
Information, entertainment, other services	2,070	6.5	10.3
Wholesale and retail trade	4,290	13.5	15.7
Finance, insurance and real estate	945	3.0	6.1
Accommodation and food services	2,210	7.0	8.3
Education, health, public administration	8,300	26.2	22.5

1. Based on the 1997 North American Industry Classification System (NAICS). Experienced labour force in processing and manufacturing activities associated with agriculture, fishing, forestry and mining resource industries is included with those industries.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact BC STATS, Data Services.

Table 5.8: Experienced Labour Force by Industry, 2001

Experienced Labour Force by Occupation, 2001

North Coast			
Type of Occupation [1]		**% Distribution**	
Experienced Labour Force		**Region**	**Prov.**
All occupations	**31,695**	**100.0**	**100.0**
Management	2,730	8.6	10.8
Business, finance and administration	4,210	13.3	17.6
Natural and applied sciences related	1,435	4.5	6.1
Health related	1,295	4.1	5.2
Social science, education and government	2,820	8.9	8.0
Art, culture, recreation and sport	555	1.8	3.3
Sales and service	7,620	24.0	25.6
Trades, transport equipment operating and related	6,125	19.3	14.3
Primary industry	2,245	7.1	4.2
Processing, manufacturing and utilities	2,665	8.4	4.8

1. Based on the 2001 National Occupational Classification for Statistics (NOC–S 2001). The 2001 National Occupational Classification for Statistics is a revision of the 1991 Standard Occupational Classification (SOC). For more information on the NOC-S 2001 see the Statistics Canada Census Dictionary.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact

BC STATS, Data Services.
Table 5.9: Experienced Labour Force by Occupation, 2001

Economy and Industry

Forestry, fishing, and fish processing are the leading economic sectors, however, there has been a decline in the forestry industry since the early 1990's. In Prince Rupert, fishing and fish processing are the major sources of employment where 960 fishing vessels provide employment for about 1600 people. In 2002, there were 25 fish processing plants in the region.

Precious metals deposits near Stewart are poised for mining production and others are under evaluation. Alcan produces aluminum at Kitimat and also exports electricity. Difficult and costly access remains one of the most significant constraints to greater exploitation of mineral resources in the Region. A rail link could enable both access and provide an impetus to development.

The Region contains a wide variety of scenic attractions, climatic variations, facilities and tourism activities for the vacationing public. The coastal area, and particularly the Queen Charlotte Islands, offers wind-swept headlands, beaches, weathered totems and incomparable fishing. Inland, the emphasis is on river fishing for steelhead, Coho and Chinook salmon. In addition the 'Ksan Historical Indian Village Museum at Hazelton and hunting and wilderness adventure is along the Stewart-Cassiar route. The Region has numerous attractions within its boundaries and is gradually developing as a tourist destination. A program to upgrade and pave highway 37 should result in greater traffic volume.

Nechako Region: Stikine District and Bulkley-Nechako District

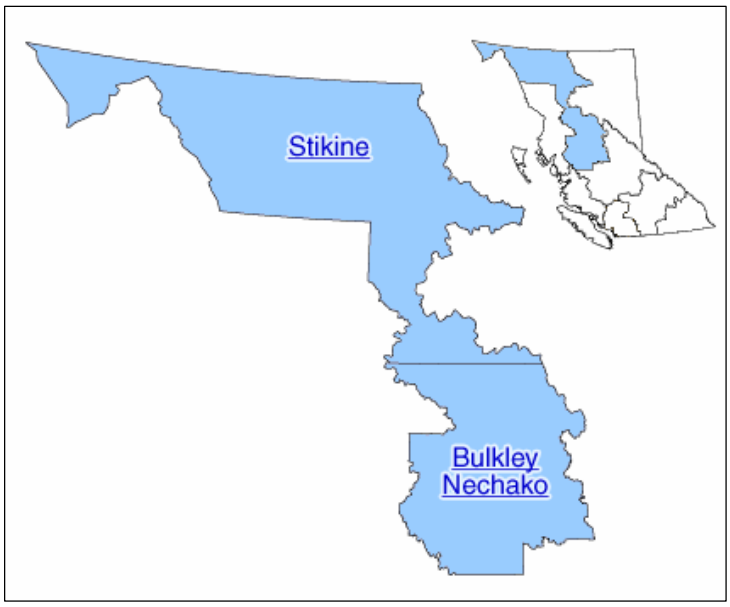


Figure 5.6: Nechako Region: Stikine and Bulkley-Nechako Districts

Communities and Population

The Nechako Region has an approximate population of 43,000. Within this region 6,555 people claimed Aboriginal identity. Its 213,391 square kilometres include the Town of Smithers (5,414), the District of Vanderhoof (4,390), the District of Houston (3,577), as well as 36 reserves with over 3000 people. Three of the potential sub-corridors would directly impact the Nechako Region; Watson Lake to Fort Nelson, Watson Lake to Mackenzie and Watson Lake to Hazelton.

Labour Force Activity

In 2001, there were 22,375 people (15 years or older) employable. In 2005, there was a 72.2% participation rate in the labour force with an overall unemployment rate of 8.1%.

In 2001, the top three industries by labour force were: logging and forestry manufacturing at 25.9%, education, health, public administration at 23.1% and wholesale and retail trade at 11.5% (see Tables 5.10 and 5.11).

Experienced Labour Force by Industry, 2001

Nechako Type of Industry [1] Experienced Labour Force		% Distribution Region	 Prov.
All industries	**21,920**	**100.0**	**100.0**

Agriculture, food and beverages products	955	4.4	3.0
Fishing and fish processing	25	0.1	0.5
Logging and forestry manufacturing	5,680	25.9	4.7
Mining, oil, gas extraction and processing	635	2.9	2.0
Non-resource-based manufacturing	95	0.4	3.9
Construction	1,215	5.5	5.9
Transportation, storage and utilities	1,185	5.4	6.2
Business, professional, related services	1,290	5.9	10.9
Information, entertainment, other services	1,395	6.4	10.3
Wholesale and retail trade	2,510	11.5	15.7
Finance, insurance and real estate	570	2.6	6.1
Accommodation and food services	1,290	5.9	8.3
Education, health, public administration	5,070	23.1	22.5

1. Based on the 1997 North American Industry Classification System (NAICS). Experienced labour force in processing and manufacturing activities associated with agriculture, fishing, forestry and mining resource industries is included with those industries.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact BC STATS, Data Services.

Figure 10: Experienced Labour Force by Industry, 2001

Experienced Labour Force by Occupation, 2001

Nechako			
Type of Occupation [1]		**% Distribution**	
Experienced Labour Force		**Region**	**Prov.**
All occupations	**21,925**	**100.0**	**100.0**
Management	1,675	7.6	10.8
Business, finance and administration	2,945	13.4	17.6
Natural and applied sciences related	1,415	6.5	6.1

Health related	700	3.2	5.2
Social science, education and government	1,780	8.1	8.0
Art, culture, recreation and sport	310	1.4	3.3
Sales and service	4,160	19.0	25.6
Trades, transport equipment operating and related	4,245	19.4	14.3
Primary industry	2,615	11.9	4.2
Processing, manufacturing and utilities	2,090	9.5	4.8

1. Based on the 2001 National Occupational Classification for Statistics (NOC–S 2001). The 2001 National Occupational Classification for Statistics is a revision of the 1991 Standard Occupational Classification (SOC). For more information on the NOC-S 2001 see the Statistics Canada Census Dictionary.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact BC STATS, Data Services.

Figure 11: Experienced Labour Force by Occupation, 2001

Economy and Industry

Mining activity increased in the area with approval in 2002 of the Tulsequah Chief Mine on the Taku River near Atlin. It is expected to provide employment for 300 people during construction and 260 during operation. The mine will produce copper, lead, zinc, gold, and silver. Additionally, there are numerous small mines and placer gold operations around Atlin and Cassiar Country.

In 2002, there were 13 primary lumber mills. The Region's boundaries encompass all of the Morice and Lakes Timber Supply Areas (TSA), most of the Bulkley TSA, about two-thirds of the Cassiar TSA, half of the Prince George TSA, a third of Kispiox TSA, and a small part of the Mackenzie TSA. It includes Tree-Farm Licence 42, held by the Tl'azt'en Nation (formerly the Stuart-Trembleur Lake Indian Band) through Tanizul Timber Ltd. Aboriginal groups also hold a direct interest in the Babine Forest Products Ltd. lumber mill and Burnslake Specialty Wood Ltd. reman plant near Burns Lake.

In terms of production and employment, agriculture ranks third behind forestry and mining in the regions economic structure. Farming activity is limited primarily to the southern portion of the region and is concentrated in the Bulkley Valley near Smithers and an area surrounding Vanderhoof. These two locations exhibit a degree of agricultural diversity although the leading activity there is cattle farming or ranching, as it is elsewhere in the Bulkley-Nechako Regional District.

The Region presents an extremely wide range of topography, climate, and wildlife. However, the vast bulk of it is wilderness with little or no surface access. A number of large wilderness parks and recreation areas have been established to protect this invaluable resource. While such measures have not yet had a significant impact on tourism revenues, they hold out the promise of a strong foundation for future development of the industry. A ski resort has been proposed for the Smithers area complimenting the many outdoor recreation activities for people living and visiting the area. Over $4 million is expected to be spent over the next few years for infrastructure and road upgrades in the region.

North East Region: Northern Rockies District and Peace River District

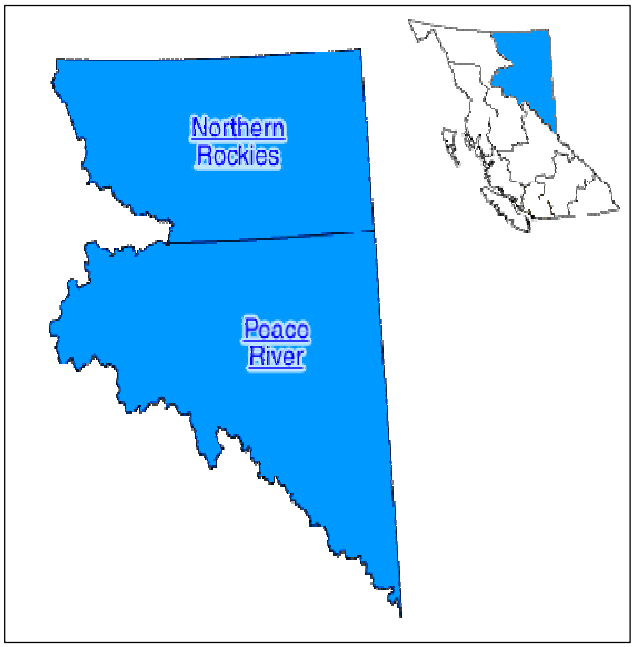


Figure 5.6: North East Region: Northern Rockies and Peace River Districts

Communities and Population

The North East Region has an approximate population of 61,800, of which 7,995 claimed aboriginal identity. The Region is comprised of 47.5 million acres (21.5% of the land area of the province). The trend of in-migration to the area is expected to continue as long-term, if oil and gas exploration and other energy projects continue to provide employment in the region.

The North East Region includes the City of Dawson Creek (10,754),

the City of Fort St. John (16,034), the Town of Fort Nelson (4,188) and the municipal district of Chetwynd (2,591). The North East Region would be primarily affected by the Watson Lake to Fort Nelson and the Watson Lake to Mackenzie sub-corridors of the ACRL.

Labour Force Activity

In 2001, there were 33,360 people (15 years or older) employable. In 2005, there was a 74.2% participation rate in the labour force with an overall unemployment rate of 4.7%.

In 2001, the top three industries by labour force in the region were: education, health, public administration at 18.6%, wholesale and retail trade at 13.9% and mining, oil, gas extraction and processing at 9.7% (see Tables 5.12 and 5.13).

Experienced Labour Force by Industry, 2001

North East			
Type of Industry [1]		**% Distribution**	
Experienced Labour Force		**Region**	**Prov.**
All industries	**33,660**	**100.0**	**100.0**
Agriculture, food and beverages products	1,860	5.5	3.0
Fishing and fish processing	35	0.1	0.5
Logging and forestry manufacturing	2,645	7.9	4.7
Mining, oil, gas extraction and processing	3,250	9.7	2.0
Non-resource-based manufacturing	335	1.0	3.9
Construction	3,165	9.4	5.9
Transportation, storage and utilities	3,210	9.5	6.2
Business, professional, related services	2,015	6.0	10.9
Information, entertainment, other services	2,485	7.4	10.3
Wholesale and retail trade	4,675	13.9	15.7
Finance, insurance and real estate	1,100	3.3	6.1
Accommodation and food services	2,640	7.8	8.3
Education, health, public administration	6,265	18.6	22.5

1. Based on the 1997 North American Industry Classification System (NAICS). Experienced labour force in processing and manufacturing activities associated with agriculture, fishing, forestry and mining resource industries is included with those industries.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact BC STATS, Data Services.

Table 5.12: Experienced Labour Force by Industry, 2001

Experienced Labour Force by Occupation, 2001

North East Type of Occupation [1]		% Distribution	
Experienced Labour Force		**Region**	**Prov.**
All occupations	**33,660**	**100.0**	**100.0**
Management	2,780	8.3	10.8
Business, finance and administration	4,490	13.3	17.6
Natural and applied sciences related	1,340	4.0	6.1
Health related	1,265	3.8	5.2
Social science, education and government	2,225	6.6	8.0
Art, culture, recreation and sport	445	1.3	3.3
Sales and service	7,725	23.0	25.6
Trades, transport equipment operating and related	7,865	23.4	14.3
Primary industry	3,705	11.0	4.2
Processing, manufacturing and utilities	1,820	5.4	4.8

1. Based on the 2001 National Occupational Classification for Statistics (NOC–S 2001). The 2001 National Occupational Classification for Statistics is a revision of the 1991 Standard Occupational Classification (SOC). For more information on the NOC-S 2001 see the Statistics Canada Census Dictionary.

Source: BC STATS and Statistics Canada, Census 2001. For more information contact BC STATS, Data Services.

Table 5.13: Experienced Labour Force by Occupation, 2001

Economy and Industry

Since 1981 development of coal deposits southwest of Dawson Creek has made mining the largest resource component of the areas economy. The oil and gas industry has played a smaller role south of the Peace River, but in the Fort St. John area, services related to oil and gas exploration and development are the leading sources of employment. Agriculture and forestry are also important sectors in the Fort St. John area. Hydro-electric projects on the Peace River have had an impact on both areas. The economy of the Fort Nelson area was originally transportation oriented, but grew rapidly to accommodate the oil and gas industry.

More recently the forest resources surrounding Fort Nelson have provided further growth and diversity. In 2002, there were five major operational mills. The large mills (in 2002) were: Canadian Forest Products Ltd. at Chetwynd; West Fraser Mills Ltd. at Chetwynd; Canadian Forest Products Ltd. at Fort St John; Canadian Forest Products Ltd. at Taylor; and Slocan Forest Products Ltd. at Fort Nelson.

Pillar 2

Now we turn to questions that elaborate upon the rules of engagement that inform the social impact of the rail link corridor.

6.0 What are the Federal and Territorial requirements related to social impacts that affect this project?

Coming to terms with the various regulatory requirements and their inter-relationship with socio-cultural impact will reveal a path for community engagement that will result in “meaningful consultation.” This question begins to outline the complex process of navigation.

The ACRL project spans several jurisdictions and falls within the purview of acts and regulations from British Columbia, Yukon Territory and the Government of Canada.

In general, large-scale developments such as railways, energy developments or mines are regulated by federal environmental and industry-specific legislation, such as the Canadian Environmental Assessment Act and acts such as the Railway Safety Act and the Canadian Transportation Investigation and Safety Board Act.

All developments must also conform to provincial regulation and guidelines. Each province and territory has its own set of regulations relating to safety, environmental and socio-economic impact assessment and projects must demonstrate compliance with all relevant technical and safety standards before being granted licenses or project approval. As of 2003, Yukon has mirrored all relevant federal legislation in territorial acts.

Listed below are Federal, Provincial and Territorial acts and regulations that apply to the ACRL project.

Federal Acts:

- Constitution Act (including recognition of Land Claims)
- Environmental Assessment Act
- Indian Act
- Canada Transport Act
- Canadian Transportation Investigation and Safety Board Act
- Railway Safety Act
- Other related Acts:
- Mine Development Assessment Act
- Northern Pipeline Act

British Columbia (Provincial Acts):

- BC Environmental Assessment Act, 2002

Yukon (Territorial Acts):

- Yukon Environmental and Socio-economic Assessment Act
- Land Use Act & Regulations
- Waters Act & Regulations

In addition to these acts and regulations, there are a series of initiatives that may affect the ACRL project, including Land Use Strategies and Parks & Protected Areas programs such as Yukon Protected Area Strategy and BC Parks & Protected Area.

7.0 What are the regulatory or statutory requirements for community involvement and consultation?

Having broadly outlined the various regulatory requirements above, this question focuses on the need for "meaningful consultation" not only as a requirement but also as a process of facilitating an understanding of the implications of the rail link in order to maximize benefits and manage adverse consequences to all parties involved. In this case, meaningful consultation is not a euphemism for expediency but an aspect of effective planning and sustainability.

Public participation in the general sense is required as part of the Environmental Assessment (EA) phase of permitting a project. There are provincial, territorial and federal requirements for environmental assessment. The requirement to conduct EAs is reflected in analogous provincial and territorial acts. These assessments involve significant social and human ecological dimensions. All developments that have a reasonable likelihood of creating environmental impacts, or that draw significant public scrutiny, are required to conduct an Environmental Assessment as per the Canadian Environmental Assessment Act (CEAA), which came into effect in 1995 and amended in 2003. The Act outlines procedures and responsibilities for conducting Environmental Impact Assessments of all projects under Federal jurisdiction. A project may only be excluded if they are evaluated to have minimal environmental impacts or are carried out in response to a national emergency. After a preliminary screening process, those who are involved in the decision making are identified.

It is essential, in the next phase of ACRL project that key community and Aboriginal institutions be identified for their involvement in meaningful consultation as required by the Act.

The current global and national framework has evolved beyond requirements for public participation to involvement of indigenous peoples in project planning. Article 8 of the International Convention on Biological Diversity (1993), sanctioned by the Canadian government, requires parties to preserve, respect, and sustain the livelihoods and knowledge generated from the lived experiences of Aboriginal communities for purposes of sustainability and conservation. In other words, the purpose of Article 8 is to

sustain the human ecological relations of the Aboriginal communities with their environment. This Convention is particularly relevant to the context of the rail link because it seeks right-of-way in lands occupied and recognized as the traditional territories of diverse indigenous peoples in Yukon and British Columbia.

The Canadian Environmental Assessment Act incorporates indigenous knowledge as a part of its process. The Canadian Environmental Assessment Agency defines indigenous knowledge as "…a body of knowledge built up by a group of people through generations of living in close contact with nature. Indigenous knowledge is cumulative and dynamic. It builds upon the historic experiences of a people and adapts to social, economic, environmental, spiritual, and political change."[21] Furthermore, within the definition of an environmental effect, the Act calls for Aboriginal participation if there is "any effect of any change on, (i) health and socio-economic conditions, (ii) physical and cultural heritage, (iii) the current use of lands and resources for traditional purposes by Aboriginal persons."

While the Act states the use of indigenous knowledge research is voluntary, in practice it is highly recommended. Furthermore, if the project is carried out on reserve lands or regions where comprehensive land claims are in effect, the project is further subject to the regulations of public participation and incorporation of indigenous knowledge research.

8.0 Using relevant projects as cases, what are lessons learnt from projects that illustrate meaningful community involvement?

In this section we will explore the rules of engagement though practical case studies from within and outside the rail link corridor to illustrate important lessons learned. These case studies expound on the various aspects of meaningful consultation and community involvement as discussed above.

8.1 Case Study #1 – Little Salmon Carmacks/Mt. Nansen Mine

Mount Nansen is an underground gold and silver mine located in central Yukon, 60 kilometres west of Carmacks. Production originally began in the early 1990s and has

since fallen into and out of activity. The most recent resumption of production was in early 1997, lasting until its owner, BYG Natural Resources, declared bankruptcy in 1998.

The mine is adjacent to the settlement lands of the Little Salmon Carmacks First Nation (LSCFN), which has a population of approximately 600 and almost a third of whom reside in Carmacks. LSCFN has managed the area since 1997 and hold surface and subsurface title including surface and subsurface mineral rights. Since the land claim had not been signed at the resumption of mining activity, a socio-economic agreement was signed outlining local hiring quotas. When the land claim was later signed, however, no re-negotiation occurred as the terms were poorly understood by the community. The mineral access demands by BYG were too high, and there were many environmental concerns with their operation.

Before the resumption of mining, LSCFN initiated a training program. Three years after operation commenced, the LSCFN entered a partnership with the Yukon College where mining skills such as training for a satellite Internet system, literacy (which increased understanding about environmental toxins), and problem solving were provided to the community. All programs were sensitive to Aboriginal values and received support from the community. Emphasis was placed on hiring locals, and thirty of the seventy-five people employed onsite were from LSCFN, with ten working with subcontractors and three trained in an assay lab.

However, soon after going into production, several environmental problems developed. The tailings pond contained cyanide levels above permitted limits, and unknown arsenic concentrations. These toxins became a serious concern after the pond developed a severe leak. The water treatment plant designed to treat the cyanide and other heavy metals before release into the watershed was not built to regulation standards. There were serious concerns that without a surrounding fence the local wildlife (including game species) may have been drinking from this tailings pond, and thus the possible transmission of toxins to the community upon consumption. All of these problems continued despite DIAND's insistence that BYG comply with safety standards.

There was very little communication between any stakeholders about environmental concerns. Despite LSCFN attempts to communicate, there was no formal mechanism for discussion. There were also very few sources of information, and mining

activities and effects were only revealed through government reports and informal communication from community workers employed at the mine. Even the Water Board Hearing in 1997 took three months to schedule and did not prevent a decline in water quality.

These environmental problems finally resulted in the Yukon Territorial Court issuing maximum fines ($300,000) for BYG due to violations of Water Permits. However, due to BYG's outstanding debt and the company going into receivership before operations ceased, they never paid the outstanding fine. DIAND eventually took over responsibility of site maintenance with open consultation with LSCFN.

Lessons Learned

Communication

- Poor communication between BYG and LSCFN created a gap that left no avenue for identification and mitigation of potential problems, or to address environmental concerns.
- Public hearings did not address the immediate community concern of putting a fence around the tailings pond to prevent wildlife from drinking cyanide-laced waters.
- A community working group would have probably been more effective at vocalizing community concerns to BYG.

Organization

- Little attention was paid to the timing of events, or how long it would take to organize public hearings.
- A formal training partnership was not offered until three years after the mine opened. Meaningful involvement by community integrated early into the initial planning of the mine could have allowed more LSCFN members to find gainful employment.

8.2 Case Study #2: The Innu Nation and Inco's Voisey's Bay Nickel Mine

In 1984 Archean Resources Limited discovered nickel, copper and cobalt deposits north of Voisey's Bay, Labrador while under contract with a penny stock company called Diamond Fields Resources. Soon after discovery as many as 250,000 claims had been staked and a bidding war began for mining rights, which was eventually won by Inco for

$4.3 billion in 1996. Its subsidiary, Voisey's Bay Nickel Company Limited (VBNC) started to mine the estimated 150 million tonnes of ore.

The deposit was located in the central part of Innu territory. It was 79 km northwest of the Innu community of Utshimassits (Davis Inlet) and only 35 km from Nain. Of the staked claims, half of them were on Innu land. No land rights agreements existed at the time.

As this was the first time the Innu had faced such a development situation, a task force was established to take its mandate from the community. The taskforce received its mandate from the community, and discussed environmental and economic issues related to mining. It produced a report that gave a clear direction to Innu leaders, underscoring the necessity of signing an impact benefit agreement and conducting an environmental assessment.

A Memorandum of Understanding (MOU) was drafted and signed by four parties in 1997: the Innu Nation, the provincial government, the federal government and the Labrador Inuit Association. Of note, the MOUs definition of 'environment' was different and more encompassing than that of the Canadian Environment Assessment Act (this will be discussed in detail in the next section). The MOU reflected the conditions locals felt were important, as well as having a balanced political representation as signatories.

The MOU also spelled out the creation of a Panel mandated to collect information for the environmental assessment from research and the public. They then would submit the options and recommendations to the leadership. The entire process was stipulated in the MOU as only allowed to take 45 days for the public hearing and 90 days to release the Panel's final report. Participation was further garnered through the community's collection of social and economic baseline data, upon their insistence that socio-economic information be a part of the environmental assessment. Rather than presenting the assessment as a final report, however, they produced a video documentary that portrayed a clear message to the community and Panel.

In the end, however, despite all the time spent and measures created to ensure local participation, little credence was given to the Panel's recommendations. Despite the Panel's insistence that the community did not want to commence operations without an impact benefit agreement and a land rights agreements, the project was approved by the

federal and provincial government. In turn the Innu Nation filed court action requesting the courts to reverse the government's decision based on the Panel's recommendations, as per the MOU. Such legal action, along with protests from the community, slowed the pace of exploration, and another company has since been evicted from Innu land for not recognizing Innu rights.

Lessons Learned

Participation

- By taking an active role in the social and economic baseline studies, people not only became well educated about the project but were also empowered to give input and make decisions.
- The medium of dissemination of their decisions was culturally tailored to their intended audience by creating a documentary.
- Participation within the public hearings was a key vehicle for expressing views, and for gauging the degree that the public understood the project and its potential impacts.
- Participation and comprehension gave credibility to the Innu experts and community.
- In the future, attention to meaningful consultation including community involvement would be valuable in ensuring that panel's recommendations are heard and implemented.

Project Opposition

- Through protests and legal action, the pace of development slowed considerably and allowed for the possibility of raising the community's voice against the mine before it was too late.
- The dealings with VBNC also increased the political capital of the Innu Nation, and led to a speeding up of negotiations on land rights, and other programs and services.

8.3 Case Study #3 – Tahltan First Nation/Mining Industry

The Tahltan First Nation's traditional territory is about 96,000 square miles and has a population of 1,350 people and three communities, located in northern British Columbia. It is very rich in mineral and ore deposits, and several mines have been in operation there over the last ten years. This case study examines the general principles

and procedures they have developed and applied at different mine sites in working with the community, government and mine company.

In the 1980s the Tahltan created a set of development principles, which state the need for both environmental protection and full community participation in the development of their own resources.

To prevent a "divide and conquer" strategy of the 3 communities from mining companies, and to ensure consistent compliance with their development principles, Tahltan First Nation decided to negotiate in a united voice. Initially, negotiation with the mining companies was through the Tahltan Development Corporation (TDC) (whose office was set in a central location) and the Tahltan Tribal Council (TTC). However, this strategy distanced the Chiefs and Councils from their members, resulting in distrust and poor inter-agency communication. Full participation was also limited by low capacity, especially technical and communicative capacity, and time demands.

Thus, the Tahltan Advisory Group on Mining (TAG) was established to deal with the technical assessment, cultural integration and environment. TAG had the time, fiscal and technical capacity, non-biased positioning and consultative skills to handle what the TDC and TTC could not. Their specific responsibilities included carrying out all mine related assessments according to timelines (operational monitoring, reclamation and closure planning), and informing the Tahltan leadership of options and their recommendations. TAG received funding from a mix of sources (DIAND/CEAA, the Band Council, BC Environment, and in some instances the mining company).

TAG was composed of at least one Councillor from each community, two Tahltans with specialized knowledge (from TDC), two non-Tahltan technical advisors and an open seat for each community depending upon availability. TAG has regularly scheduled meetings with the mine companies and government ministries. However, meetings with participants are limited to prevent burn-out for people who may already be constrained for time and resources.

While very successful in its proactive approach to development, TAG and the Tahltan community still face ongoing challenges. Receiving accurate, detailed information continues to be a challenge, though it has been largely achieved through an aggressive interpretation of *Delgamuukw*, the signing of an MOU with the Mines and

Energy Ministry and an open relationship with the BC government. The continual turnover of mining and government representatives also requires constant rebuilding of the personal relationships that smooth the lines of communication.

Lessons Learned

Capacity Building

- The high level of TAG's capacity and competent decision making processes ensured continuous recognition of First Nation priorities. High capacity also allowed TAG to balance the economic, cultural and environmental issues and offer a cost/benefit analysis of each.
- Incorporation of cultural and ecological knowledge is especially important in expanding the scope of the assessment to fully realize the issues important to Tahltan communities.

Organization

- TAG, as a single point of interaction with the mining companies, did not allow mining companies to muster the mistrust and ignorance that sometimes can cause communities of the same First Nation to compete for mine benefits by lowering regulatory standards.
- The experience gained by TAG gave them a better understanding of the industry's language operation and values, which was important during negotiation.

Communication

- From a timing perspective, attention was paid to the importance of creating a continual dialogue; final agreements and decisions do not necessarily guarantee the upholding of native rights and compliance with First Nation values.
- Continual meetings also prevented misinformation from spreading too far within the communities and mistrust being bred.

8.4 Case Study #4 – Taku River Tlingit

The Taku River Tlingit First Nation's traditional territory spans some ten million acres (32,000 km^2) of remote wilderness in the northwest corner of BC, straddling the Yukon border. The Taku River has been referred to as "the largest intact wilderness river

system on the Pacific Coast of North America." Much like the surrounding parts of BC and Yukon Territory, the area is characterized by forest, salmon and mineral resources that have sustained the Tlingit people for millennia.

In 1994, Redfern Resources Ltd. (Redfern), a junior mining company headquartered in Vancouver, applied to reopen its wholly-owned Tulsequah Chief zinc-copper-silver-gold mine, located in northwest BC on Tlingit traditional territory. The mine was owned and operated in the 1950s by Cominco Ltd. Redfern consulted with the Taku River Tlingit First Nation as per the requirements set out in the Canadian Environmental Assessment Act, meaning that it duly notified and gave opportunity to respond to the Taku River Tlingit First Nation.

Official representatives of the Taku River Tlingit First Nation (TRTFN) contacted, informed, and subsequently provided a series of concerns and objections to the project in response to the Environmental Assessment Report provided to them by Redfern Resources Ltd. In particular, these concerns related to a 160 kilometre access road proposed by Redfern that would be built through TRTFN traditional territory. Redfern did acknowledge and respond to these concerns but not to the satisfaction of the TRTFN. In 1998, the province of BC granted approval to begin construction of the project.

The TRTFN subsequently brought a petition and legal challenge (appeal) against Redfern to challenge the construction of this road on the basis of administrative law and claim to Aboriginal rights and title to their traditional lands. The BC Court of Appeal concluded that "the decision makers had not been sufficiently careful during the final months of the assessment" and ordered a reconsideration of project approval on the basis that the province had failed to meet its duty to consult with and accommodate the TRTFN.

Redfern then took the matter to the Supreme Court, and in 2004, the TRTFN's original appeal decision was upheld. The Supreme Court noted that the Taku River Tlingit were engaged in comprehensive land claim negotiations, and concluded that "while the proposed road is to occupy only a small portion of the territory over which the TRTFN asserts title, the potential for negative derivative impacts on the TRTFN's claims is high."

Until 1997 the TRTFN participated in the Environmental Assessment process, and was accommodated by the Province and by Redfern through continued information exchange, time extensions and by commissioning a report outlining the potential impacts of the Tulsequah Chief Mine, related facilities, and roads on the Tlingit traditional way of life. This report outlined concerns in anticipated impacts and legal scope that could not be accommodated in the Environmental Assessment process due to its scope not including issues of comprehensive land claims.

In December of 1997 the TRTFN opted out of EA-related consultation in order to draft the Nation's own land use policy and to explore options through the land claims process. The TRTFN returned to the process in January 1998, when the BC Environmental Assessment Office (the provincial regulator) called for rapid conclusion of the EA process, citing its own workload and previous extensions to the project timeline as reasons for this urgency.

The Supreme Court ruled that the TRTFN was duly consulted despite the brief period of non-participation by the TRTFN and the hasty conclusion of the EA process, noting that this level of participation is above the minimum of information exchange required by the CEA Act, and was conducted in good faith despite not satisfying the TRTFN's concerns.

Lessons Learned

Duty to Consult

- This case underscores the Crown's fiduciary duty to consult with First Nations when proposed developments, including through the actions of "Crown players," have reasonable likelihood of causing negative impacts to native lands.
- The Crown's duty to consult is rooted in historical common law: the Peace of Westphalia, 1648; the Royal Proclamation, 1763; and in the Constitution Act, 1982. Aboriginal claim to land in Canada has also been established in recent Canadian case law in *Calder v. British Columbia*, *R. v. Sparrow*, 1990, *Delgamuukw v. British Columbia*, 1997.

Depth of Consultation

- The Supreme Court judgment states that "on the spectrum of consultation required by the honour of the crown, the TRTFN was entitled to more than minimum consultation under the circumstances…" but that this duty had been fulfilled by the consultation that did take place, as it was greater than the minimum requirement, and was meaningful in that Redfern made efforts to accommodate the TRTFN's data needs, especially in regards to potential impacts to traditional ways of living.

No Duty to Reach Final Agreement

- The same judgment concluded that the Province was not under a duty to reach agreement with the TRTFN, and did not breach its responsibilities in the outcome, or lack of agreement reached.

Duty to Consult Related to Strength of Claim to Land

- The scope of duty to consult is established in a previous case, *Haida v. BC*, 2004, as being "proportionate to a preliminary assessment of the strength of the case supporting the existence of the right or title, and to the seriousness of the potentially adverse effect upon the right or title claimed." Thus, where there are active land claims, the Aboriginal groups can be regarded as potential land owners as well as stakeholders.

Certainty

- One of the implications of the tension of pending land claims is the prospect of "certainty." According to the BC Treaty Commission, certainty is one of the goals of the land claim process in that settled land claims establish the terms of engagement for future development initiatives.

9.0 What is the nature of benefit agreements as mechanisms of participation by Communities?

Having reviewed illustrative case studies and lessons learnt, the next section examines the role of impact benefit agreements. In this section best practices for such agreements will be outlined to address socio-cultural and economic impacts.

9.1 Impact Benefit Agreements

Any proposed development carries with it several socio-economic, cultural and environmental risks and benefits for the surrounding community. Development can lead to pollution causing food and water contamination, On the other hand, it can also create direct and spin-off employment, increased training and education, enhanced technical and decision making capacity, and establish resources needed to fund community programs.

However, the way these risks and benefits are realized varies widely from case to case. It is especially dependent upon how these impacts are negotiated between parties and the forethought and planning given to the management.

Impact benefit agreements (IBAs) have thus been developed to address the range and ambiguity of impacts. IBAs are agreements between proponent companies and communities that establish a formal relationship and outline responsibilities. The central purpose is to develop mechanisms that will limit the negative effects to the environment and local communities, and to harness the benefits arising from the development. In so doing, they offer a way for communities to attain security and increase their active participation in the project.

It is difficult to characterize the exact legal nature of IBAs as their individual conditions vary. Generally they are regarded as private contracts between signatories and if no legal provision exists, they are enforceable under common law of contract. When provisions do exist, as is frequently the case when land claim settlements stipulate the drafting of IBAs for development activities, they are usually in accordance with contract law.

However, there are some differences between IBAs and standard contracts. Rather than the precise and complex terminology used in legal agreements, IBAs typically employ “soft language” that can be understood beyond legal experts and thus within the community. Further, IBAs often play a regulatory role in the issuance of permits, licenses and leases.

While IBA statements are often informed by the social and environmental impact assessments, they do not usually quantify the predictions in a binding manner, but rather outline participatory mechanisms to collect further information and respond to potential

impacts. Thus, similar to a Memorandum of Understanding (MOU), an IBA formalizes a relationship between parties, yet lacks the binding power of a contract.

Noted below, as a guide to the various parties involved in the rail link project, are suggested best practices for Impact Benefit Agreements (IBA) with relevant examples to illustrate effective community consultation and maximization of benefits while mitigating or managing negative socio-cultural and economic consequences.

9.2 Best Practices

9.2.1 Specificity and Explicitness

Although IBAs are often written in plain language and more informally than standard legal contracts, they nonetheless must still make the agreed principles as specific and explicit as possible to facilitate enforcement. Specificity is often lacking due to the unpredictability of impacts, community inexperience, or the hesitation of proponents to commit to agreements that could be enforced if they are clear. For these reasons, the language of IBAs is often vague, containing terms such as "all reasonable steps," "reasonable efforts" or "provided that there is no adverse economic effect on the cost of the project."

Explicitness is chiefly important in defining the terms negotiated in the IBA. A very wide gap in perspectives often exists between private companies and First Nation communities. The gap is especially apparent for resource development wherein the concept of land as a "frontier" for developers and a "homeland" for locals could hardly be further apart. Thus, there exists a large potential for differing underlying assumptions, which may be taken for granted during the drafting and signing of the IBA and only become apparent after operations has begun.

Box 9.1: Innu Nation and Voisey's Bay Nickel Mine: Defining "Environment"

At Voisey's Bay, a nickel mine in Labrador, the Innu Nation negotiated an MOU with the Labrador Inuit Association and the provincial and federal governments. The agreement was significant as it changed the previous definition of environment, which has been established under the Canadian Environmental Assessment Act (CEAA). The CEAA definition of environment includes:

a) Land, water and air, including all layers of the atmosphere
b) All organic and inorganic matter and living organisms, and
c) The interacting natural systems that include components referred to in parts (a) and (b)

The Innu Nation's MOU included all of the CEAA's aspects of the environment, with the addition of their own perspective that the environment is "the social, economic, recreational, cultural, spiritual, and aesthetic conditions and factors that influence the life of humans and communities."

Best practice techniques should ensure that terms are both specific and explicit. Specificity relates to quantifiable aspects such as hiring quotas, royalty payments or environmental quality standards, as well as the mechanisms that must be established for dispute resolution (such as litigation or arbitration) and enforcement measures.

Explicitness is important in revealing assumptions about how concepts are understood, and should give all parties the chance to agree on the scope of definitions. The clarity that specificity and explicitness provides will also allow for simpler interpretation by mediation between parties or if necessary through the courts in the context of disagreements. Often establishment for rules for mediating disagreements ahead of time avoids the use of court action.

9.2.2 Long-term Planning

Long-term planning in IBAs is quite often non-existent or poorly thought out. It need not continue in that fashion, as long-term commitments between the First Nations communities and corporations are increasingly under scrutiny. In recent years, there have been several practices to signify the beginnings of successful long-term commitments between First Nations and corporations.

Long-term planning and relationship building between First Nations and corporations can begin prior to negotiations for IBAs. A Memorandum of Understanding

(MOU) establishes the rules of negotiation between the involved parties. Though time-consuming, the MOU can help to avoid costly problems down the road.

Box 9.2: Dona Lake Agreement

On June 24, 1987 Dome Exploration (Canada) Ltd., Osnaburgh Indian Band, Windigo Tribal Council, Government of Canada and Government of Ontario signed the Dona Lake Agreement. This IBA provided long term plans that would mitigate the impact of the mine owned by Dome Exploration after the closure of the mine. The long term provisions in the Impact benefit agreement included:

a) Environmental bond of $500,000 posted to ensure that the affected lands would be left in as good a condition, in regard to traditional hunting and gathering, after the completion of the mining project as it was before the production began.
b) Community infrastructure improvements, including construction and improvement of rehabilitative, cultural and recreational facilities as well as housing conditions, water quality, health and education facilities.

The ideal situation in long-term planning would include the community from the earliest stages of planning to help ensure that their long-term interests are not compromised. Open communication is necessary to avoid inter-community conflict. Corporations that use the "divide and conquer" strategy in negotiations while seemingly expedient, it may ultimately compromise the future of a project. Confidentiality agreements ought to be avoided in order to mitigate inter-community quarrels and distrust.

9.2.3 Ensure that the human and resource capacity is adequate

Human capacity is needed to ensure that the community is informed when signing an IBA and that their interests are protected. It is thus important to have both the technical capacity to understand the impacts of development and the communicative capacity to convey these impacts to the community, as well as to compile the feedback of the community.

Box 9.3: Lutsel K'e Dene and the Ekati Diamond Mine

The IBAs between the Lutsel K'e Dene First Nations and BHP Diamond Mine were signed from 1996-1998. The IBAs were completed before completion of the mine. The intent of the agreement was to ensure that the communities closest to the mine would benefit from it however, the Lutsel K'e Dene actively pursued research and monitoring at the community level to mitigate impacts of industrialization on the community.

a) Community researchers consulted with the public to understand the costs and benefits of mineral development.
b) Community researchers used traditional knowledge to study the impact of the mine on community health and way of life.
c) Using the traditional knowledge study as a baseline, the researchers began a monitoring project. However BHP was inflexible in linking any form of causality based on the studies.
d) In 2006, the Lutsel K'e Dene consulted with indigenous groups (Lokono and Trio) in Western Suriname providing valuable advice. BHP was seeking to establish a large-scale open-pit bauxite mine. The Lutsel K'e Dene, are passing on their lessons learned to the Lokono and Trio communities as a gesture of solidarity amongst indigenous groups worldwide.

The best practices in capacity building can be seen from the Lutsel K'e Dene, who were well prepared to deal with the impacts of mining. The difficulty was that an IBA was signed prior to the completion of community studies. The IBA included a clause that prevented a community from objecting to BHP's attempts to acquire a water licence. Human capacity in the community can be built prior to the project start-date, through cooperation between the First Nation and the Corporation. The capacity building and long-term planning can become intertwined best practices.

Financial resource capacity is an issue, as it is costly to build social capital in the community. The best practice in this scenario would be for the Federal and Provincial/Territorial Governments and the corporation to contribute funds to the First Nation without clauses on who must be hired, or the outcomes necessary. With the financial capacity to hire consultants to begin the process of human capacity-building in the community, the establishment of community research groups (as in the Lutsel K'e Dene case) become viable. Although time-consuming, it is in the best interest of the community to have spokespersons from the community rather than outside lawyers or outside consultants. Prior to signing an IBA, the community researchers can identify all of the issues, alternatives, and benefits to better inform the decision-making process.

9.2.4 Autonomy

Communities should not agree to clauses that compromise their sovereignty or rights to object to particularly damaging practices. The communities should avoid stating that the purpose of the IBA is to support the project. The benefits that a community receives are a share of the wealth that a company takes from the community's territory and is compensation for the environmental and social impacts that a project will have. Communities do not need to compromise their power in exchange for such compensation.

The community can assert its autonomy through consultation. By having a clear position on paper increases the chances of promoting the community's agenda rather than adhering to the company's priorities.

Box 9.4: Eebametoong First Nations

Eebametoong First Nations (EFN) is located in northwestern Ontario's Greenstone geological formation, an area rich in precious and rare metals. The EFN were involuntarily included in James Bay Treaty 9 in 1905. The EFN is not opposed to mineral extraction within its traditional territory provided there is consultation leading to mutual consent. The EFN have the following expectations:

a) That there will be an open dialogue, open communications, and co-operation regarding shared use of lands and resources.
b) That there be an acknowledgement of the EFN's Aboriginal and Treaty rights.
c) That any intended resource development be preceded by a letter of intent.
d) That there be a meeting between resource developer and the Chief and Council, held on the EFN reserve, to establish open dialogue and cooperation.
e) That following this meeting there be a community presentation to allow Band members to meet the developer and ask questions or voice concerns.
f) That an MOU be developed and signed between the EFN and the resource developer, to confirm and outline each party's understanding of the intended activity – but not to be considered a contractual commitment.
g) That developers commit to safeguarding and monitoring the environment from pollution.
h) That trap-lines, caches and equipment be respected as private property.
i) That cultural heritage sites be left alone.
j) That Eebametoong Reserves status as an alcohol and drug-free zone be respected.

10.0 What are the Human Ecological Relations in the Corridor?

Human ecology is the relationship between people and their environment – including relations between humans and other animals, plants and their habitat.

In this section the human ecological relations of aboriginal and non-aboriginal communities are examined. Primarily the seasonal round activities by aboriginal groups is documented. Furthermore activities such as outfitting, hunting, fishing, camping and other recreational activities are discussed.

A review of the human ecological data illustrates that there are significant gaps in information. Due to the complexity of land claims (settled and unsettled) and First Nations proprietary rights to indigenous knowledge, community participation in the next phase of the ACRL will be fundamental. Studies documenting indigenous knowledge and human ecological relations will be key in assessing the impacts of the project.

The Human Ecological Relations that exist in the corridor are both complex and context dependent. The following section provides a picture into the complexity of understanding the Human Ecological Relations in the corridor areas located in both Yukon and British Columbia.

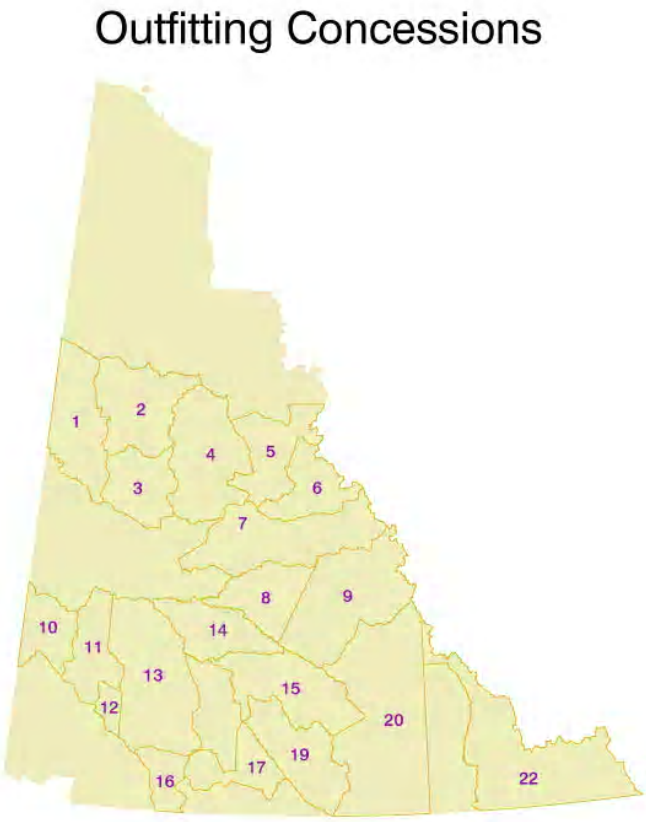


Figure 10.1: Yukon Outfitting Concessions (Environment Yukon, Geomatics Website)

10.1 Yukon

In 1987 Catherine McClellan et al. prepared a history of the Yukon Aboriginals, which included a description of the yearly round of the Yukon First Nations. The following narratives provide a geographic description of the cyclical pattern followed in the seasonal rounds of the Yukon First Nations groups and describes favourite spots for hunting, trapping and foraging as well as what species of plants and animals have traditionally been harvested in each area. These seasonal rounds are grouped into geographic areas covering the areas of Stewart River, Lower Pelly and Upper Yukon Rivers, Southwestern Yukon and

Southeastern Yukon. The non-aboriginal human ecological relations are also described within each geographic region. The hunting and outfitting concessions are described with the type of species which are popularly hunted in each concession. Figure 10.1 depicts the concessions in Yukon and is referred to throughout the following section.

10.1.1 Stewart River

The Seasonal Round of the Aboriginal People of Stewart River
(Delta Junction to Carmacks)

In late July the salmon arrive at Dawson, and a week later they reach Mayo. Traps are set along the Mayo River near the mouth of Mayo Lake and near the village of McQuesten on the Yukon River. Salmon are also caught near Fraser Falls, in eddies in the Stewart River, and along the Hess and Beaver Rivers. In early August Fat King Salmon appear and are typically dried for people to eat. The Dog Salmon that come later are usually in poor condition, and are dried for dog food later in the winter.

Historically, during the fall aboriginal people snared sheep in the Ogilvie Mountains around the Wind River or across the divide in the Mackenzie Mountains near the Artic Red River. In the fall and winter food sources were scarcer so people spread over a wider area to hunt and snare game in groups of two or three families.

Winter was dominated by fishing at Mayo Lake, Kathleen Lake or Ethel Lake. Grayling, Trout, Whitefish, and Jackfish were the dominant species caught. At Fraser Falls they supplemented fishing with hunting and trapping. This continued through the spring where they trap grayling also at Fraser Falls near the now abandoned trading post of Lansing.[22]

Stewart River Hunting Concessions

Blackstone outfitters (Concession 2 on Figure 10.1) guide hunters on the north slope of the Ogilvie Mountains along the Blackstone, Ogilvie, Hart and Whitestone River watersheds. They operate several cabins in the area which are used as stopovers or as base camps throughout the year.[23]

Concession 3 on the Yukon outfitting concessions map (Figure 10.1) is owned and operated by Pete Jensen. The concession is located on the south face of the Ogilvie

Mountains and operates cabins throughout the area. Moose are hunted from August to October, Dall and Fannin Sheep, Barren-Ground Caribou and Grizzly are reported as important species to the business.[24]

Midnight Sun outfitting operates hunting concession 4 (Figure 10.1). The species hunted are Dall and Fannin sheep, Alaska-Yukon Moose, Mountain and Barren Ground Caribou as well as the Porcupine Caribou herd and Boar Grizzly Bear. The business also depends on Dolly Varden, Artic Grayling, Artic Char and Northern Pike fishing.[25]

10.1.2 Lower Pelly and Upper Yukon Rivers

Seasonal Round of the Selkirk, Big Salmon and Carmacks First Nations on the Lower Pelly and Upper Yukon Rivers

(Delta Junction to Carmacks)

The Selkirk, Big Salmon and Carmacks First Nations live in the Yukon River watershed near Dawson and on the lower Pelly River and its tributaries. They depend on salmon more than any other nation. During the summer and fall there were salmon camps set up all the way to Pelly Crossing. Caribou was also a staple in the fall; the Forty Mile caribou herd migrated from north of Dawson to Dawson range in the southwest. A long caribou fence was established near Chicken, Alaska, Alaskan and aboriginal people from all around the area gathered to hunt and cache caribou meat with the salmon that was caught earlier in the fall. During the winter they ate the dried cached meat that had been stored during the fall. This was supplemented by fresh rats, beaver and lynx. The furs from these animals were either used or traded.

The Carmacks Natives spent the spring hunting ducks, beaver and muskrats along the lakes of the Nordenkiold River. Fishing was also an important staple. They fished for Whitefish, Grayling and other kinds of fish in Little Salmon and Tatlmain lakes.[26]

10.1.3 Southwestern Yukon

Seasonal Round of the Southern Tutchone in Southwestern Yukon

(Delta Junction to Whitehorse)

The Southwestern Yukon catchment area includes the Southern Tutchone who lived around Kluane, Aishihik, Dexadeash, Hutshi and Marsh lakes. In late winter or

early spring, before the spring break up, the First Nations of Southwest Yukon cut holes in the ice and catch the fish species of Whitefish, Trout, Jackfish, and Graylings. Later in spring they also hunt beaver and ducks, and if people are hungry they can go up into the surrounding mountains to hunt small bands of caribou.

What set these groups apart from the other Yukon First Nations is that salmon do not run in the Aishihik, Kaskawulsh or Dexadeash rivers. As a result they had to go either northeast to the Nisling River, northeast to Carmacks and Selkirk areas or south to Neskatahin on the Alsek River. When the salmon catch was concluded families made their way back to their traditional territories in groups of two or three families catching fish for dog food and sheep for themselves.

At the end of summer families came together and men hunted Mountain Caribou, sheep and moose. The women caught gophers and dried the meat for the coming winter. By late October the lakes had frozen over and ice fishing for whitefish and trout began. In mid-November people stopped fishing because it was getting too cold and the fish population was growing thinner.[27]

In the mid twentieth century the Canadian government encouraged the Yukon First Nation families to settle in government housing built for them in various communities. One such community was Haines Junction where the government encouraged the Aishihik aboriginals to settle. This policy resulted in the families moving to Haines Junction to live, however the families used the Aishihik village consistently on a seasonal basis.[28]

The relocation of the aboriginal communities to settlements near the Alaska Highway had implications for trappers. The distance to the traplines increased and as a result the cost of transportation and the amount of time spent away from families increased. Dog teams became more expensive to maintain, especially if seasonal employment or relocation interfered with catching fish for dog food.[29] To supplement the loss of trapline food income snaring ground squirrels became attractive. “Individual trappers in Aishihik reported taking as many as 3000 ground squirrels in a single season.”[30]

Sekulmun River (also called Link Creek) and its delta in Aishihik Lake, Kloo Lake, McKinley Creek, Stevens Lake, and both the inlet and outlet of Canyon Lake are

reported to be priority fishing areas for native people Southwest Yukon. Traditional fishing camps are located in bays and stream deltas on the shoreline of Aishihik and Sekulmun Lakes.[31]

Southwestern Yukon Hunting Concessions

Dickson outfitters Ltd. holds concession 10 on Figure 10.1, bordering on the Kluane Game Sanctuary and Alaska. The outfitter reported hunting for Dall Sheep, Alaska Yukon Bull Moose, Spring and Fall Grizzly. In the spring the hunt centres on grizzly and black bears, while the fall allows for black bear, timber wolf, wolverine and coyote. The outfitter operates a cabin on a lake from which Arctic Grayling, Lake Trout, and Northern Pike are caught.[32]

Mervyn's Yukon outfitters hold concession 13 on Figure 10.1 in southwest Yukon. This concession is home to the only reported free ranging herd of Wild Wood Bison in the Yukon as well as a large population of Dall sheep, Grizzly, Moose, Mountain Caribou, Black Bear, Wolves and Wolverine. The outfitter operates a number of cabins and hunts along the Yukon River, the Nisling River and the Aishihik River. Arctic Grayling, Northern Pike and Lake Trout are the species of fish reported to be of importance to the outfitter.

Devilhoe outfitters hold concession 16 on Figure 10.1 in southwest Yukon. Dall sheep, Alaskan Moose, Grizzly Bear are the major species hunted in the area. The outfitter emphasizes the importance of Dall sheep to the operation as the area has produced record holding sized trophy Dall sheep.

Kluane outfitters hold concession 11 (Figure 10.1). The southern border runs along the Kluane National Park while its northern and western borders are the Donjek and Yukon Rivers. The eastern border is the hunting area of Ruby Range. The species hunted in the concession are Dall sheep, Alaska/Yukon Moose, Black Bear, and Grizzly Bear. In the spring Bear hunting is offered from mid-April to mid-June. A majority of the hunting is scheduled for the fall and begin in August and run to mid October.

Ruby Range Outfitters operates concession 12 (Figure 10.1) which is adjacent to Kluane National Park. The outfitter hunts Grizzly Bear in the spring only. It also only offers a few Moose permits every year. Black Bears, Wolves, Wolverines and Coyotes

are hunted during the fall primarily and Lake Trout and Grayling are caught. The outfitter operates six cabin camps spread out evenly throughout the area.[33]

10.1.4 South-Central Yukon

Seasonal Round of the Tagish and Inland Tlingit First Nations in the South-Central Yukon

(Whitehorse to Skagway & Whitehorse to Watson Lake)

The Tagish and Inland Tlingit live in northern British Columbia and south-central Yukon. A majority of their time was spent around large lakes such as Bennett, Tagish, Marsh, Atlin and Teslin where they could get freshwater fish all year round. They did not depend on salmon as much as the rest of the groups in Yukon because the salmon came from the Bering Sea and didn't have much fat left after the long journey. The Tagish had a salmon camp on the McClintok River that runs into Marsh Lake. The Inland Tlingit live in Teslin and have salmon camps up the Nisutlin River and the headwaters of the Big Salmon. Sometimes they also cross the mountains to go to the Taku River drainage where they could get good salmon from the Pacific. There they also traded with the Coast Tlingit who came upriver from Juneau to dry their salmon near the old Tulsequah mine.

In the late summer and fall people left the river valleys and lakes to go up into the mountains to hunt meat in the mountains. Part of the big Forty Mile herd of caribou used to winter as far south as Teslin. However, there were usually only small scattered mountain herds of caribou. They caught the caribou or moose in groups of two or three families. By the late nineteenth century moose had become more plentiful than caribou in the area.

During the winter, mountain sheep, goats and marmots provided a large amount of the food supply. Each family tried to fill several large caches before returning to the lakes for the winter. By February the families were running low on cached food and began searching for good fishing lakes and fresh meat. Some families stayed until spring break-up and returned home on foot or by boat. On the way they hunted beaver, the Nisutlin River is one of the favourite places to find beaver.[34]

South-Central Yukon Hunting Concessions

Trophy Stone Safaris operates hunting concession 14 (Figure 10.1) using a variety of base camps throughout this hunting area. The species hunted are stone sheep, Alaska/Yukon Moose, Mountain Caribou, Grizzly Bear, Black Bear, Wolf and Wolverine in the months of August, September, October, and November. Spring hunts (for Grizzly, Black Bear, and Wolf) and winter hunts (for Wolf and Ptarmigan) are also run occasionally. A further part of the business is fishing which is offered to the customers.[35]

Lone Wolf outfitting runs hunting concession 19 (Figure 10.1) located on the mountain range of the Big Salmon, Nisutlin Plateau. The hunting is focused on Grizzly Bears, Black Bears, Wolves, Alaska-Yukon Moose, Mountain Caribou, Stone Sheep, and Wolverine.[36]

10.1.5 Southeastern Yukon

Seasonal Round of the Kaska Dene of Southeastern Yukon
(Rail Links originating at Watson Lake)

The southeast of Yukon is dominated by the Kaska Dene Nation. They live on the upper areas of Pelly River, around Frances Lake, and along the Frances and Upper Liard Rivers. The spring is spent hunting beaver, and later, families gather at good fishing lakes to catch Whitefish and Trout. During summer the families fish salmon, but since salmon is only present in the Pelly watershed they supplemented their salmon catch with other fresh water fish from the other rivers. The Liard Kaska Dene went to fish salmon with their relatives at Dease Lake or Telegraph Creek in the summer.

The fall found the families high in the surrounding mountains trapping marmots. The marmot meat provided enough meat to cache for the winter. This supply of meat was also augmented by the occasional caribou killed from one of the few small herds in the area.

While the Kaska Dene did not have access to the large caribou herds common to other parts of the Yukon they did have access to the Wood Bison. However, in the nineteenth century the migration pattern of the Wood Bison receded as far as Liard River which is contrasted with the migration going all the way to Atlin.[37]

Prospecting in the Faro area began in the 1950's and culminated in the opening of "one of the largest [open pit mines] in the world" on the slopes of Mount Mye in Southeast Yukon.[38] When the mine opened there was no impact assessment completed. In 1992 the Ross River Dena Council commissioned a Retrospective Impact Assessment (RIA) to help understand the impacts of the mine.

When the mine was opened it was accompanied by the creation of infrastructure within the community of Ross River. This development included an airstrip, and a road between Ross River and Carmacks, as well as the establishment of government offices and RCMP detachment. The development of the Faro Mine provided an increase in employment opportunities and resulted in population increases.

Prior to village settlement in the 1950's and the introduction of motorized vehicles, the community followed their traditional seasonal rounds.[39] After the Ross River Kaska Dena were settled in government communities the cultural patterns of the seasonal round continued, after the spring harvest groups would converge for a time of dancing, gambling, storytelling, and sharing. Even after the collapse of the fur trade, the people of Ross River still depended on the land for survival. "Hunting success depended on two factors: the productivity of animal populations and peoples' detailed knowledge of the local environment and animal behaviour."[40] In fact, it was due to the traditional ecological knowledge (TEK) of the Ross River people that made survival possible during the collapse of the fur trade. The community was dependent on bush foods, especially ungulates since they yielded large amounts of meat in a single kill. According to Weinstein, "the availability and productivity of moose, caribou, and to a lesser extent sheep is one of the main reasons that the band has remained one of the more traditional Indian bands in the Yukon even in the face of severe dislocations and resource impacts."[41] Figure 10.2 below shows the TEK of the Ross River Dena vis à vis the caribou habitat of the region.

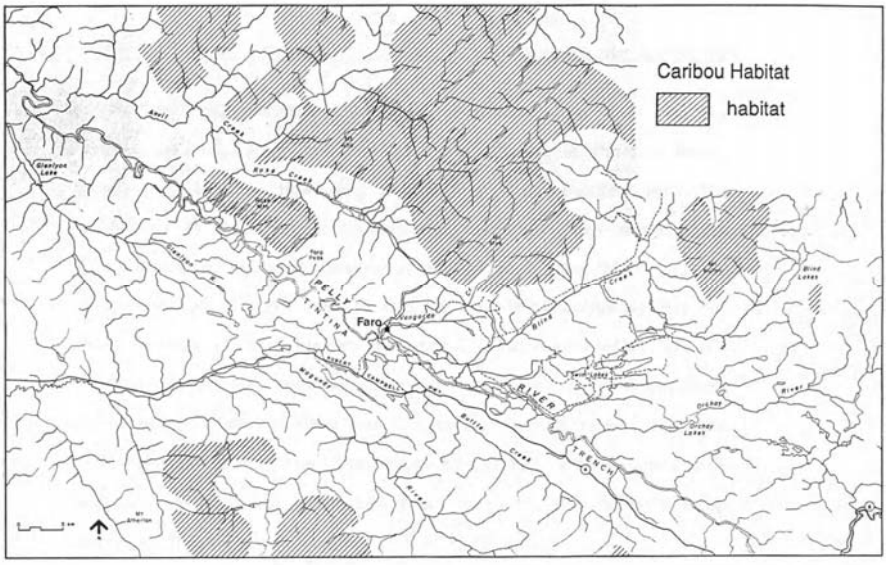


Figure 10.2: Ross River Caribou Habitat
(Weinstein, 1992, 71)

Furthermore, the extensive use of the land is seen through the wide variety of bush foods harvested by community members. These foods include: salmon, various types of berries, fine fur animals (fox, lynx, and marten, for example), beaver, muskrat, hoary marmot and arctic ground squirrel (reduced cost because of snaring technique), moose, caribou, snowshoe hare, grouse, ptarmigan, and sheep.

The Ross River Kaska Dena have extensive knowledge about the animal habitat and migration cycles in the Faro area. Part of the RIA documented the human ecological relations within the impact area to help understand how the mine created changes. The maps included:

- Marmot and Mountain sheep habitat

- Cabins and Main trails (Figure 10.3)

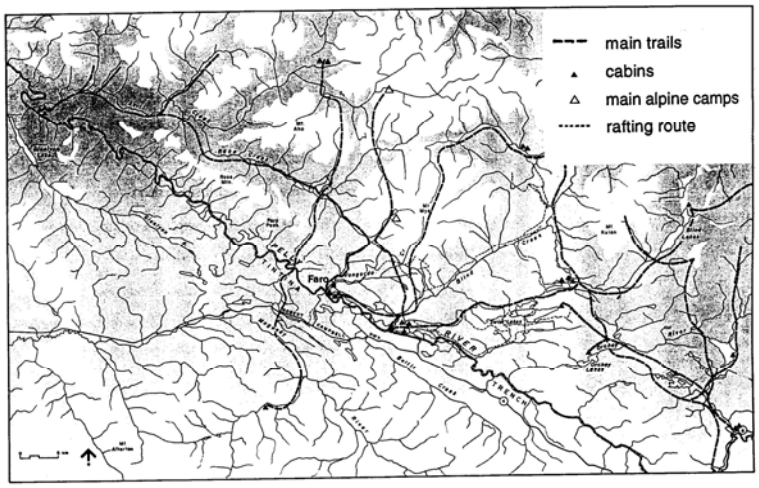
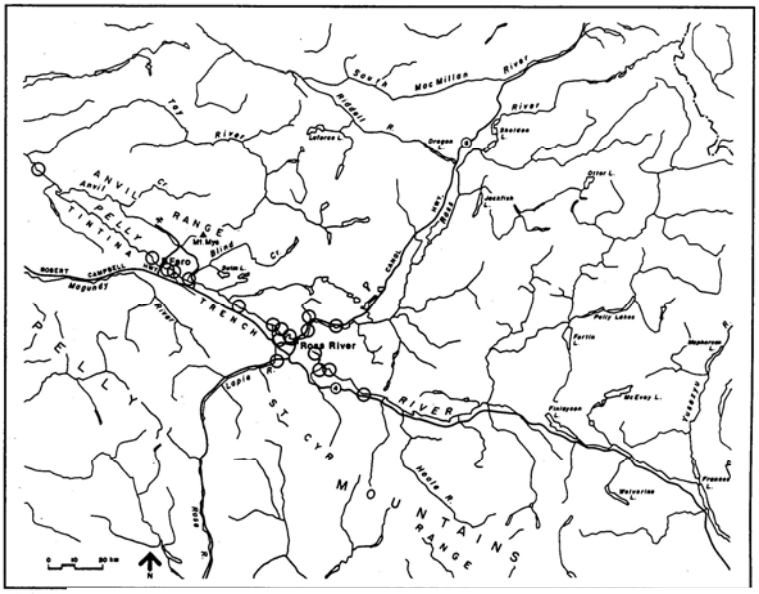


Figure 10.3: Ross River Cabins and Main Trails
(Weinstein, 1992, 75)

- Salmon Camps (Figure 10.4)



Figure

Figure 10.4: Ross River Salmon Camps
(Weinstein, 1992, 77)

A questionnaire survey was used to produce the data represented in the maps. The maps are separated into two categories: land use before development and land use after development (1967-1982). The data was also separated by age group: Elders

(1920's-1966), Middle-aged Harvesters (1953-1966) and Land use of Young Harvesters (1978-1982). The territory was separated into 22 zones and the individuals surveyed stated which zones they used. There were some limitations of the mapping process chosen by the researchers:

- The maps presented in the RIA were the results of questionnaire surveys gathered from 3-6 people (too limited to be considered representative)
- Some of the information gathered was based on second hand knowledge of individuals who were no longer living.
- The aggregate maps lacked detailed information about the intensity of use or the importance of the areas.[42]
- Some people completed maps of their land use prior to land development but never completed maps of their post development use.

The maps show a shift east in the land use and no harvesting in the "…areas directly affected by the mine, the tailings pond, and the tailings pond outflow… [and]…no trapping in the Faro area. The focus of fishing also shifted further east…"[43] The maps were intended to show trends and not definitive boundaries. The lands affected by development were not used very often and usually only for brief excursions. Data from the 1980's indicated broader use than the 1990's. In the 1980's, twelve zones were used over twenty percent of the time, whereas in the 1990's four zones were used twenty percent of the time.[44]

Southeastern Yukon Hunting Concessions

MacMillan outfitters hold hunting concession 8 (Figure 10.1). Stone sheep, inland grizzly, mountain caribou and Yukon moose are the primary species hunted by MacMillan outfitters.

Koser outfitters operates hunting concession 9 (Figure 10.1) from the Pelly River to the Yukon-Northwest Territory border. Within the concession is found Keele Peak, Rouge Range, Mt. Selous, Selwyn Mountains, South Fork Range, Itzi Mountains, Tay Range, Blind Mountain and Anvil Range. The rivers in the area include: Hess, North & South Macmillan, Tay, and Ross River. Base Camps are located at key points throughout the area and allow access to all of the mountain ranges.[45]

Cesar Lake outfitters operates hunting concession 22 (Figure 10.1) in the southeast corner of Yukon. The species hunted are: Caribou, Moose, Mountain Goat, Grizzly, Sheep, Wolf, Black Bear and Wolverine.[46]

Rouge River outfitters hold hunting concession 7 (Figure 10.1) and hunt Moose, Caribou, Grizzly Bear, Black Bear, Sheep, Wolf and Wolverine.[47]

10.1.6 Yukon Territory

Consumption of Country Food in Yukon Territory

Consumption levels of country food are another way of evaluating the human ecological relations of an area. Consumption of country food indicates the level of dependence on subsistence activities to meet daily needs. In 1995 Wein and Freemen completed a study of four communities in the Yukon. From this study the following inferences were made about the consumption of country food by Yukon First Nations.

In 1988, Yukon First Nations harvested country food at 87 kilograms per capita annually or 0.24 kilograms per capita per day of raw food.[48] Many persons commented that "hare, lynx, porcupine, and even ground squirrel had been scarce in recent years, and that they would consume these foods more often if they were available. A few people mentioned the difficulty in obtaining mountain goats and marmots, which live high in the mountains."[49]

In comparison with other Native groups the frequency of traditional food use among Yukon Natives is high.[50] Comparing annual consumption rates, Yukon Native households use traditional foods more often than Cree and Chipewyan households in the Wood Buffalo National Park area of Northern Alberta,[51] but less often than the Inuvialuit of Aklavik.[52] On the subject of diversity of traditional food species Wein and Freeman commented that "Yukon Indians used a greater variety of traditional food species than other northern Native groups."[53]

In terms of the ACRL, country foods are a significant factor that may be jeopardized in the construction and operational phases of the project.

Land Status in Yukon Territory

Figure 10.5 below provides an overview of specific settlements and protected areas in the Yukon. These protected areas include:

- Lands set aside for non-ratified First Nations and are protected for future First Nations Settlement lands
- Special Management areas, Habitat protection areas and Natural Environment Parks
- Conservation Lands
- Settlement lands which include subsurface rights
- Special Management areas which are co-managed with various First Nations

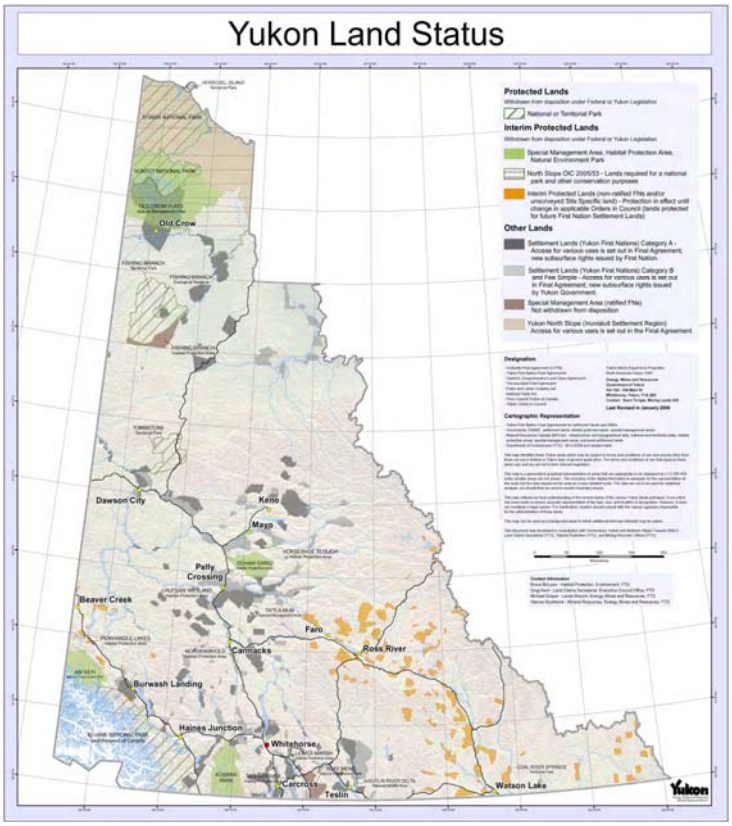


Figure 10.5: Yukon Land Status
(Yukon Energy, Mines and Resources, Maps and Data)

Trapping Concessions in Yukon Territory

There are numerous trap lines in the Yukon; Figure 10.6 is a map displaying the allotment of land for each trapline. The concessions cover almost all of Yukon except for Kluane National Park

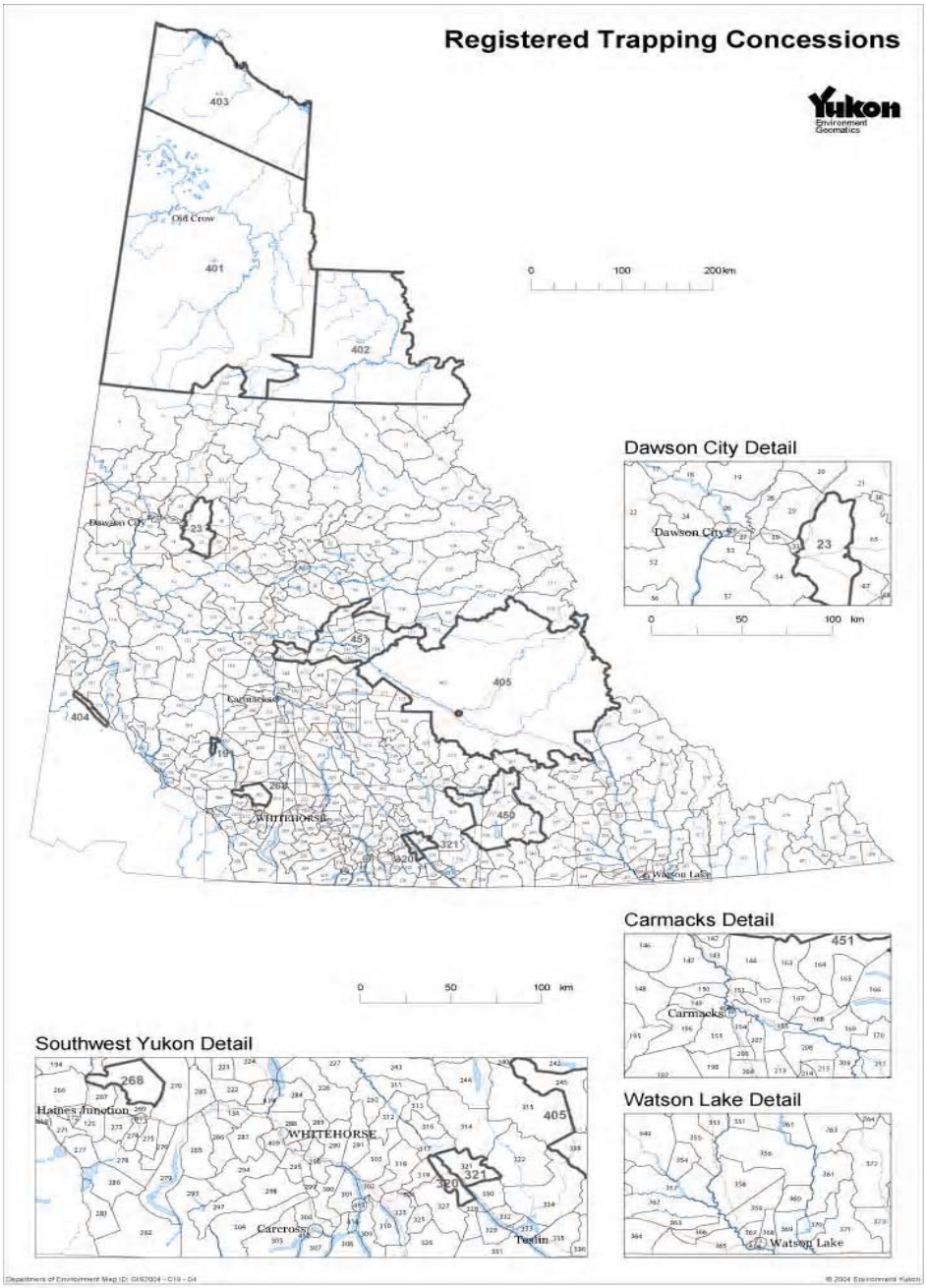


Figure 10.6: Yukon Trapping Concessions
(Environment Yukon, Geomatics Website)

Fishing in Yukon Territory

The 2000 Survey of Recreational Fishing in Canada indicates that 14,553 licensed anglers fished for 93,900 days and caught 263,436 fish, keeping only 50,910 of the fish they caught.[54] There are numerous stocked lakes in Yukon. Figure 10.7 below is a map displaying some of the lakes in Yukon that are stocked. A list of lakes and the species of fish that can be found in each is located on the Yukon government website.[55]

Figure 10.7: Stocked Lakes in Yukon
(Environment Yukon, Anglers guide, 2003)

Camping and Recreation sites in Yukon Territory

Camping in the Yukon, like the rest of Canada, is a favourite past time. Figure 10.8 is a map produced by the Yukon government of the various campsites and recreation areas maintained by the territory. The majority of recreation areas and campsites are located along the Alaska, Klondike, and Robert Campbell Highways.

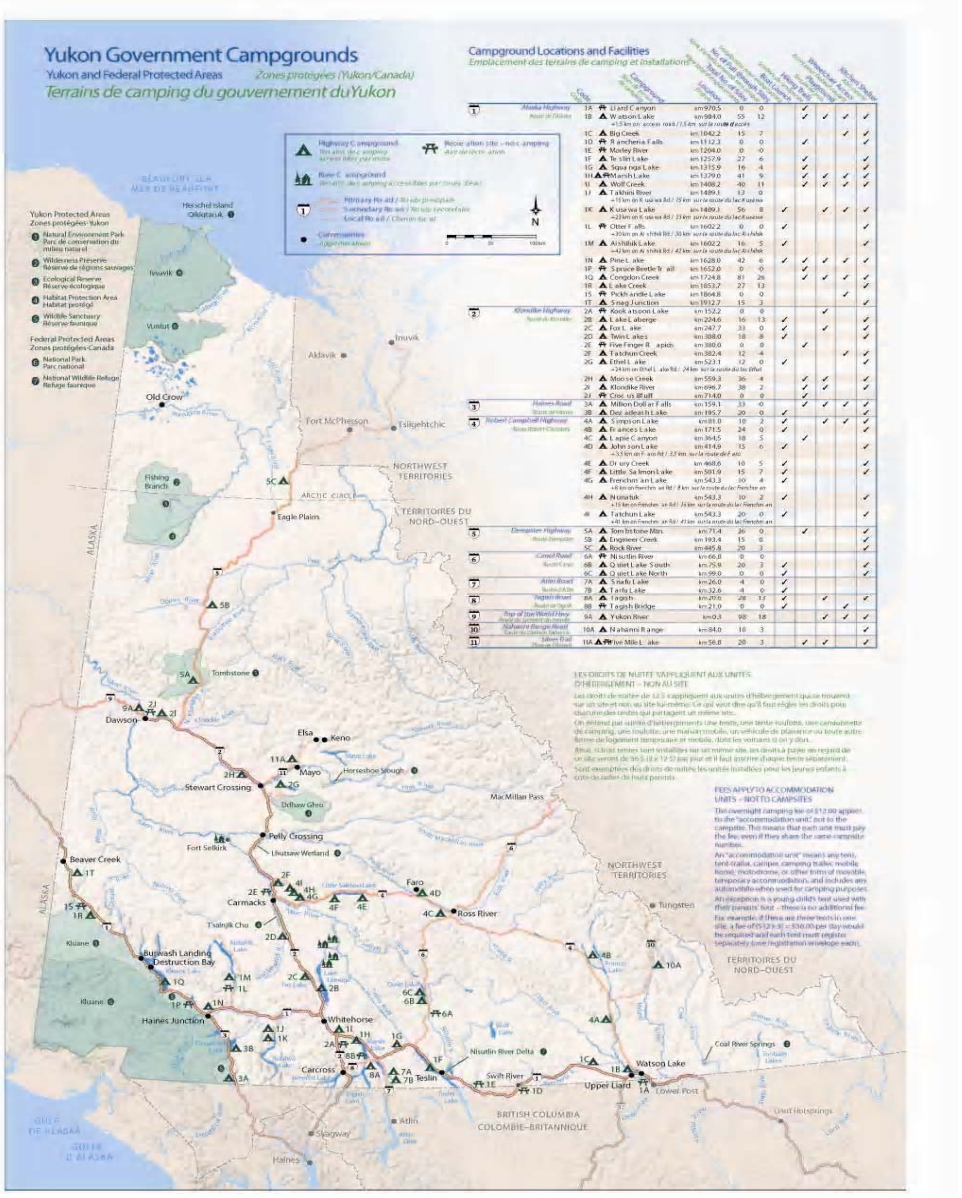


Figure 10.8: Camping in Yukon
(Environment Yukon, Geomatics Website)

10.2 British Columbia

10.2.1 Northeast British Columbia

Traditional Land Use and Occupancy Studies of Doig River, Blueberry, and West/East Moberly Reserves, Halfway River, Fort Nelson, and Prophet River

Doig River, Blueberry, and West/East Moberly Reserves, Halfway River, Fort Nelson, and Prophet River have complete Traditional Land Use and Occupancy Studies (TLUOS). From the TLUOS maps we see the extensive land use of the community members. There are similarities between the maps of Northeast British Columbia and the maps from Ross River. The Northeast British Columbia maps display the interconnectedness and seasonal nature of the Native economic cycle. For this reason, the outer boundaries of the territory disappear and overlap between hunter's territories results. Figure 10.9 displays the overlap between many of the reserves traditional territories in Northeast British Columbia.

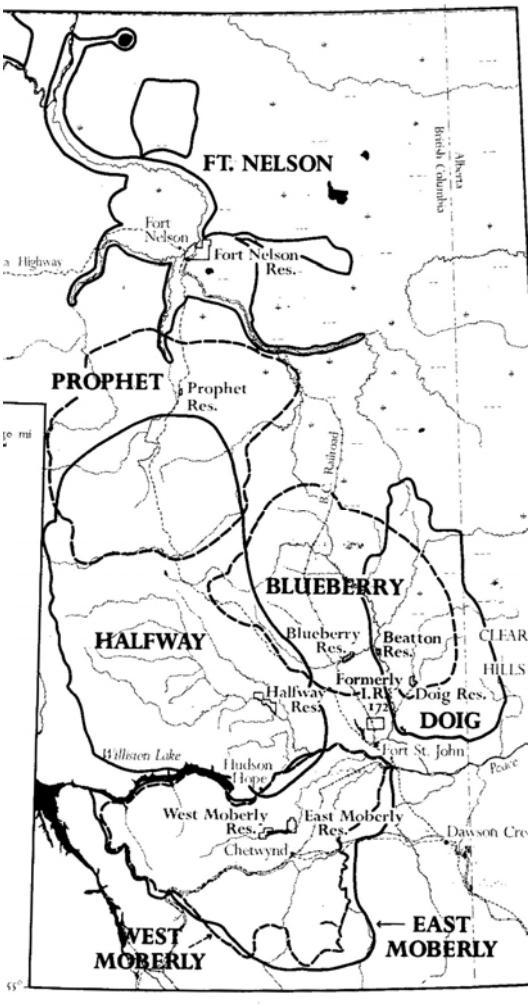


Figure 10.9: Northeast BC First Nations
(Brody, 1981, 173)

This could lead to difficulties during the consultation process. If numerous communities feel entitled to the land and their land claims have not been settled then the possibility for conflict between the communities may increase. This displays the non-exclusivity between native groups and their relatedness to one another.[56]

The maps gathered for the Doig River reserve were gathered in 1978-79 and includes base maps that were 1:250,000 topographic sheets.[57] Individuals mapped the areas where they hunted (moose, deer, bear, waterfowl, grouse), fished, trapped, picked berries (Saskatoon berries, strawberries, raspberries, blueberries, bilberries, etc), and

camped (hunting camps, trapping cabins, or even former villages). This exercise resulted in the mapping of the traditional ecological knowledge and a graphical representation of the seasonal round as is displayed in Figure 10.10 below.

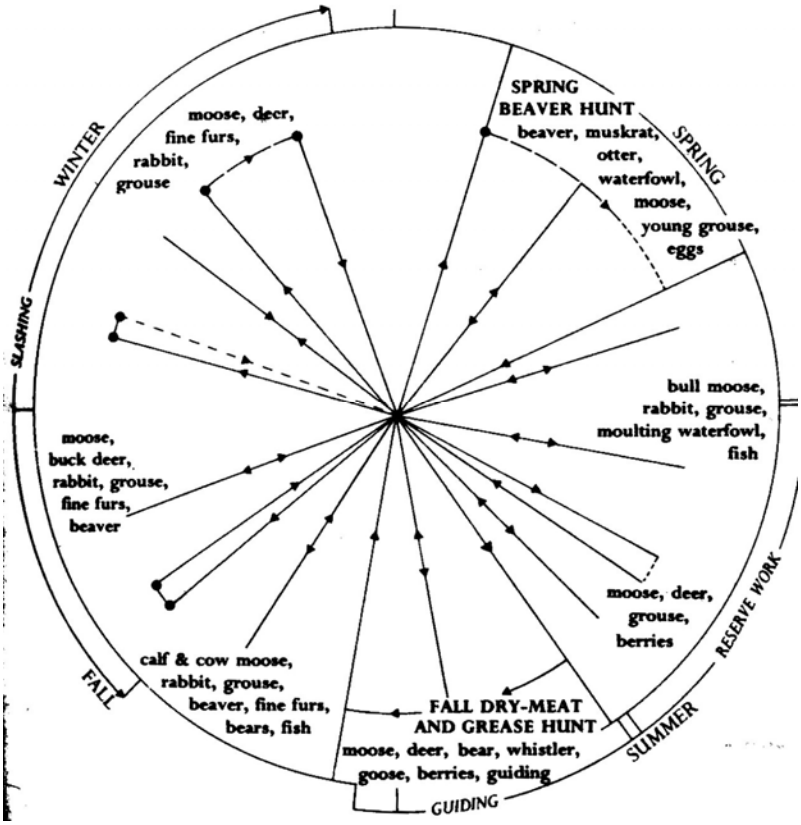


Figure 10.10: Seasonal Round (Brody, 1981, 199)

Traditional Land Use and Occupancy Study of Kelly Lake

In 1983, a report was undertaken to assess the traditional land use and occupancy system of Métis trappers near Kelly Lake, which is close to Dawson Creek in north-eastern BC. The study, prepared by the Petro-Canada Coal Division in relation to a proposed rail spur from the Tumbler Ridge Branchline to the Monkman Coal Project, some 45 km away, as well as a 21 km bypass section to avoid mining areas projected to be developed in the near future.

The goals of this study were:

- to create the first comprehensive aural history of the Kelly Lake Métis people
- to map the aural history data for both trapping communities and associated trail networks
- to compare aural and archaeological survey data and to develop a composite trapping cabin description; and
- to develop a description of the seasonality and scheduling system utilized by the Kelly Lake trappers in their annual round of regional land use and occupancy.

Drawing from Hugh Brody's established methodologies, and organized as per the 1982 Guidelines for Heritage Resource Impact Assessment in BC, the researchers, Michael Robinson and Arnoud Stryd, present traditional land use data based on a series of in-person interviews with elders on the land over some 10 field visits, mapping current and historical trapping cabins, trails, occupation trends.[58]

Through the interviews, maps, images and diagrams, the study reflects that the mostly Cree-speaking residents of the area (Cree and Iroquois trappers and settlers) were in the 1930s and 1940s engaged in a wide range of traditional activities and continued to have strong dependence on the land through hunting (Moose, Bear), trapping (Beaver, Lynx, Marten, Mink, Muskrat, Red Squirrel, Weasel, Otter, Coyote, Fisher and Wolverine) and gathering (berries, duck eggs, etc.), as well as limited participation in the cash economy through outfitting, harvesting with local farmers, and clearing land for settlers.

Figure 10.11 of the Kelly Lake seasonal round is provided below. The trapping cabin communities studied in this report have not been continuously inhabited since the 1960s, when 18-20 cabins in five informal communities housed up to 100 people in the area on a seasonal basis. These communities were known as Monkman Cabins, Hambler Cabins, Callahaison Flats, Five Cabins, and Poona 'Tik See Pee, all located within a radius of approximately 20 km.

However, the people of the Kelly Lake area were committed to the traditional subsistence lifestyle (living off the land): "they do not view the bush as wilderness; rather it is seen as a place for shared work and raising a family." For the earlier Métis settlers of

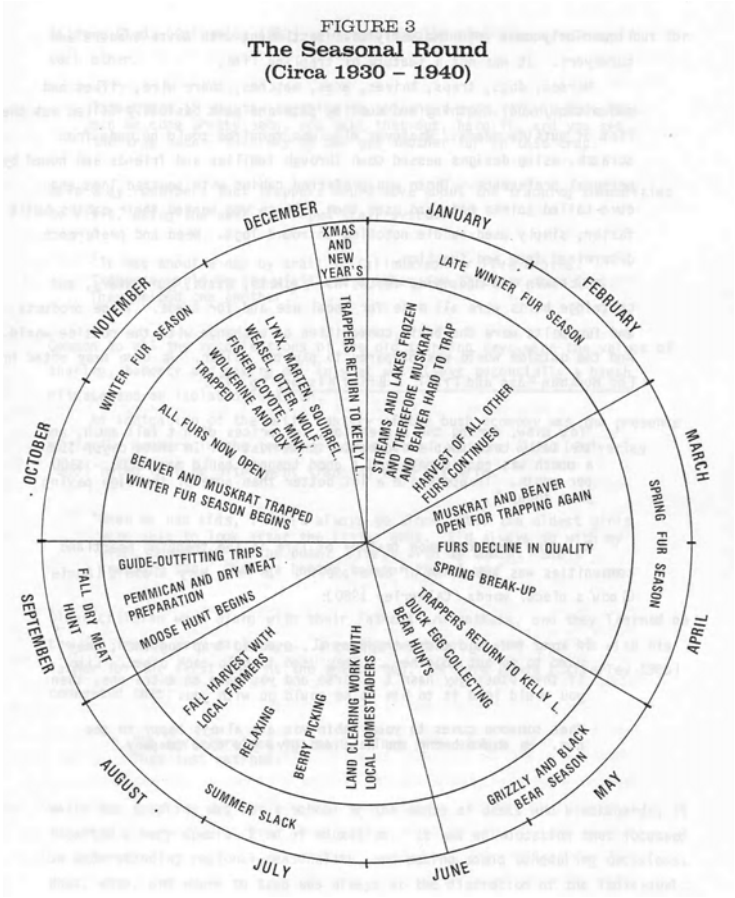


Figure 10.11: Kelly Lake Seasonal Round
(Petro-Canada, 1983)

this area, the Monkman Pass and Trail region was the home of winter life, just as the Kelly Lake homesteads to the east were the centre of summer life.

The Kelly Lake region was considered "trapping heartland" for the Métis settlers venturing west to escape the Riel Rebellion. In the words of Lective Campbell, one of the regional residents, "this was the last place those people could go."

This area is a productive landscape described as having "almost unlimited ungulate production potential" and one that was "remarkably self-sustaining." Monkman Cabins, Five Cabins and Callahaison Flats were important centres of the trapping economy. Monkman Cabins was known for its good trapping, because it is at the junction of at least seven trails, and because Mr. Alex Monkman was "a local figure of high social and political profile in the 1920s and 1930s."[59] Five Cabins is remembered due to its situation as the last community on the trail to Monkman Pass. Callahaison Flats is just south of Poona 'Tik See Pee (Rhubarb Flats) and has both meadows of lush grasses for the horses, and proximity to good trapping on all sides.

The Kelly Lake area was cosmopolitan, due in part to its situation on the regional trail network. According to the authors,

> "as the interviews progressed, it became clear that Poona 'Tik See Pee was at least as much a Moberly winter trapping locale [studied earlier by Hugh Brody, but showing Moberly occupancy further to the north] as a Kelly

> Lake one. It is probably the case that this community was on the border of two large trapping regions, and marks the line where members of the Saulteau Indian Band of East Moberly Reserve and the Beaver people of the West Moberly Reserve came into contact with the Iroquois-Métis people who trapped out of Kelly Lake, and the homesteads near Dawson Creek."

The bush economy has been and continues to be an important part of life in the Kelly Lake area. Despite increasing participation in the cash economy and the presence of roads through traditional trapping territory, income from fur sales continues to be part of the local lifestyle for many residents. Roads have made trapping easier, and some trappers are now able to check their traplines and return to town by truck within a day, further facilitating the dual economy.

Northeast British Columbia Hunting Concessions

The Peace hunting region is located in Northeast British Columbia between the eastern slopes of the Rocky Mountains, south of Dawson Creek, north to the Yukon border. The river systems of the Peace, Halfway, Sikanni, Prophet, Muskwa, Toad, Rabbit, Liard, Kechika, the Turnagain and the Gataga are located within the region. There are 61 outfitting companies operating in the Peace region.

The stone sheep can be found in the mountains north of the Peace River; while Rocky Mountain bighorns are well established along the Rockies of the Alberta/BC border. Moose, Mule Deer, Wolf, Grizzly and Black Bear are harvested throughout most of the areas. Elk herds have expanded along the east slope from south of the Yukon border to the Murray and Wapiti rivers in the south. Mountain Caribou and Goat can be found throughout the mountainous area, while numerous Whitetail Deer inhabit the foothills.[60]

10.2.2 Northwest British Columbia

Northwest British Columbia Hunting Concessions

The Skeena Regional region is located in Northwest British Columbia. There are 40 different outfitter companies operating in the region. The species that are hunted in the region include: Mule Deer, White-tailed Deer, Moose, Elk, Thinhorn Mountain

Sheep, Mountain Goat, Caribou, Black Bear, Wolf, Coyote, Wolverine, Lynx, Raccoon, Snowshoe Hare, Blue, Spruce (Franklin) and Ruffed Grouse, Ptarmigan, Coots, Common Snipe, Snow Geese, Ross's Geese, Canada Geese and White-Fronted Geese and Ducks.[61]

10.2.3 Central British Columbia

Central British Columbia Hunting Concessions

The Omineca hunting concession region includes the Fraser Plateau, a comparatively flat forested area with numerous lakes, small streams and marshlands, amounting to nearly half of the entire region. To the east, the terrain rises to the highest point in the Canadian Rockies, Mount Robson. To the north, Omineca Mountain range stands tall.

Approximately 4,000 moose are harvested annually here in this outstanding moose habitat. Black Bear and Grizzly are common in the mountainous areas; as are Mountain Goat, Mountain Caribou, Stone Sheep; Bighorn Sheep and Elk. Mule deer are on the increase in the area. In the region 25 outfitters operate.[62]

10.2.4 British Columbia Overview

Fishing in British Columbia

While corridor specific statistics were not available the statistics for fresh water fish caught in the province of British Columbia were 9,428,643 caught and 2,528,757 kept.[63]

Camping and Recreation in British Columbia

BC Hydro operates several camping and recreation areas in Northern BC. These areas have been developed adjacent power generating projects. Figure 10.12 below shows the various camping and recreation facilities in black.

The Ministry of Tourism, Sports and the Arts maintains a database classifying campsites as managed with fees, managed without fees, and user maintained. In the Northern Interior Region there are six campsites that are managed with fees, 141 campsites that are managed without fees, and 132 campsites that are user maintained. The

majority of campsites are located south between Stewart and Fort St. John. The specific campsites are named in the 2006 Listing of Recreation Sites.

Figure 10.12: BC Hydro Recreation and Camping Areas (BC Hydro Website, Recreation Areas)

10.3 Data Gaps

In the Province of British Columbia 59 Traditional Land and Occupancy Studies have been completed as of 2003 when the provincial government ended funding for this type of study. Of the 59 studies eight are publicly available. Furthermore, the TLUOS proposals made to the British Columbia provincial government of the Gitanyow and Lheidli T'enneh nations are publicly available, but the completed TLUOSs are not. When a TLUOS is completed in British Columbia it is protected under the Final Information Sharing Agreement signed by the British Columbia provincial government and the First Nation conducting the TLUOS. This agreement exempts TLUOSs from the freedom of information act and limits the availability of the studies to relevant government employees and the First Nations that have conducted the study.[64]

In the territory of Yukon one study completed in the vein of TLUOS is publicly available. The study was completed by the Ross River Kaska Dena and is part of a

retrospective impact assessment. The traditional land use was documented by geographic area as opposed to pinpointing the actual location of subsistence activity. This indicates that outside of the seasonal round the human ecological relations of the First Nations of the Yukon are either largely undocumented or publicly unavailable. Therefore, the public consultation process with participation of First Nations communities is key to documenting indigenous knowledge and land use.

Hunting outfitters are documented on the general level, including a geographic breakdown of the hunting concessions and lists of popular animals taken in the individual concessions or regions. The information of where these animals are taken and where the outfitters focus their activity is not publicly available and is most likely only known to the individual outfitter companies. Documenting the land use of the outfitting companies will be substantial as there are 22 companies in Yukon and 126 outfitting companies operate in the regional districts of Skeena, Omenica, and Peace in British Columbia.

Preliminary Analysis of Socio-Cultural Impacts

An adequate understanding of socio-cultural impacts can only be ascertained once meaningful consultation has been undertaken. The following discussion is a preliminary, strategic level analysis of potential social impacts relating to the ACRL proposal. It expresses a strategic overview and is not meant to replace the diverse perspectives of community residents and their opinions on the proposed development. It is expected that community attitudes towards the development will differ both in degree and in substance and therefore demands a more detailed portrait of context. The following may be used as a foundation to engage in future research and community consultation to achieve a comprehensive understanding of potential impacts and their implications. Short case studies are placed throughout the analysis to illustrate potential impacts.

1.0 Community Impacts

1.1 Demographic Processes

1.1.1 Population Movements

During the construction and operation phases of the ACRL an increase in population in communities neighbouring the project area is expected. There are various

impacts associated with in-migration due to an increased demand for labour, resources and technical facilitation of the development. Past boom and bust development cycles give us a historical context to situate construction related in-migration and its related impacts. Conversely, outlying communities may face out-migration of the skilled labour force as they move to construction areas and regional centres. An overall reduction in population stability can be expected as a movement of people occurs and access to remote communities is opened up by new or improved transportation.

Shifts in population have far-reaching socio-economic impacts. In similar developments in the north, relatively drastic in-migration was experienced as workers flowed into local areas for the various phases of construction. According to the Alaska Highway Pipeline Inquiry,

> During the construction of the Alaska pipeline in the 1974-1975 period, an estimated 80,000 to 100,000 people migrated to Alaska, a substantial addition to the existing population base of approximately 330,000. Pressures created by these in-migrants intensified the dislocations caused by massive projects of economic development. Local economies were destabilized, the demand for government and commercial services escalated, and the rate of inflation rose far more quickly than that of the United States as a whole.[65]

1.1.2 Influx of Labour

There are fears surrounding the influx of transient labour into most communities. In First Nations communities these are sensitive and significant issues, as discrimination and marginalization have ranged from subtle to explicit.

Objectification in Ross River, Yukon

During the construction of the Anvil mine in the early 1970's, there were large numbers of caucasian construction workers who held stereotypic views of First Nations as powerless victims. There was a lack of policing due to lucrative security job offers. In addition the First Nations were being treated as recreational objects. Women were viewed as sex objects. The construction workers raided the First Nation villages and abducted women. First Nations men, while drunk, were objects for abuse and violence.

These changes and criminal acts had left the First Nations people injured, not only in fights, but in a socio-economic context. The climate of drunkenness, beatings, sexual exploitation and frustration at being incapable of altering these conditions, led the First Nations people into more frequent acts of violence among themselves.

Source: Weinstein, 1992. *Just Like People Get Lost: A Retrospective Assessment of the Impacts of the Faro Mining Development on the Land Use of the Ross River Indian People*.

Further to the Ross River study noted above, recent Statistics Canada studies have shown that First Nations are three times more likely to experience violent victimization than non-Aboriginals.[66]

Surrounding previous construction projects, women have expressed concern in mixed communities as well, suggesting that there is a higher incidence of drunk driving.[67] The influx of temporary workers seems to usher in a new wave of criminal endeavours.

1.2 Housing Opportunities

Property access and acquisition are issues that will impact both residents and municipalities. Additional demand for residential, commercial and industrial lands will result in corridor communities or regional districts being required to zone and service new developments.[68] For local residents this has the potential to increase the cost living and competition for existing and sometimes limited housing opportunities.

The following box details the community fears of the Alaska Highway Gas Pipeline's effect on housing in Fort Nelson, BC and Whitehorse, Yukon Territory in a report commissioned by the Northern Pipeline Agency (1979).[69] Community members refer to the impact of the Alyeska pipeline construction in Alaska in the mid 1970s.

Housing Impacts: Availability, Quality and Affordability

The housing shortage created by the influx of perspective pipeline workers to Fairbanks was such that the state Commissioner of Commerce conducted public hearings, declared a housing emergency and eventually set up a rent review office. The housing problem was accompanied by a shortage of lots with water and sewer connections on which to develop housing. In addition, little money was available for apartment financing

Source: The Women's Research Centre, 1979. *Beyond the Pipeline.*

In planning terms, an influx of migrants has the potential to impact communities' long term priorities and alter their relative influence on planned and staged development. Long term projects may be impacted as resources are diverted to address short term construction and ensuing crisis management. It can be expected that community capacity to self-govern and meaningfully engage in the decision-making process on resource management will be overwhelmed by crisis management if appropriate prior planning does not take place.

Many First Nation communities already face crowded housing conditions, chronic housing shortages and many existing homes require urgent upgrades.[70] These problems will be exacerbated as First Nations members may return to reserve communities near the project area to take advantage of new employment opportunities that arise as a result of the ACRL development.

Housing on Reserves in Canada

The following case is from a report to the House of Commons from the Auditor General of Canada on the state of housing on reserves:

Poor housing on reserves has a negative effect on the health, education, and overall social conditions of First Nations individuals and communities. Although we noted signs of improvement in some First Nations communities, there is still a critical shortage of adequate housing to accommodate a young and growing population. In 2001, Indian and Northern Affairs Canada estimated that there was a shortage of about 8,500 houses on reserves and about 44 percent of the existing 89,000 houses required renovations.

Source: Auditor General of Canada, 2003. *Report to House of Commons.*

1.3 Community Well-being and Cohesion

1.3.1 Health

Local health areas will incur incremental demand for services related to construction and population growth. Access to medical services including hospitals, general practitioners, specialists and emergency services will face additional strain, particularly in communities that are already under-serviced in these areas. Furthermore, increased pressure on health care institutions may impact the capacity of social and health care providers to supply adequate services. The quality of the above services may also be affected with increased population pressure.

Traditional healing practices may also be affected by changes in the distribution of plants and animals on the land.

In the 2001 Aboriginal Peoples Survey, 45% of the Aboriginal population aged 15 and over reported having one or more chronic conditions, that is, a health condition that had been diagnosed by a health-care professional and had lasted, or was expected to last, at least six months.[71] Arthritis, high blood pressure, asthma and diabetes were the most common chronic illnesses reported among the adult population.

The following study regarding the Iskut Band in North-western British Columbia suggests that future developments in the region may have significant impacts on communities experiencing a healthcare crisis:

Health Care Capacity: The Iskut Band

Management of the current health service programs is described as "crisis management." Current resources are not sufficient to fully meet the full range of the Iskut Band's health needs. Scarce resources are focused on dealing with acute problems such as alcohol and drug addiction, mental health, and health issues stemming from social breakdown. Badly needed preventative health programs are consequently under-resourced.

The Iskut population could increase by about fifty persons as early as 2008. Since the community's health system is reportedly in "crisis mode," any increase in demand from the forecast population increase will add further stress the system. New funding only becomes available following a three-year lag, which is part of the health care funding formula.

The current situation suggests the following question – is the incremental health care funding available through the administered formula sufficient to offset the added costs brought by the new residents and borne by the community? Although we cannot answer this question, an informed view is that the higher incomes earned by the mine employees appear to be correlated with increased substance abuse, deterioration of mental health, and increased social problems, which in turn puts a disproportionate demand on small health care facilities.

To the extent the surrounding mine developments increase Iskut and surrounding areas population, there will be a need to address these issues, not the least being the funding lag in the administered health care funding formula.

Source: Ministry of Small Business and Economic Development: Economic Analysis Branch, 2005. "Northwest BC Mining Projects: Socio Economic Impact Assessment."

1.3.2 Cohesion

Disruption of social networks may occur as the character and cohesion of the community changes due to development and in-migration. Although impacts on quality of life are difficult to quantify, they are fundamental to safe and functioning communities. This may include the fears and aspirations of the community related to future development, risk perception and an overall sense of community identity. Other factors that can impact community cohesion involve issues of age and gender equity, division of labour, and changes in the nature of community gatherings.

1.3.3 Community Institutions and Services

There is potential for substantial impact on community services, institutions and facilities both in the construction and operations phase. Education and daycare needs and opportunities will bear the impact of an increased population base. The value systems that inform these community institutions may be impacted as newcomers may have different perspectives on education. The prioritization of "modern" education may lead to a reduced ability to transmit traditional knowledge between generations.[72]

Recreation services and wilderness areas are also susceptible to impact. Community organizations working with vulnerable groups may also be affected as the number of people accessing social services for social problems increases.

1.3.4 Community Infrastructure

Demand on existing physical infrastructure from increased population or industrial use will have an impact on roads, water treatment facilities and energy requirements. Issues regarding public safety may also result from poor or inadequate infrastructure. Local and regional transit systems will also be impacted. Administrative tasks in managing growth can also be expected to increase at the community and/or municipal level as well as at the provincial level.

1.3.5 Crime, Risk-taking Behaviour and Policing Services

Increases in population and economic activity can impact crime levels, alcohol and substance abuse rates and create other related social problems. Current policing and community resources may be inadequate to address additional social pressures that development will bring and concerns may vary from community to community.

Social Ills

Social concerns are expressed in the 1977 Alaska Highway Pipeline Inquiry:

> Alcohol abuse is a serious issue in the Yukon. It is unrealistic to expect that the Yukon communities can undergo the increased pace, cost and strains of pipeline construction without experiencing an increase in existing problems.
>
> As indicated previously, witnesses at both the formal and community hearings were extremely skeptical of the Foothills Pipe Lines Ltd. use of construction camps as a way of curtailing worker-community interaction.
>
> Widespread concern surfaced that either failure of these policies would result in alcohol related disruptive incidents in nearby communities, including sexual exploitation of females, and that, in general, the alcohol related problems of Yukoners would be exacerbated whether or not they were directly employed in pipeline construction.
>
> The Alaskan experience lends credence to these fears. Evidence given to this and other inquiries points to a dramatic increase in alcohol consumption and a squandering of pipeline wages on both alcohol and drugs when the pipeline began. In particular, Alaskan Indians in both Fairbanks and outlying Native villages suffered from the effects of increased alcohol abuse and the social disruption that accompanied it.

Source: Lysyk, Bohmer and Phelps, 1977. *Alaska Highway Pipeline Agency Inquiry*.

2.0 Family and Youth Impacts

The impacts identified below are of direct relevance to Northern communities undergoing development projects. These potential impacts must be considered in light of the ACRL. The issues are particularly relevant to First Nations communities, but the same pressures affect both native and mixed communities in Yukon and northern British Columbia.

Should it be launched, the ACRL project can be broken down into three major phases; planning, construction, and operation. The bulk of family and youth impacts will likely occur in the construction and operation phases. Examples can be drawn from other projects in Northern Canada and Alaska to highlight the experiences of First Nations communities and mixed communities.

Family and youth impacts are intricately intertwined, as impacts to the family have repercussions with the youth, and vice versa. In this study, youth impacts can be direct or indirect, arising from a development project, plan, policy, or program. The term "youth" refers to persons under the age of majority.

For the purposes of this study, family impacts can be understood as an effect, direct or indirect, positive or negative, upon the family unit from a development project, plan, policy or program. The "family unit" differs upon one's understanding of what a family is. It is more than the Western conception of a nuclear family consisting of a husband, wife, and their offspring. A family unit has wide variability; these are several examples of non-nuclear family-types: the single parent family; elderly couples whose children do not reside at home; a childless couple; dual-earner parents; married couple with children from previous marriages. In the Yukon and northern British Columbia, the family unit will not always represent the nuclear family. There are often extended families living under one roof.

2.1 Decreased High-school Enrolment Rates

The ACRL will likely employ men and women from the local communities during the construction phase of the project. As adults vacate jobs in service and retail industries for employment constructing the railway, there may be an increase in youth employment. There is a trend of youth employment during the construction phase of projects, where students seek part-time work in the retail and service industry, or drop out of school and find full-time employment with the construction phase of the project.

The concern with students dropping out to work in retail, service, railway, or other sectors of the economy is that they become dependent upon the entry-level position.

The students who drop out to seek high-paying entry level jobs in mining or railway construction end up disadvantaged in the job market as promotions go to workers who have higher skills and education levels.[73] Upon the completion of the construction phase of the project, the relatively unskilled and inexperienced high-school drop-outs must seek a new construction project, or return to school. The drop-out becomes dependent upon short-term construction projects, and may become a transient worker.

Dropping out in Fairbanks, Alaska

In Fairbanks during the construction of the Alaska Highway Gas Pipeline, teenagers sought part-time work at service jobs where adults left to seek lucrative pipeline work. High school enrolment rates dropped. Fewer graduating students pursued post-secondary education, and instead went to work on the pipeline.

Source: The Women's Research Centre, 1979. *Beyond the Pipeline*.

According to the 2001 census, the number of non-reserve First Nations aged 20-24 who had not completed high school was 48% of the population, whereas the non-Aboriginal population who had not completed high school was at 26%.[74] With the racial disparity in high school completion rates, there is a concern for future employment trends with the ACRL.

2.2 Education

In northern First Nations communities, the learning needs of children are not always identical to the curriculum of southern Canadians. When labourers move into the study area with their families, there is the chance that they will be advocates of a curriculum change to reflect the education that they feel their children should receive.

Disempowering the Children

There was a new school opened in Faro in the early 1970's where the children of the Anvil mine workers and First Nations children attended. The First Nations children were in the majority. The parents of non-native children demanded a southern school curriculum and were instrumental in attaining it, although the school principal was sympathetic to the differing educational needs of the First Nations children.

Source: Weinstein, 1992. *Just Like People Get Lost: A Retrospective Assessment of the Impacts of the Faro Mining Development on the Land Use of the Ross River Indian People*.

The implications of altering the delivery of education may seem innocuous at first. The cultural clash in education is apparent, as gearing the educational system toward the children of the mine workers gives them an advantage in that they can complete their studies. The situation need not be mutually exclusive where one side fails,

and the other succeeds. In a country that claims to be multicultural, the integration of First Nations and non-native learning styles can co-exist.

2.3 Illicit Activity

During project construction, there are increasing risks of criminal activity. The cause of the increase cannot be pinpointed however, there are numerous contributing factors:

- Police officers can be lured into construction site security jobs. In an economic boom situation, as the ACRL will likely create, it is unlikely that there will be high vacancy rates for rental housing, and therefore it will be difficult to recruit new police officers.[75]
- Prostitutes follow the transient labour force.
- Violent crime, pimps, and drug-use follow prostitutes.

These three points are not meant to be an exhaustive list of possibilities, simply an illustration of the potential impacts on the community after construction commences. As prostitution and the drug-trade enter the community, there are increasing concerns for families. In addition, there can be increases in armed robberies, car theft and shoplifting among teenagers during construction.[76]

2.4 Childcare and Extended Hours

Typically, the increase in employment is accompanied by an increase in work hours for community members and this will inevitably have an impact on children. One factor that inadvertently affects the wellbeing of children is the high cost of living. As it becomes necessary for women to participate in the workforce, there will be increased pressure on the childcare facilities. Parents must seek high-paying jobs to account for the increased expenses and they also have to work more hours. The end result is that families spend a decreased amount of time together and become dependent on childcare. However, the availability of childcare in the community is inadequate and many individuals rely on other family members to care for the children.

Childcare in Fairbanks

As parents were required to work long hours, there was a significant decrease in the amount of time that the family spent together socially. Parents needed to enrol children in daycare, however, the quality and quantity of childcare in Fairbanks was lacking during the Alaska pipeline construction. Individuals became dependent on relatives or friends for the care of children. As a result, children were frequently left in inadequate facilities or unsupervised. On average, 30% of families with children used childcare and of that 30%, 77% used unregulated services. As the population continued to increase and women needed to add to the family income, there was an added strain on the childcare facilities in Fort Nelson and Whitehorse.

Source: The Women's Research Centre, 1979 *Beyond the Pipeline.*

With the construction of development projects, there are clear and direct impacts on children. This can partially be attributed to the fact that parents are obliged to work longer hours in order to account for the increased economic pressures and must rely on childcare facilities that are insufficient.

2.5 Family Breakdown

The significantly larger wage packet available during the construction and operations phase of the ACRL will have negative consequences. In some cases, people will party regardless of how much money they make. As an individual earning "$500-800 per month might do a lot of partying however, when the individual is earning $5,000-$6,000 per month the partying becomes more intense, younger persons become involved as well as impacted."[77] With an emerging drug trade in the community, the possibility of abuse increases.

Gender Impacts of Boom and Bust Cycles

From the 1970s to the 1980s, the Gwich'in underwent a change from a more traditional lifestyle to an unstable resource-oriented wage economy resulting from exploration activities. Kassam and Wuttunee quote Jerome (1995) in a firsthand account:

> I know that a lot of the men were not comfortable with that [changing gender roles], but they had no choice, so they automatically turned to the next thing they could think of, which was drinking, which created a lot of social problems within the community. But it wasn't their fault, because they didn't have the education, they didn't have the skills to go out there and get jobs. A lot of them had skills to go out [on the land] and work with the oil companies with the boom that they had in the Beaufort Delta region of exploration, gas exploration…they were making a lot of money in a very short time frame. I remember being so afraid thinking, what are we going to do with these people when the oil boom is over and they're back, what are we going to do with them then?

Source: Kassam and Wuttunee, 1995. "Development and the Changing Gender Roles of Gwich'in Women." Northern Visions: Northern Futures. Eds., Poff and Fletcher.

3.0 Workforce Effects

3.1 Reliance on Resources

Historically, reliance on natural resources in Yukon Territory and northern British Columbia has been high. In general, recent growth and diversification in British Columbia's economy have taken place in the more densely populated south, whereas according to the British Columbia Regional Index, northern communities continue to be driven by logging, mining, wholesale and retail trade and public services (education, health and public administration). According to the same source, "although the province's industrial base is gradually becoming more sophisticated and diversified, British Columbia remains heavily dependent on its traditional resource-oriented industries."[78]

Since 2002, BC has seen a large upswing in mining investment as commodity prices have increased globally due to China and India's current industrial revolutions. Currently, the northwest of BC has three active mines: Eskay Creek gold and silver shaft

mine 80 km northwest of Stewart, Kemess gold and copper mine 300 km northwest of Mackenzie, BC and Huckleberry open pit copper and molybdenum mine 86 km southwest of Houston, BC. Three more advanced exploration projects are also underway, including the Galore Creek project west of Highway 37, and the Klappan project and Red Chris project east of Highway 37, all south of Dease Lake.

3.2 Wage Rates and Worker Displacement

In both Yukon and British Columbia, wage rates are increasing, but not as fast as in other areas. In Yukon, average weekly earnings have risen approximately 10.5% from 2000 to 2005.[79] The average personal income from taxable returns in 2002 in Yukon was just over $39,200.

Despite recent spending increases in mining exploration in BC the average hourly wage rates have been lower than in Alberta since 2005, where wage rates are growing at a much faster rate than those in British Columbia.[80]

The overheated labour market in Alberta is currently creating pressures in British Columbia, and to a lesser extent, Yukon, causing labourers to consider relocation to adjacent jurisdictions to take advantage of market conditions and lower income tax rates. These pressures can displace people from other industries, both within the region and between jurisdictions, causing strain on those areas and industries that are not able to match the higher wage rates; thereby, removing qualified individuals from one industry or region in favour of the other competing one.

3.3 Boom and Bust

Commodity markets are volatile. In 2001, expenditures in mining exploration in BC hit a four-decade low at less than $30 million, but have rebounded to over $120 million in 2004, still shy of their 1990 peak at nearly $230 million.[81] Despite the growth of other industries in the south of BC, "a number of communities in BC remain highly dependent on [resource-based] activities, and their economies rise and fall with the fortunes of the forest, mining & energy, agriculture and fishing sectors."[82]

Planning and Construction: Phases of Community and Workforce Impact

To some degree, at this [exploration and early construction] stage, the disturbances were seen as the price that was paid for employment opportunities and other benefits. Ross River Indians were experimenting with something new; the consequences, which are clear now from experience, were not available at the time. Many people have good memories of the mine exploration period. Improved road access provided better travel conditions. There was employment in cutting lines and staking, working on the ferry, and prospecting.

The impacts to land use commenced as access began to be restricted, ostensibly for safety reasons, during the exploration which followed the initial staking… As [the developer's] efforts began to get more serious… the degree of disturbance was greatly intensified. Elders were told … that they could no longer trap in the area; that it had become private property.

During the early stages of the development Indians were seen by the outsiders as significant figures. They had desirable skills, a high degree of self-sufficiency in the bush, and they were the main population in the area. As development progressed and the work force increased and the work became increasingly technical, Indians became more marginal. The area took on the attributes of white settlement.

Source: Weinstein, 1992. *Just Like People Get Lost: A Retrospective Assessment of the Impacts of the Faro Mining Development on the Land Use of the Ross River Indian People*.

As mentioned in previous sections, capital projects such as railway construction create boom and bust cycles through their phases of development. The phases of planning, permitting, construction and operation of a railway through northern British Columbia and Yukon will by their nature create a boom and bust cycle. Whereas the economic benefits of planning, design and permitting tasks will be felt as additions to the gross national product, the impacts on local communities will be relatively small, consisting mainly of accommodations, goods and services in support of field work. With the onset of construction tasks, a much larger contingent of workers, including ancillary industrial support, will be brought to the region or procured locally. In this phase, the impacts to the communities will be more strongly felt, as goods and services are procured directly from local sources.

The impacts from construction phases are felt more directly than those from planning phases. A retrospective view of similar development projects shows that the changes brought by a development are felt immediately but not fully understood or manifest for considerable time following the initial positive impacts of job creation. For example, in the Ross River area of Yukon, the Faro Mine created both immediate and long-term impacts to the community as is shown in the following excerpt.

There are many similarities between pipelines and railways in the north. Both are linear disturbances. Both are massive, capital-intensive projects. And both rely on extractive activities whose economies vary with global commodity prices to fill transmission capacity.

Linear Disturbances in the North: More than Ribbons

The Pembina Institute's Tom Marr-Laing, Director of Energy Watch Program, cautioned in 2001:

We know what an Arctic pipeline looks like—a thin ribbon of steel slicing a corridor through the landscape, dwarfed to insignificance by the enormity of the surrounding wilderness. But that picture doesn't tell the whole story, the story of how that surrounding wilderness may be dramatically altered by the pipeline's thirst.

The cost of building any one of these major pipelines will involve many billions of dollars. Bankers and investors willing to fund such projects require strong guarantees that their investments will generate secure long-term returns. This means that those involved in the operation of any pipeline must be confident that the pipeline will operate at close to full carrying capacity for an extended period of 30 to 40 years.

It is crucial to understand that a pipeline is never a single, one-time, "linear" development. A decision by a pipeline company to proceed with construction is based upon commitments by the companies that extract oil and gas from the ground (the "producers") to feed the pipeline. The relationship between the pipeline and producing companies is symbiotic—each needs the other.

Developing … resources also presents significant opportunities for economic development that can benefit the people living in such regions. Certainly, Alberta has profited significantly from exploitation of its hydrocarbon resources. Such economic benefits must be weighed against the social and cultural dislocation that can be triggered by the "boom" of development.

Source: Canadian Artic Resources Committee, 2001. "Feeding the Pipe: Development Implications of a Frontier Pipeline." *Northern Perspectives*, Vol. 27, No 1.

3.4 Human Resource Requirements

One of the major requirements of a large construction project is labour. In many cases, the requirement for workers is directly affected by factors such as routing and alignment (difficulty or additionality of terrain). These jobs may be filled with local skilled and unskilled workers, professional and technical trades, field workers and labourers. While some of these jobs will be available to local workers, many will necessarily require skill sets that are not available in the communities, especially those requiring high levels of education or specialization. Demand pressures for labour to build the railway could be exacerbated if the project coincides with pipeline construction or the initiation of other natural resource extraction projects. Already, labour is short in the region. The unemployment rate in 2005 in the study area is lower than the national average: 6% in Yukon,[83] and in northern BC, 5.6% (falling from 11.8% the previous year),[84] compared to 6.7% nationally.[85]

3.5 Job Creation and Job Loss

Large capital projects such as railways create jobs and enhance employment both directly and indirectly. Direct employment is generated through construction, surveying and construction-supporting industries. Indirectly, jobs are created through the injection of disposable income and an increase in consumers in the area. Generation of these secondary jobs can be estimated by using a multiplier to the number of jobs directly created by construction activities. The multiplier used may vary, and has been difficult to predict based on projections of direct or indirect (or induced) job creation.

Further to job creation is the expansion of career opportunities in local communities. Through on-the-job training, promotion and expanded options in employers, workers and community residents may have access to new employment opportunities not previously available in the region. These opportunities represent both expansion and, in some cases, broadening or diversification of the local economy, and can provide room for career advancement and increased income potential.

In a different light, according to the Alaska Highway Pipeline Inquiry, “experience with other projects of this type indicates that, despite the rapid growth in job

opportunities, the number of in-migrants will initially raise the rate of unemployment above the rate that existed before the project began."[86]

3.6 Economic Diversification or Concentration

Economic development in remote regions can bring both diversification and concentration of economic activities. The boom created by initial development can cause a broadening of the economic base as service and niche market businesses appear to satisfy emerging areas of demand. These effects can be measured or predicted with economic multipliers but are often felt in the communities in the form of new franchise restaurants, professional services and retail outlets.

3.7 Inflationary Pressures

The influx of construction workers to small communities with relatively limited and inelastic supplies of housing stock can cause acute housing shortages in the short term. Depending on the geographical challenges of construction sites, larger communities generally absorb the majority of these itinerant workers, creating competition for rental accommodations, hotel and motel rooms, often driving up the prices for these services.

Where construction is rapid and the geographical location of the principal worksite moves along a linear path, employers may provide accommodations to front-line workers in temporary structures such as mobile trailers in remote work camps. Whether housed in hotels or trailers, the influx of relatively well paid workers creates competition for local goods and services, potentially leading to inflation over the longer term. In the case of longer-term projects such as at the base of operations of the developer, these pressures can cause drastic increases in real estate value such as in Fort McMurray and Fort McKay in Alberta's north-eastern oil sands region.

Local businesses may benefit greatly from short-term increases in sales and demand for services. In the short term, the windfall for restaurants, bars and local stores can be strongly positive. If demand remains consistently higher than pre-existing capacity, however, strained local businesses will be pressured to expand by extracting more productivity out of the existing labour and infrastructure or by expanding one or both of labour force and invested capital to accommodate the higher level of demand.

Whether perceived as positive or negative, these pressures are disruptive, as there may be overtime requirements, growth stresses and demand for secondary services such as construction and trades.

In the Alaska Highway Pipeline Inquiry it was noted that inflation caused by the influx of well-paid workers may drive up prices of all goods and services, and in particular, housing stock in the area.

Apprehension was expressed in almost every community about the expected inflation the pipeline construction will cause and its effects on individual Yukoners, especially because of higher prices for staple goods and services. In Dawson, Mr. S. Taylor expressed the general concerns that "just as in the gold rush days, when housing was a premium, here today, pipeline influx will force housing prices up and the cost of real estate will skyrocket.[87]

4.0 Livelihood Impacts

4.1 Access from Railway Beds and Service Roads

New access in the form of roads and railways leads to increased use of previously remote areas. Both primary corridors (railways) and their ancillary access roads provide open transportation routes through forested, wet and rough areas, facilitating mobility for recreational users, hunters and trappers as well as for wildlife. The improved access to land can be a boon for trappers, making quick work of checking trap lines but can drastically change local patterns of use, including outsiders' access to previously unreachable areas.[88]

Livelihood Impacts from Mining in Yukon Territory

A critical lesson from the Faro Impact experience is the short-term fragility of Indian land use. Over the long-term, land is not abandoned, except, perhaps, over successive generations. But there is a fragility to the Indian harvesting economy which makes it vulnerable to many types of development activities over the short-term. If the native economy is deemed a valued activity, there are important considerations that must be included in development planning. If this happens there is some hope of compatibility. If not, sub-arctic Indians will be pushed further and further to the limits of traditional economic life, as has happened to most other aboriginal groups in the Americas.

Among these considerations are:

- controlling the pollution which leads to abandonment of foods because of perceptions about toxic contamination;
- controlling the linkages between resource development and the opening of Indian harvest areas to recreational hunters and fishermen and tourists; and
- controlling the disturbance to life in the bush and to animal behaviour that results form the intrusion of non-socialized strangers.

Source: Weinstein, 1992. *Just Like People Get Lost: A Retrospective Assessment of the Impacts of the Faro Mining Development on the Land Use of the Ross River Indian People*.

The impacts of improved access can be felt as land use conflicts, often between recreational users such as skidoo and off-road vehicle users and historical users such as trappers. Where local communities rely on wildlife for subsistence activities, this access can shift wildlife patterns of use through avoidance, road kill and habitat loss, and these effects will in turn cause effects to local users' use and enjoyment of the land.

In cases where the access is categorical rather than incremental, the effects are much more profound. The following excerpt describes the long-term implications of the Alaska Highway project on the people of the Yukon.

Wider Implications of Corridor Development

The Alaska Highway can be considered a classic example of corridor development. It was built at tremendous capital cost to serve "national interests." It was constructed by a large imported labour force through an isolated area inhabited mostly by native people. The construction phase was extremely rapid; short-term jobs were created for a few local people. Once the construction phase was over, the boom ended. However, the new road created new villages and opened a communications system which continued to change the lives of nearby residents. It also changed the ethnic balance, making Indians a decided minority in the Yukon.

Source: Cruikshank, 1985. "The Gravel Magnet: Some Social Impacts of the Alaska Highway on Yukon Indians," in *The Alaska Highway: Papers of the 40th Anniversary Symposium.*

4.2 Valuing the "Bush" Economy

Participation in traditional versus wage economies is difficult to track. Whereas BC Statistics collects data on unemployment rates and non-participation in the economy, these measures are poor indicators of the economic importance of trapping, hunting and traditional activities. Where these activities may be affected, the scope of a socio-economic impact assessment must be sufficiently broad to take into consideration the collection and analysis of this non-standard type of economic information.

Whereas the bush economy has been perceived by some as a thing of the past, scholars of the Canadian north continue to note that the hunting and trapping economy

Economic Value of Traditional Activities

Local Whites, and even some game management officials, have often said that Indians have ceased to use the bush. Conventional methods of calculating the Indian economy reinforce this notion. Wage employment and transfer payments (pensions, child allowances, unemployment cheques, welfare benefits, etc.) are recognized as income; earnings from the bush are not. Full-time hunters are, therefore, officially classified as unemployed… Conventional economic analyses thus systematically misrepresent the Indian economy.

Source: Hugh Brodie, 1981. *Maps and Dreams.*

remains an integral part of contemporary life in the north, contributing to household income and cultural continuance through traditional art, production of traditional goods and ongoing communion with the land.[89]

Ongoing Participation in the Bush Economy

Despite pressures [from government to participate in the wage economy], First Nation people continue to participate in subsistence activities to varying degrees. According to Bush (1999) and Asch and Smith (1993) bush harvest usually accounts for 35 to 40% of a household income in First Nations communities [in the Dene Tha' region], with amounts varying from 11 to 58% of the total economy. As documented by the TLUOS, many Dene Tha' families still rely on moose and duck as staples, and much of the Dene Tha's diet is still taken directly from the bush.

> The majority of the elders in the community are active trappers and hunters. A large part of the Dene Tha' diet is taken directly from the bush economy—moose and duck are staples… Dry meat is still made by virtually every household. Moose products (moccasins, mukluks, gloves, hides) are made by a majority of the Dene Tha' women. Beading, tufting and other traditional artwork are alive and well.

Source: Campbell, 1997. *Dene Tha' Traditional Land-Use and Occupancy Study*.

5.0 Cultural Impacts

5.1 Language

In Yukon 45% of the aboriginal population speaks or understands a native language.[90] Although data from other northern territories indicates that native language use increases after settlement of land claims (e.g., culturally-specific changes in community institutions to reflect native languages) the ACRL project will likely re-enforce English as the dominant language at the work site and in local businesses, causing negative impacts on the use of traditional languages and therefore aboriginal culture.

Cruikshank provides a case study highlighting the mechanism which influences negative cultural impacts through language:

> …as English became the dominant working language, many young people could no longer communicate easily with their grandparents whose way of life and values they could not fully understand.[91]

The grandchildren could not fully understand the grandparents' way of life because the transmission mechanism of a common language was not available. Furthermore, to use the Inuit word for snow as an example, English is insufficient to describe the concepts contained by the traditional knowledge of grandparents. The loss of language for the aboriginal population is an indicator for cultural impact.

Declining Cultural Cohesion and Identity

The changes to Ross River which accompanied the mine development affected all band members. The village changed fundamentally and very rapidly, from an isolated Indian community to a mixed-racial regional service centre. Indians became a marginalized minority, facing bigotry and discrimination. The shifts in family life on the land that resulted from the establishment of a day-school in Ross River added to the problems. The traumas that resulted were profound, leading to alcoholism, family breakdowns, and self-inflicted violence. People from other regions of the band's territory, however, had recourse to their familiar homelands as a sanctuary – as well as location for economic activities. The Faro region families watched themselves become outsiders as both village and homeland were transformed.

Source: Weinstein, 1992. *Just Like People Get Lost: A Retrospective Assessment of the Impacts of the Faro Mining Development on the Land Use of the Ross River Indian People.*

5.2 Sacred & Heritage Sites

Development projects can inadvertently have negative impacts on the spiritual well being of the population involved. This can be through the destruction of sacred sites on account of development. First Nation traditional territory, which includes graves, cabins, historical sites, and hunting areas, have a high chance of being affected by the development of industries such as oil and gas and forestry.[92] This same principle can be applied to the ACRL.

Effort must be made to record the location of sacred sites before project proceeds. This is crucial in ensuring that sacred sites are not lost. This further iterates the need for adequate consultation to take place before projects are undertaken.

Bluestone Creek Sacred Site
On an extended hunting excursion, a group of aboriginal hunters from a small reserve located in North East British Columbia felt the need to visit a well known sacred site. Accompanying the hunters was a non-aboriginal researcher, who describes the event:

> Once noticed, however, its presence could be felt… the thought it inspired awe in me, they were subtly undermined by a dispiriting poignancy. I knew that a logging road was scheduled to be pushed along Bluestone Creek towards Quarry River…the cross itself, so inconspicuous, blending into the trees from which the Indians had built it, would all too easily be bulldozed into the ragged bush piles that lie alongside new roads on the frontier.

Source: Brody, 1981. *Maps and Dreams.*

5.3 Spiritual Connections to the Land / Access to Land for Traditional Uses

As seen in the discussion of sacred sites, aboriginal people have a spiritual connection to the land. This can be seen through activities such as hunting, gathering of medicinal plants, and ceremonies that take place out on the land.

Traditional Ecological Knowledge (TEK) is based on learning through experience and aurally transmitted. This requires a close relationship between the older and younger generations. As seen in the example provided for spirituality, there is a deep respect for the elder's knowledge. However, resource development brings with it changes in how aboriginal people live their lives as the wage economy, imported foods and popular entertainment continue to be entrenched. As the younger generation explores or deepens its involvement with non-traditional ways of living the gap grows between how each generation lives its life. The following box describes how this generation gap eroded the legitimacy of the Elders in the Lutsel K'e community.

Undermining the Elders

Elders have traditionally had the strongest role in decision-making in Lutsel K'e. They are the ultimate advisors to Chief and Council, and traditionally, they had the last say in decisions. The Elders have been involved in decision-making and have met with Elders from other affected communities and also gone on several site visits to see for themselves the impacts of mining on the land. However, they expressed great frustration that even though they did not agree with Ekati's going ahead [mining development], it went ahead anyway. Elders were not as informed as they might have been throughout the negotiations because of time pressures:

> When the negotiation was happening, the Elders weren't informed until it was too late," one Elder said. "But even though when the negotiators came back to the Elders to give them information, it was already processed. They were informed, but then it was too late. And the government was already going ahead with the mines."

Source: North-South Institute, 2006. "Dealing Full Force: Lutsel K'e Dene Nation's Experience Negotiating with Mining Companies."

With the influx of non-Aboriginal residents and private interests, the traditional role of Elders in community decision-making process may be subverted. As "communities" become municipalities, the locus of power shifts from Elders as decision-makers or influencers of Chiefs-in-Councils to non-Aboriginal structures such as municipal councils and provincial regulatory approval agencies. This shift happens as non-native residents enter the area and recreate governance structures in their own culturally-appropriate systems. Non-native imposition of legal and procedural protocols may represent an unconscious affront to pre-existing native systems.

Replacement of elders' authority is a cultural impact. The non-native regulatory system for project approval provides opportunity for native participation as stakeholders, and the Charter of Rights requires consultation with affected First Nations, but neither system presumes the authority of Elders for approving or denying permission for a development to proceed in traditional territories.

5.4 Time Spent in the Bush

The amount of time spent in the bush is an important cultural indicator. The following box illustrates how the Taku River Tlingit were able to integrate time in the bush with the wage economy showing resiliency resulting from development.

Taku River Tlingit: Time spent in the Bush

In 1997 Staples and Poushinsky conducted a Traditional Land Use and Occupancy Study to determine the impact of the Tulsequah Chief Mine project. The study found that the Taku River Tlingit (TRT) aboriginal population had integrated the wage economy with significant time spent in the bush carrying out subsistence activities. The involvement in the bush was correlated with the seasons. On a monthly basis, community members spent 5 – 13 days out on the land. Approximately 86 days per year were spent in the bush on average by community members.

Source: Staples and Poushinsky, 1997. *Determining the Impact of the Tulsequah Chief Mine Project on the Traditional Land Use of the Taku River Tlingit First Nation: A Report Prepared for the Environmental Assessment Office, the Province of British Columbia.*

5.5 Increased Access of Outsiders

Development projects are invariably accompanied by the growth of built infrastructure. With this growth comes increased access to the land from outsiders and this can have a devastating affect on the individuals who call the area home.

As larger amounts of people hunt in the area, there will be increased pressure on the wildlife population and this may prove unsustainable. The livelihood and culture of the people who depend on the land for survival could be hindered.

Impingement on the Land

The secondary roads, usually gravel-topped or packed dirt, lead to ranches and logging camps, or, more recently, give access to sites where oil and gas rigs have been or are soon going to be. Now, however, hunters can follow new trails that are being cut or bulldozed into the bush as a result of the burgeoning frontier: seismic lines and pipeline right-of-way that have been slashed ever deeper into the foothills and forests.

The new frontier has allowed hundreds, even thousands, of Whites to hunt or fish deep inside the heartlands of many Indian hunting territories and traplines. The prospective boom in the region's energy economy promises to give even more Whites access to the few areas they have not yet reached.

These frontiers threaten Indian and economic and cultural well-being. From the Indians perspective the long history of the regions development can be understood only as a progressive loss of lands by a people for whom mobility has always been the heart of economy and culture.

Source: Brody, 1981. *Maps and Dreams.*

5.6 Tourism and Recreation Impacts

Recreation takes many forms, from canoeing, camping and bike riding to sight-seeing, mountain climbing and hiking to commercial hunting, fishing and off-road vehicle operation. Some of these activities are commercial, such as guiding and outfitting, while others contribute to quality of life and traditional lifestyles. Changes to the natural landscape, particularly in constrained valley bottoms, can cause disruption of local residents' use of outdoor areas through noise pollution, visual disturbances, safety concerns and physical and psychological barrier effects.

The outfitting industry in Yukon and northern British Columbia is based on the activity of guiding hunters, fishers and campers into the back country wilderness of their respective regions. What these outfitters sell is their knowledge of their region. They display the beautiful spots of the region and know where to go to find different species of animals for hunters and fishers. These hunters, fishers and campers pay a professional outfitter to fulfill a dream and gain a new experience.

The proposed ACRL route follows numerous waterways. These waterways are host to stocked lakes, recreation areas, camping sites, picnic areas and visitor centres. These changes will impact the way people perceive and interact with their environment and recreation areas.

The proposed railway will change the physical and perceptual landscape. It will offer service roads for easier access into the back country and it will also disrupt the back country with noise, vibration and the physical infrastructure. This change in environment will affect the way that recreational activities are pursued in these regions.

Many of northern hunting and guiding businesses are sought after because of their abundant wildlife and their remoteness. Railway impacts to local hunting and guiding operations may be profoundly disruptive, especially during construction phases. Rapid growth, seasonal spikes and geographically concentrated demand caused by the construction of a railway will have effects on local and regional tourism. Direct impacts include disruption of landscapes, sound and noise/vibration pollution that may disrupt guiding/outfitting, fishing and hunting activities that rely on relatively narrow seasonal windows for maximizing profit.

6.0 Limitations and Gaps

Socio-cultural issues are complex and in many cases, potential impacts overlap. For the purpose of this analysis, impacts have not been analyzed in such a way that they are specific to the Railway, but are characteristic of development projects in the North. Drawing from historical context and related current sources we were able to discuss impacts at a strategic level.

In light of the diversity within Northern communities, we are not in the position to comment on how impacts will vary among communities or how opinions will vary within communities (both in content and degree). The above section does not address cumulative impacts.

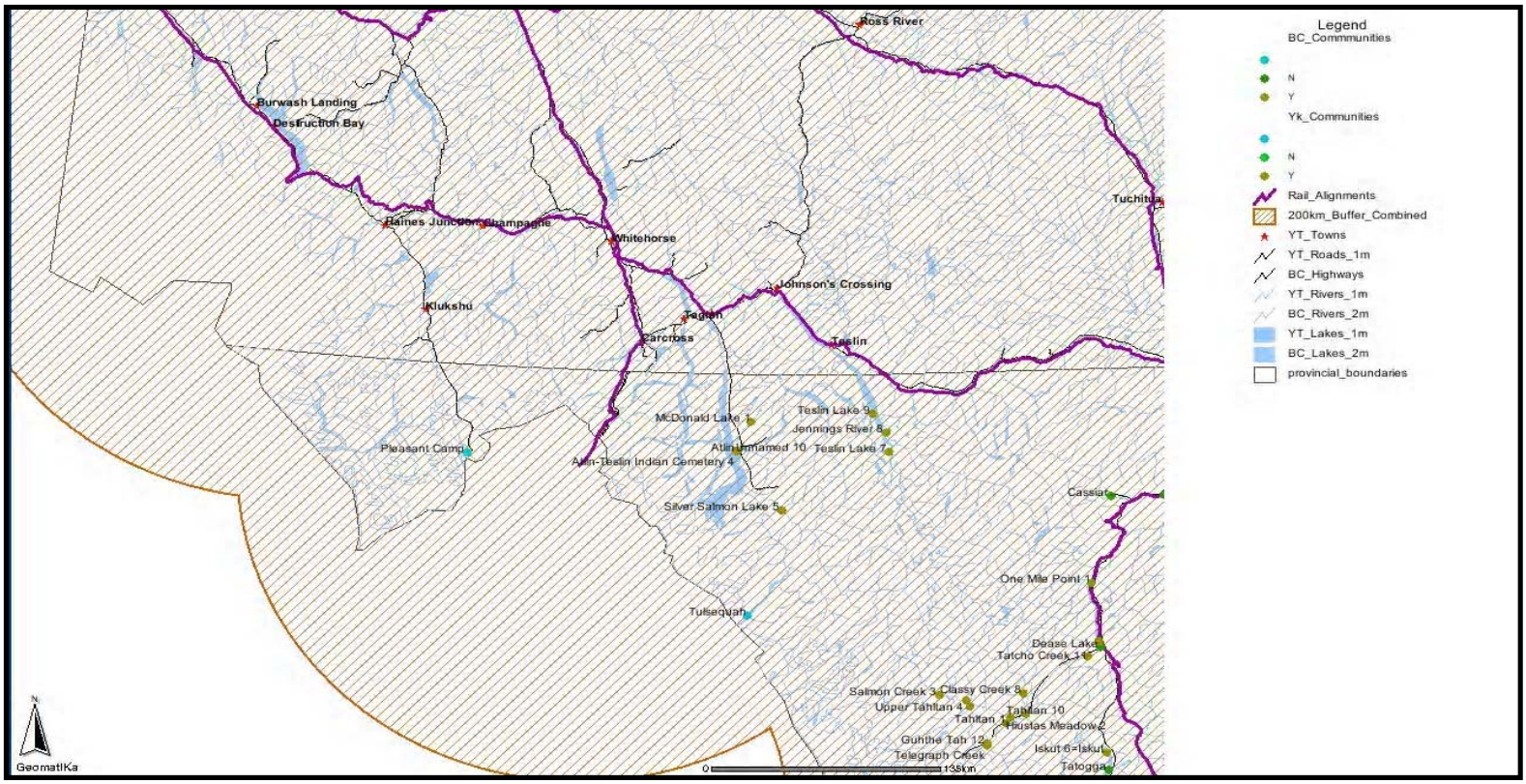
Additional work is required in gathering accurate baseline data including context specific information and traditional knowledge. Due the scope and scale of the study area (approximately 350 communities), community accessibility constrained our ability to identify community specific indicators regarding impacts. Additionally, community input

will become necessary to examine the degree of significance among various impacts and resulting community thresholds of acceptable change. As most Traditional Land Use Studies are proprietary and belong to their respective communities, our understanding of the extent of traditional land use and subsistence activities is limited.

Scenario Analysis

The following section provides a visual representation of the eight rail link corridors, followed by a matrix describing the social context into which the ACRL development is planned.

Sub-Corridor 1: Whitehorse To Skagway



Scenario 1: Summary Matrix

Scenario 1 Whitehorse to Skagway	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Aishihik	*							**
Atlin	*							Low
Bear Creek	*							**
Brooks Brook	*							Low
Carcross	152	90	O - 30 MC - 10 WR -10	18.8%	50.0%	X	English only - 135 French only - 10 O - 20	High
Carmacks	431	295	O - 85 HE - 45 B - 45	26.7%	17.6%	$ 17,472.00	English only - 325 French only - 10 O - 90	Moderate
Champagne	*							**
Haines Junction	531	215	O - 150 HE - 45 B - 40	10.4%	17.6%	$ 21,952.00	English only - 450 O - 80 French only - 10	Moderate
Ibex Valley	315	90	O - 80 MC - 30 B - 30	17.1%	20.0%	$ 21,920.00	English only - 270 French only - 15 O languages - 35	**
Jakes Corner	*							Low
Johnsons Crossing	20	X	X	X	X	X	X	Low
Marsh Lake	*							Low
Mt. Lorne	379	50	O - 90 B - 55 HE - 40	12.0%	18.2%	$ 29,976.00	English only - 310 French only - 25 O - 40	Low
Tagish	206	55	O - 40 MC - 15 HE - 15	18.2%	0.0%	X	English only - 165 O - 35	Low
Teslin	123	45	O - 25 HE - 15 WR - 10	15.4%	0.0%	X	English only - 110 O - 10	High
Whitehorse	19058	3010	O - 4240 B - 2025 HE - 1970	10.0%	14.6%	$ 30,348.00	English only - 16,615 French only - 575 O - 1680	High
Reserves								

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Constructio
O: Other
WR: Wholesale

Scenario 1: Summary Matrix

Scenario 1 Whitehorse to Skagway	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Carcross 4	49	40	WR - 10 B - 10 O - 10	50.0%	0.0%	X	English only - 40 O 10	**
Champagne Landing 10	20	X	X	X	X	X	X	N/A
Jennings River 8	*							**
Kloo Lake	5	X	X	X	X	X	X	N/A
Lake Labarge 1	16	X	X	X	X	X	X	N/A
Little Salmon	*							**
Marsh Lake 5 (dissolved)	15	X	X	X	X	X	X	N/A
McDonald Lake 1	*							**
Silver Salmon Lake 5	*							**
Teslin Post 13	144	135	O - 40 MC - 15 A - 10	26.7%	25.0%	X	English only - 105 O - 40	**
Teslin Lake 7	*							**
Teslin Lake 9	*							**
Unnamed 10	17	X	X	X	X	X	X	**
Whitehorse #8	*							**
Misc.								
Atlin- Teslin Indian Cemetery 4	*							N/A
Livingstone	*							**
Pleasant Camp	*							**
Robinson	*							N/A
Silver City	*							**
Takhini Hotspring	*							N/A
Teslin (Teslin Land)	X	X	X	X	X	X	X	N/A
Tulsequah	*							N/A

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Constructio
O: Other
WR: Wholesale

Scenario 1: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Carcross/Tagish	Comprehensive	Settled	Seasonal Rounds	Moderate
Champagne & Aishihik	Comprehensive	Settled	Seasonal Rounds	High
Kaska Dene	Comprehensive	Unsettled	Seasonal Rounds	High
Kwanlin Dun	Comprehensive	Settled	Seasonal Rounds	High
Little Salmon/Carmacks	Comprehensive	Settled	Seasonal Rounds	Low
Selkirk	Comprehensive	Settled	Seasonal Rounds	Low
Taan Kwach'an	Comprehensive	Settled	Seasonal Rounds	Moderate
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and TLUOS	High
White River	Comprehensive	Unsettled	Seasonal Rounds	Low
Bristish Columbia First Nations				
Carcross/Tagish First Nation	Agreement in Principle	4	Seasonal Rounds	Moderate
Champagne & Aishihik First Nation	Agreement in Principle	4	Seasonal Rounds	High
Taku River Tlingit First Nation	Agreement in Principle	4	Seasonal Rounds and TLUOS	Moderate
Teslin Tlingit	Agreement in Principle	4	Seasonal Rounds	High

Notes:

[1]Employment by Industry: Number of employees per industry

[2]Education: Percentage of population aged 20-34 years of age with less than a high school graduation certificate

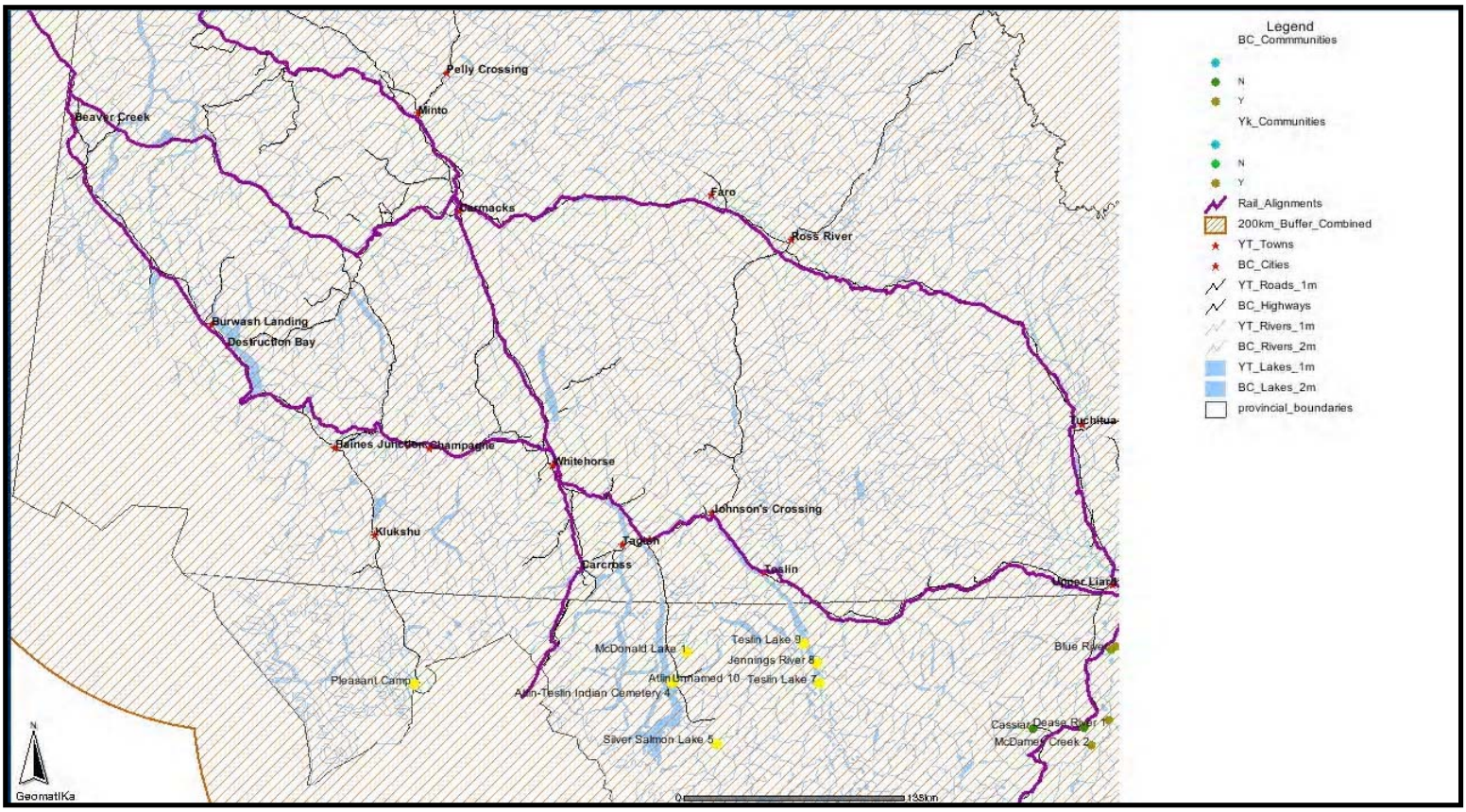
[3]Income: Median total income of persons 15 years of age and over. The median is more illustrative of distribution of income

[4]Language: first learned and understood

[5]Governance Capacity: Measure of institutional infrastructure in relevant community or First Nation
Low, moderate, and high are defined as: low, minimal administration or contact information; moderate, a variation of aspects from low and high; high, extensive presence of an administrative centre, and health, social, and education programs.

[6]TLUOS (Traditional Land Use and Occupancy Study): 59 TLUOS were completed in British Columbia, however because of the Final Information Sharing Agreement (FISA) this information is proprietary

Sub-Corridor 2: Whitehorse To Carmacks



Scenario 2: Summary Matrix

Scenario 2 Whitehorse to Carmacks	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Aishihik	*							**
Bear Creek	*							**
Brooks Brook	*							Low
Burwash Landing	68	55	O - 35 MC - 15 HE - 10	X	0.0%	X	English only - 50 O 15	Low
Carcross	152	90	O - 30 MC - 10 WR -10	18.8%	50.0%	X	English only - 135 French only - 10 O - 20	High
Carmacks	431	295	O - 85 HE - 45 B - 45	26.7%	17.6%	$ 17,472.00	English only - 325 French only - 10 O - 90	Moderate
Champagne	*							**
Destruction Bay	43	15	O - 20	X	X	X	English only - 30	Low
Haines Junction	531	215	O - 150 HE - 45 B - 40	10.4%	17.6%	$ 21,952.00	English only - 450 O - 80 French only - 10	Moderate
Ibex Valley	315	90	O - 80 MC - 30 B - 30	17.1%	20.0%	$ 21,920.00	English only - 270 French only - 15 O languages - 35	**
Jakes Corner	*							Low
Johnsons Crossing	20	X	X	X	X	X	X	Low
Marsh Lake	*							Low
Mayo	366	225	O - 65 MC - 40 HE 35	9.3%	27.3%	$ 19,051.00	English only - 310 French only - 15 O - 45	Low
Mt. Lorne	379	50	O - 90 B - 55 HE - 40	12.0%	18.2%	$ 29,976.00	English only - 310 French only - 25 O - 40	Low
Pelly Crossing	328	280	O - 85 HE - 35 B - 30	30.0%	22.2%	$ 16,277.00	English only - 215 French only - 10 O - 105	Moderate
Stewart Crossing	40	10	MC - 10 O - 10	50.0%	100.0%	X	English only - 40	Low
Stewart River	*							**

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Construction
O: Other
WR: Wholesale

Scenario 2: Summary Matrix

Scenario 2 Whitehorse to Carmacks	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Tagish	206	55	O - 40 MC - 15 HE - 15	18.2%	0.0%	X	English only - 165 O - 35	**
Teslin	123	45	O - 25 HE - 15 WR - 10	15.4%	0.0%	X	English only - 110 O - 10	High
Whitehorse	19058	3010	O - 4240 B - 2025 HE - 1970	10.0%	14.6%	$ 30,348.00	English only - 16,615 French only - 575 O - 1680	High
Reserves								
Carcross 4	49	40	WR - 10 B - 10 O - 10	50.0%	0.0%	X	English only - 40 O - 10	**
Champagne Landing 10	20	X	X	X	X	X	X	N/A
Kloo Lake	5	X	X	X	X	X	X	N/A
Klukshu	X	X	X	X	X	X	X	N/A
Lake Labarge 1	16	X	X	X	X	X	X	N/A
Little Salmon	*							**
Marsh Lake 5 (dissolved)	15	X	X	X	X	X	X	N/A
Silver City	*							N/A
Teslin Post 13	144	135	O - 40 MC - 15 A - 10	26.7%	25.0%	X	English only - 105 O - 40	**
Whitehorse #8	*							**
Misc.								
Big Salmon	*							N/A
Elsa	*							N/A
Keno Hill	20	X	X	X	X	X	X	N/A
Livingstone	*							N/A
McQuestern	*							N/A
Minto	*							N/A
Robinson	*							N/A
Takhini Hotspring	*							N/A
Teslin (Teslin Land)	*							N/A

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Construction
O: Other
WR: Wholesale

Scenario 2: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Carcross/Tagish	Comprehensive	Settled	Seasonal Rounds	Moderate
Champagne & Aishihik	Comprehensive	Settled	Seasonal Rounds	High
Kaska Dene	Comprehensive	Unsettled	Seasonal Rounds	Low
Kwanlin Dun	Comprehensive	Settled	Seasonal Rounds	High
Little Salmon/Carmacks	Comprehensive	Settled	Seasonal Rounds	Low
Nacho Nyak Dun	Comprehensive	Settled	Seasonal Rounds	Moderate
Selkirk	Comprehensive	Settled	Seasonal Rounds	Low
Ta'an Kwëch'an	Comprehensive	Settled	Seasonal Rounds	Moderate
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and T.L.U.O.S.	High
Trondek Hwech'in	Comprehensive	Settled	Seasonal Rounds	High
White River	Comprehensive	Unsettled	Seasonal Rounds	Low
British Columbia First Nations				
Carcross/Tagish First Nation	Agreement in Principle	4	Seasonal Rounds	Moderate
Champagne & Aishihik First Nation	Agreement in Principle	4	Seasonal Rounds	High
Taku River Tlingit	Agreement in Principle	4	Seasonal Rounds and T.L.U.O.S.	Moderate
Teslin Tlingit	Agreement in Principle	4	Seasonal Rounds	High

Notes:

[1]Employment by Industry: Number of employees per industry

[2]Education: Percentage of population aged 20-34 years of age with less than a high school graduation certificate

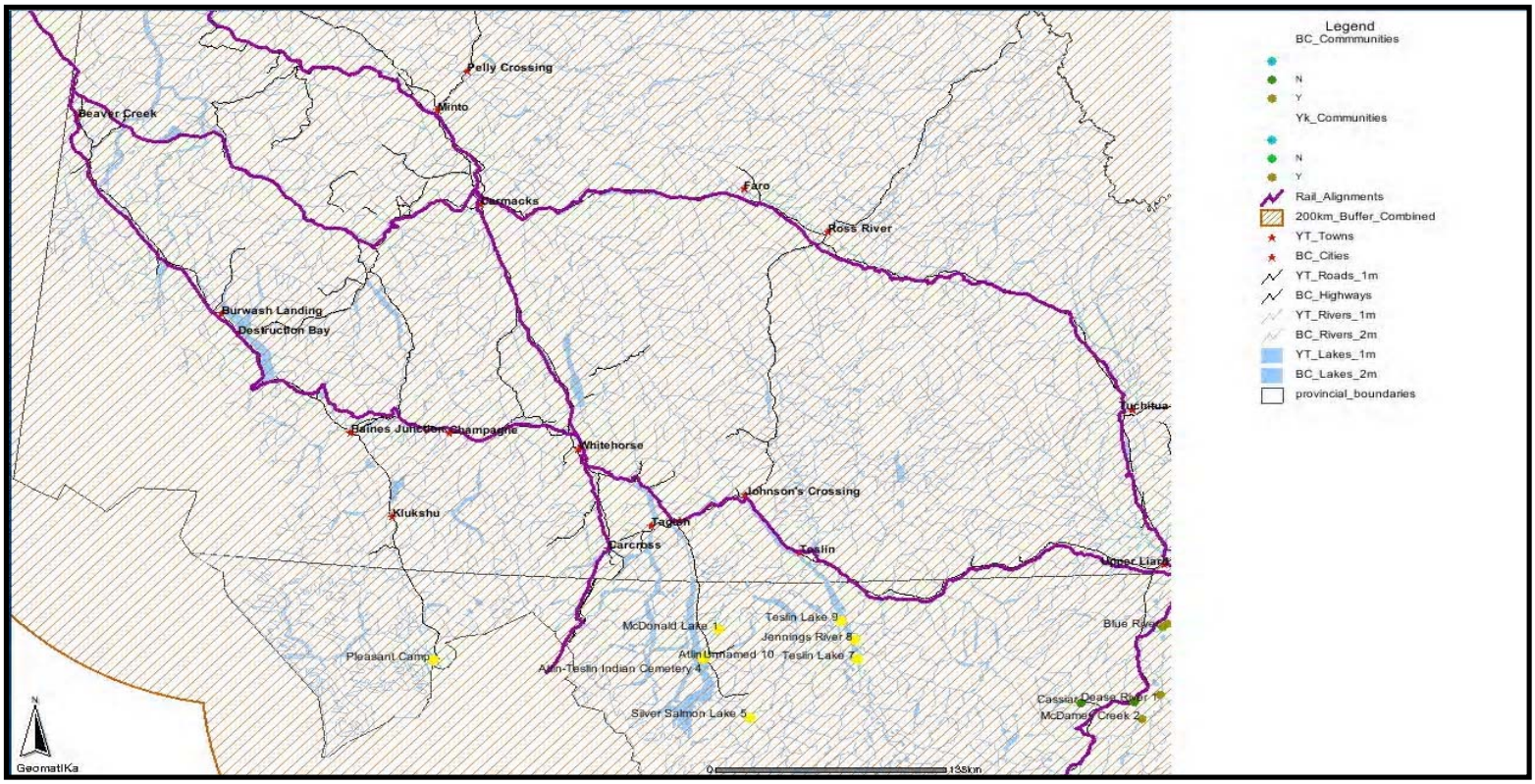
[3]Income: Median total income of persons 15 years of age and over. The median is more illustrative of distribution of income

[4]Language: first learned and understood

[5]Governance Capacity: Measure of institutional infrastructure in relevant community or First Nation
Low, moderate, and high are defined as: low, minimal administration or contact information; moderate, a variation of aspects from low and high; high, extensive presence of an administrative centre, and health, social, and education programs.

[6]TLUOS (Traditional Land Use and Occupancy Study): 59 TLUOS were completed in British Columbia, however because of the Final Information Sharing Agreement (FISA) this information is proprietary

Sub-Corridor 3: Delta Junction To Carmacks & Whitehorse (3 Sub-Corridors)



Scenario 3: Summary Matrix

Scenario 3 Delta Junction to Carmacks and Whitehorse	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Aishihik	*							**
Bear Creek	*							**
Beaver Creek	88	40	O - 30 MC - 15 HE - 10	X	X	X	English only - 75 French only - 10	**
Brooks Brook	*							Low
Burwash Landing	68	55	O - 35 MC - 15 HE - 10	X	0.0%	X	English only - 50 O 15	Moderate
Carcross	152	90	O - 30 MC - 10 WR -10	18.8%	50.0%	X	English only - 135 French only - 10 O - 20	High
Carmacks	431	295	O - 85 HE - 45 B - 45	26.7%	17.6%	$ 17,472.00	English only - 325 French only - 10 O - 90	Moderate
Champagne	*							**
Clinton Creek	*							N/A
Dawson	1251	335	O - 390 B - 105 MC - 90	9.8%	13.3%	$ 24,026.00	English only - 1115 French only - 40 O - 80	Moderate
Destruction Bay	43	15	O - 20	X	X	X	English only - 30	Low
Haines Junction	531	215	O - 150 HE - 45 B - 40	10.4%	17.6%	$ 21,952.00	English only - 450 O - 80 French only - 10	Moderate
Ibex Valley	315	90	O - 80 MC - 30 B - 30	17.1%	20.0%	$ 21,920.00	English only - 270 French only - 15 O languages - 35	**
Johnsons Crossing	20	X	X	X	X	X	X	Low
Koidern (Bear Flats)	*							**
Marsh Lake	*							Low
Mayo	366	225	O - 65 MC - 40 HE 35	9.3%	27.3%	$ 19,051.00	English only - 310 French only - 15 O - 45	Low
Mt. Lorne	379	50	O - 90 B - 55 HE - 40	12.0%	18.2%	$ 29,976.00	English only - 310 French only - 25 O - 40	Low
Pelly Crossing	328	280	O - 85 HE - 35 B - 30	30.0%	22.2%	$ 16,277.00	English only - 215 French only - 10 O - 105	Moderate
Rock Creek	*							**
Stewart Crossing	40	10	MC - 10 O - 10	50.0%	100.0%	X	English only - 40	Low

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Construction
O: Other
WR: Wholesale

Scenario 3: Summary Matrix

Scenario 3 Delta Junction to Carmacks and Whitehorse	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Stewart River	*							**
Tagish	206	55	O - 40 MC - 15 HE - 15	18.2%	0.0%	X	English only - 165 O - 35	**
Teslin	123	45	O - 25 HE - 15 WR - 10	1540.0%	0.0%	X	English only - 110 O - 10	High
Whitehorse	19058	3010	O - 4240 B - 2025 HE - 1970	10.0%	14.6%	$ 30,348.00	English only - 16,615 French only - 575 O - 1680	High
Reserves								
Carcross 4	49	40	WR - 10 B - 10 O - 10	50.0%	0.0%	X	English only - 40 O - 10	N/A
Champagne Landing 10	20	X	X	X	X	X	X	N/A
Kloo Lake	5	X	X	X	X	X	X	N/A
Klukshu	X	X	X	X	X	X	X	N/A
Lake Laberge 1	16	X	X	X	X	X	X	N/A
Little Salmon	*							**
Marsh Lake 5 (dissolved)	15	X	X	X	X	X	X	N/A
Minto	*							N/A
Teslin Post 13	144	135	O - 40 MC - 15 A - 10	26.7%	25.0%	X	English only - 105 O - 40	**
Whitehorse #8	*							**
Misc.								
Bear Creek	*							N/A
Big Salmon	*							N/A
Canyon	*							N/A
Elsa	*							N/A
Keno Hill	20	X	X	X	X	X	X	N/A
Livingstone	*							**
McQuesten	*							**
Minto	*							N/A
Moosehide Creek 2	X	X	X	X	X	X	X	N/A
Robinson	*							N/A
Silver City	*							**
Sixtymile	*							N/A
Snag	*							N/A
Takhini Hotspring	*							N/A
Teslin (Teslin Land)	X	X	X	X	X	X	X	N/A

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B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Construction
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WR: Wholesale

Scenario 3: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Carcross/Tagish	Comprehensive	Settled	Seasonal Rounds	Moderate
Champagne & Aishihik	Comprehensive	Settled	Seasonal Rounds	High
Kaska Dene	Comprehensive	Unsettled	Seasonal Rounds	Low
Kwanlin Dun	Comprehensive	Settled	Seasonal Rounds	High
Little Salmon/Carmacks	Comprehensive	Settled	Seasonal Rounds	Low
Nacho Nyak Dun	Comprehensive	Settled	Seasonal Rounds	Moderate
Selkirk	Comprehensive	Settled	Seasonal Rounds	Low
Ta'an Kwëch'an	Comprehensive	Settled	Seasonal Rounds	Moderate
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and T.L.U.O.S.	High
Trondek Hwech'in	Comprehensive	Settled	Seasonal Rounds	High
White River	Comprehensive	Unsettled	Seasonal Rounds	Low
British Columbia First Nations				
Carcross/Tagish First Nation	Agreement in Principle	4	Seasonal Rounds	Moderate
Champagne & Aishihik First Nation	Agreement in Principle	4	Seasonal Rounds	High
Taku River Tlingit	Agreement in Principle	4	Seasonal Rounds and T.L.U.O.S.	Moderate
Teslin Tlingit	Agreement in Principle	4	Seasonal Rounds	High

Notes:

[1]Employment by Industry: Number of employees per industry

[2]Education: Percentage of population aged 20-34 years of age with less than a high school graduation certificate

[3]Income: Median total income of persons 15 years of age and over. The median is more illustrative of distribution of income

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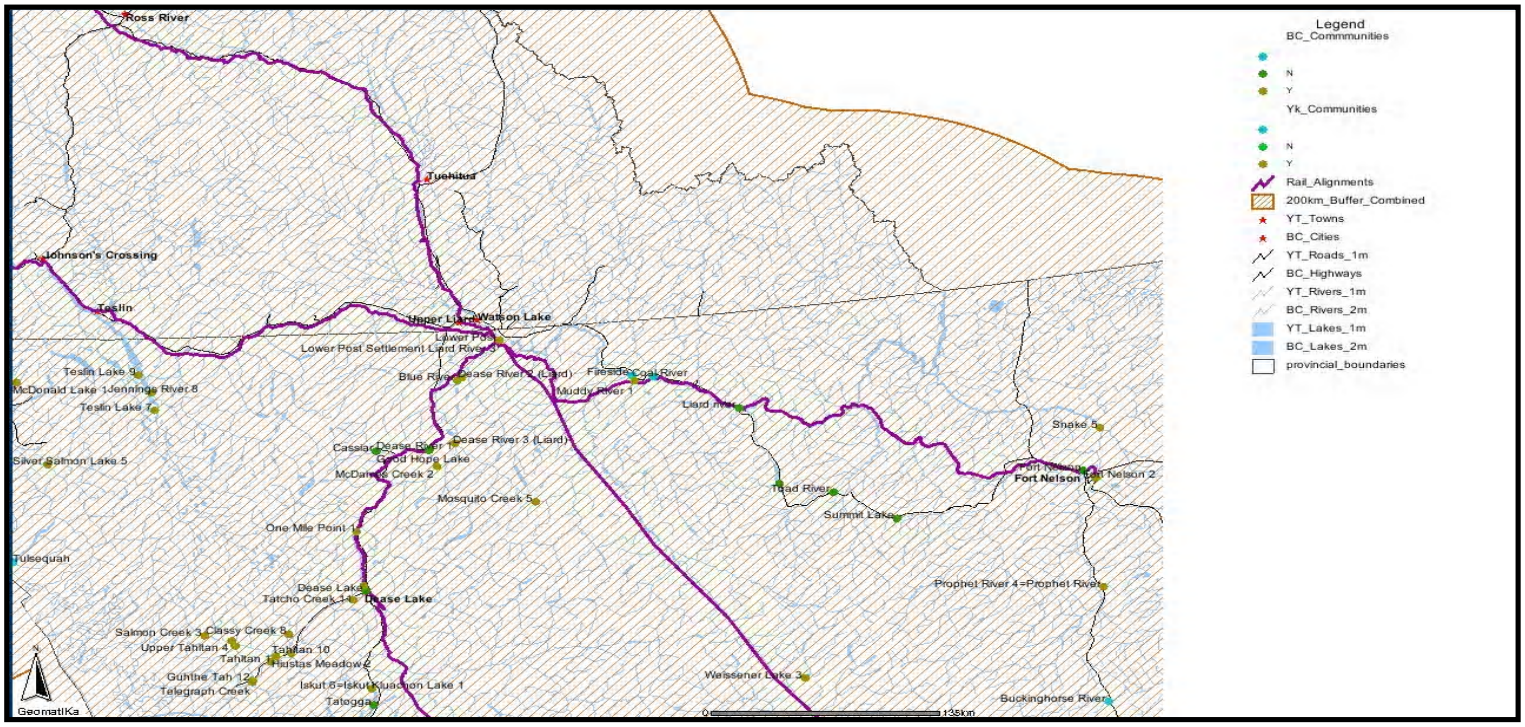
Sub-Corridor 4: Watson Lake To Fort Nelson



Scenario 4: Summary Matrix

Scenario 4 Watson Lake to Fort Nelson	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Dease Lake	*							Moderate
Fort Nelson	4188	470	O - 620 MC - 595 A - 405	5.6%	22.9%	$ 30,002.00	English - 3965 O - 160 French - 40	Moderate
Good Hope Lake	75	70	O - 15	X	50.0%	X	English - 60 O - 10	**
Liard river	*							**
Lower Post	28	X	X	X	X	X	X	**
Muncho Lake	*							**
Swift River	15	X	X	X	X	X	X	Low
Tatogga	*							**
Telegraph Creek	*							Low
Teslin	123	45	O - 25 HE - 15 WR - 10	15.4%	0.0%	X	English only - 110 O - 10	High
Upper Liard	159	125	O - 30 HE - 20 A - 15	33.3%	X	X	English only - 100 O - 50	Low
Watson Lake	912	260	O - 185 HE - 100 B - 70	13.1%	25.7%	$ 22,251.00	English only - 820 O - 60 French only - 30	High
Reserves								
Blue River	*							**
Classy Creek 8	*							**
Dease Lake 9	66	65	HE - 10 O - 10	50.0%	X	X	English only - 60	Low
Dease River 1	*							**
Dease River 2 (Dease)	*							**
Dease River 2 (Liard)	*							**
Dease River 3 (Dease)	*							**
Dease River 3 (Liard)	*							**
Fontas	*							N/A
Fontas 1	*							**
Fort Nelson 2	*							**
Guhthe Tah 12	140	130	O - 25 A - 15 HE - 15	26.7%	66.7%	X	English only - 130 O - 10	**
Hiustas Meadow 2	*							**
Iskut 6=Iskut	283	270	HE - 40 O - 30 A - 20	33.3%	30.8%	$ 36,992.00	English only - 235 O - 45	Low

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Constructior
O: Other
WR: Wholesale

Scenario 4: Summary Matrix

Scenario 4 Watson Lake to Fort Nelson	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Jennings River 8	*							**
Kluachon Lake 1	X	X	X	X	X	X	X	N/A
Liard River 3	102	100	O - 25 B - 10 MC - 10	30.0%	66.7%	X	English only - 90 O - 10	**
McDames Creek 2	*							**
Mosquito Creek 5	*							**
Muddy River 1	*							**
One Mile Point 1	*							**
Prophet River 4= Prophet River	100	90	O - 15 HE - 10 WR - 10	33.3%	60.0%	X	English only - 50 O - 50	**
Salmon Creek 3	*							**
Snake 5	*							**
Stikine River 7	*							**
Tahltan 1	X	X	X	X	X	X	X	**
Tahltan 10	*							**
Tahltan Forks 5	*							**
Tatcho Creek 11	*							**
Telegraph Creek 6	63	60	HE - 10 O - 10	33.3%	66.7%	X	English only - 55	**
Telegraph Creek 6A	20	X	X	X	X	X	X	**
Teslin Post 13	144	135	O - 40 MC - 15 A - 10	26.7%	25.0%	X	105 O - 40	**
Teslin Lake 7	*							**
Teslin Lake 9	*							**
Upper Tahltan 4	*							**
Weissener Lake 3	*							**
Misc.								
Buckinghorse River	*							**
Cassiar	*							N/A
Coal River	*							**
Fireside	*							N/A
Frances Lake	*							N/A
Rancheria	*							N/A
Sikanni Chief Canyon	*							N/A
Summit Lake	*							N/A
Toad River	*							**
Tuchita	*							N/A

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Constructior
O: Other
WR: Wholesale

Scenario 4: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Kaska Dena	Comprehensive	Unsettled	Seasonal Rounds	Low
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and T.L.U.O.S.	High
British Columbia First Nations				
Acho Dene Koe First Nation	Negotiations to Assess Readiness	2	*	Low
Fort Nelson First Nation	Treaty 8		T.L.U.O.S.	Low
Kaska Dena Council	Agreement in Principle	4	Seasonal Rounds	High
Liard First Nation	Negotiations to Assess Readiness	2	*	Moderate
Prophet River First Nation	Treaty 8		T.L.U.O.S.	High
Ross River Dena Council	Negotiations to Assess Readiness	2	Seasonal Rounds and T.L.U.O.S.	Moderate
Teslin Tlingit Council	Agreement in Principle	4	Seasonal Rounds	High
Tsay Keh Dene Band	Agreement in Principle	4	*	Moderate

Notes:

[1]Employment by Industry: Number of employees per industry

[2]Education: Percentage of population aged 20-34 years of age with less than a high school graduation certificate

[3]Income: Median total income of persons 15 years of age and over. The median is more illustrative of distribution of income

[4]Language: first learned and understood

[5]Governance Capacity: Measure of institutional infrastructure in relevant community or First Nation
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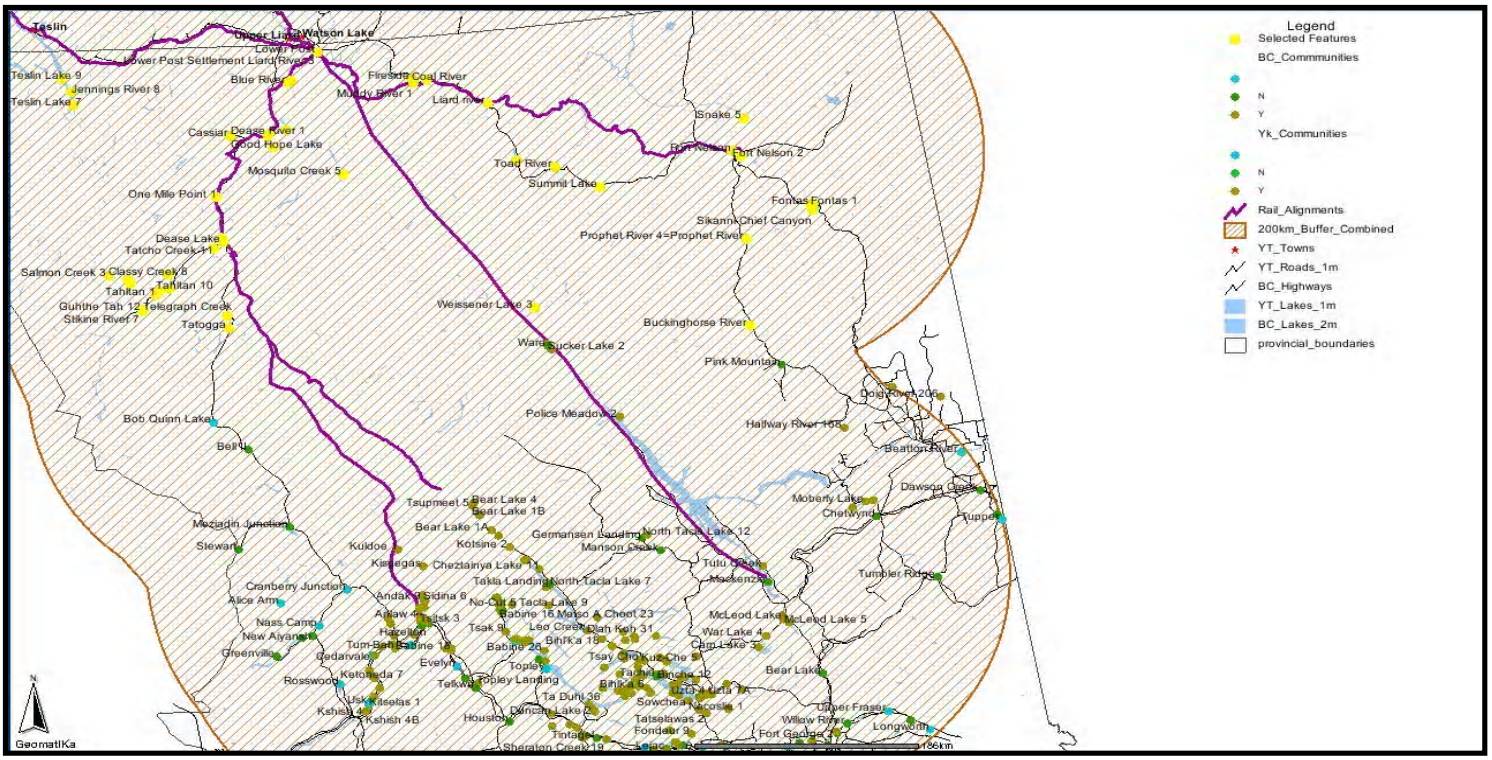
Sub-Corridor 5: Watson Lake To Mackenzie



Scenario 5: Summary Matrix

Scenario 5 Watson Lake to Mackenzie	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Bear Lake	*							Low
Burns Lake	*							Low
Chetwynd	2591	670	MC - 390 O - 300 A - 165	19.1%	18.2%	$ 23,688.00	English only - 2320 O - 205 French - 20	High
Dawson Creek	10754	1425	O - 1160 HE -1065 WR - 985	10.3%	24.1%	$ 20,322.00	English only - 9740 O - 735 French only - 205	High
Dease Lake	*							High
Fort Ware	*							Low
Fort Fraser	*							Low
Fort Saint James	1927	500	MC - 410 O - 210 HE - 175	7.2%	30.8%	$ 27,785.00	English only - 1600 O - 280 French only - 55	Moderate
Germansen Landing	*							Low
Good Hope Lake	75	70	O - 15	X	50.0%	X	English - 60 O - 10	**
Granisle	75	70	O - 15	X	50.0%	X	English - 60 O - 10	Low
Lejac	*							Low
Liard river	*							Low
Lower Post	*							Low
Mackenzie	28	X	X	X	X	X	X	High
McLeod Lake	*							Moderate
Muncho Lake	*							**
Pink Mountain	*							Low
Prince George	85035	7985	O - 9505 MC - 8450 B - 8090	11.3%	18.1%	$ 24,696.00	English only - 74335 O - 8510 French only - 1580	High
Reid Lake	*							Low
Sinclair Mills	*							Low
Tachie	*							Low
Takla Landing	*							Low
Tintagel	*							Low
Tomslake	*							Low
Topley	*							**

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Scenario 5: Summary Matrix

Scenario 5 Watson Lake to Mackenzie	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Tumbler Ridge	1851	145	A - 370 O - 170 B - 155	10.0%	7.1%	$ 27,335.00	English only - 1675 O - 110 French only - 55	High
Vanderhoof	4390	230	HE - 455 O services - 360 WR - 360	10.6%	16.3%	$ 20,435.00	English only - 3735 O - 560 French only - 35	High
Watson Lake	912	260	O - 185 HE - 100 B - 70	13.1%	25.7%	$ 22,251.00	English only - 820 O - 60 French only - 30	High
Willow River	*							Low
Reserves								
Augier Lake 22	*							**
Babine 25	86	80	A - 10	X	75.0%	X	English only - 55 O - 25	**
Beatton River	*							**
Beaver Islands 8	*							**
Bihl'k'a 18	X	X	X	X	X	X	X	**
Bihlk'a 6	X	X	X	X	X	X	X	**
Bihl'k'a Chah 20	*							**
Binche 12	*							**
Binche 2	*							**
Blue River	*							**
Blueberry River 205	136	135	A - 15 MC - 10 O - 10	75.0%	71.4%	X	English only - 65 O - 65	Moderate
Burns Lake 18	*							Low
Canyon Lake 7	*							**
Carp Lake 3	*							**
Carrier Lake 15	*							**
Carsoosat 17	*							**
Chapel Park 28	*							**
Cheztainya Lake 11	*							**
Chundoo Lh'tan La 4 5	*							**
Chuz Teeslee 41	*							**
Clesbaoneecheck 3	*							**
Clustalach 5	*							**
Corkscrew Creek 10	*							**

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Scenario 5: Summary Matrix

Scenario 5 Watson Lake to Mackenzie	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Corkscrew Creek 9	*							**
Dease Lake 9	66	65	HE - 10 O - 10	50.0%	X	X	English only - 60	High
Dease River 1	*							**
Dease River 2 (Dease)	*							**
Dease River 2 (Liard)	*							**
Dease River 3 (Dease)	*							**
Dease River 3 (Liard)	*							**
Dlah Koh 31	*							**
Doig River 206	139	125	O - 15 A - 10 HE - 10	33.3%	57.1%	X	English only - 95 O - 45	Moderate
Duncan Lake 2	*							**
Dzin Tl'at 46	*							**
Dzitline-Lee 9	38	X	X	X	X	X	X	Low
East Moberly Lake 169	330	305	A - 35 HE - 15 MC - 15	41.7%	31.3%	$ 12,448.00	English only - 255 O 70	Moderate
Fondeur 9	*							**
Fort George 2	106	105	A - 15 O - 15 MC - 10	44.4%	50.0%	X	English only - 95 O - 10	Low
Fort George Cemetary 1A	*							N/A
Fort Ware 1	215	210	A - 30 HE - 20 O - 15	44.4%	81.8%	X	English only - 195 O - 20	Low
Foxy Creek 6	*							**
Fraser Lake 2	*							**
Great Bear Lake 16	*							**
Halfway River 168	137	135	MC - 15 O - 15 HE - 10	50.0%	85.7%	X	English only - 50 O - 85	Moderate
Ihch'az Uz Ta Tsoh 44	*							**
Inzana Lake 12	*							**
Jus K'ay Tl'oh 32	*							**
K'ay Noo 47	*							**
Kuz-Che 5	X	X	X	X	X	X	X	**
La Tse Cho Diz I 33	*							**

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Scenario 5: Summary Matrix

Scenario 5 Watson Lake to Mackenzie	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Laketown 3	26	X	X	X	X	X	X	**
Lhoh Cho 29	*							**
Liard River 3	102	100	O - 25 B - 10 MC - 10	30.0%	66.7%	X	English only - 90 O - 10	Low
McDames Creek 2	*							**
McLeod Lake 1	70	70	O - 15 A - 15 MC - 10	28.6%	75.0%	X	English only - 50 O - 15	Low
McLeod Lake 5	*							**
Metso A Choot 23	*							**
Moberly Lake	*							Moderate
Mosquito Creek 5	*							**
Muddy River 1	*							**
Nak'a Lat 39	*							**
Nan-Tl'at 13	*							**
Natazutlooh 25	*							**
Nautley 1	200	180	O - 30 MC - 15 HE - 10	33.3%	50.0%	X	English only - 175 O - 20	**
Necoslie 1	469	465	MC - 50 O - 45 A - 30	29.4%	65.0%	$ 9,296.00	English only - 360 O languages - 105	**
NehounLee Lake 13	*							**
Noo Kat 42	*							**
Noonla 6	*							**
North Road19	*							**
North Tacla Lake 12	*							**
North Tacla Lake 7	140	X	X	X	X	X	X	**
North Tacla Lake 7A	40	40	A - 10	50.0%	X	X	English only - 15 O - 20	**
North Tacla Lake 8	*							**
O K'ay Wha Cho 26	*							**
Old Country Meadow 4	*							**
One Mile Point 1	*							**
Ormonde Creek 8	*							**
Pack River 2	*							**
Palling 1	24	X	X	X	X	X	X	Low
Pinkut Lake 23	*							**
Poison Creek 17	*							**
Poison Creek 17A	*							**

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Scenario 5: Summary Matrix

Scenario 5 Watson Lake to Mackenzie	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Police Meadow 2	*							**
Sackanitecla 2	*							**
Seaspunkut 4	21	X	X	X	X	X	X	Low
Sheraton Creek 19	*							**
Sinkut Lake 8	*							**
Sisul Tl'o K'ut 14	*							**
Sisul Tl'o K'ut 21	*							**
Six Mile Meadow 6	*							**
Skooby Island 48	*							**
Sowchea	*							**
Sowchea 3A	X	X	X	X	X	X	X	N/A
Stellaquo 1	172	150	O - 25 MC - 20 A - 10	16.7%	50.0%	X	English only - 140 O - 35	Low
Stuart Lake 10	*							**
Stuart Lake 9	*							**
Sucker Lake 2	*							**
Ta Duhl 36	*							**
Tache 1	307	X	X	X	X	X	X	Low
Tacla Lake 9	*							**
Tanizul 43	*							**
Tatcho Creek 11	*							**
Tatsadah Lake 14	*							**
Tatselawas 2	*							**
Teeslee 15	*							**
Tes-Gha-La 7A	*							**
The Noo'n Che 49	*							**
Tl'o Ba 22	*							**
Tsay Cho	*							N/A
Tsaz Chech 27	*							**
Tsaz Chech 28	*							**
Tsaz Cheh Koh 24	*							**
Tse Bay Ha Tine 34	*							**
Tutu Creek	*							**
Ucausley 16	*							**
Uzta 4	*							**
Uzta 7A	*							**
War Lake 4	*							**

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West Moberly Lake 1 68A	52	50	O - 10	X	X	X	English only - 40 O - 15	Moderate
Wha T'a Noo 40	*							**
Williams Prairie Meadow 1A	23	X	X	X	X	X	X	Low
Woyenne 27	593	585	O - 45 MC - 40 A - 35	23.5%	58.6%	$ 9,168.00	English only - 415 O - 175	Moderate
Ye-Koos-Lee 11	*							**
Misc.								
Babine 26	*							**
Babine Lake 21B	*							**
Binche 10	*							**
Buckinghorse River	*							N/A
Camsell Lake 30	*							**
Cassiar	*							N/A
Coal River	*							**
Decker Lake	*							N/A
Endako	*							N/A
Engen	*							N/A
Fireside	*							N/A
Isle Pierre	*							**
Leo Creek	*							**
Longworth	*							**
Manson Creek	*							N/A
Summit Lake	*							N/A
Toad River	*							**
Topley Landing	*							**
Tupper	*							**
Upper Fraser	*							**
Ye-KOO-Che 3	71	70	A - 10 HE - 10 O - 10	33.3%	80.0%	X	English only - 60 O - 10	Moderate

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Scenario 5: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Kaska Dena	Comprehensive	Unsettled	Seasonal Rounds	Low
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and T.L.U.O.S.	High
British Columbia First Nations				
Acho Dene Koe First Nation	Negotiations to Assess Readiness	2	*	Low
Carrier Sekani Tribal Council	Agreement in Principle	4	*	High
Doig River First Nation	Treaty 8		T.L.U.O.S.	
Halfway River First Nation	Treaty 8		T.L.U.O.S.	
Kaska Dena Council	Agreement in Principle	4	Seasonal Rounds	High
Lake Babine Nation	Agreement in Principle	4	*	Moderate
Lheidli T'enneh Band	Negotiating a Final Treaty	5	T.L.U.O.S.	Moderate
Liard First Nation	Negotiations to Assess Readiness	2	*	High
Nazko Indian Band	Agreement in Principle	4	*	Moderate
People of Kelly Lake			Seasonal Rounds and T.L.U.O.S.	
Ross River Dena Council	Negotiations to Assess Readiness	2	Seasonal Rounds and T.L.U.O.S.	Moderate
Taku River Tlingit First Nation	Agreement in Principle	4	Seasonal Rounds and T.L.U.O.S.	Moderate
Teslin Tlingit Council	Agreement in Principle	4	Seasonal Rounds	High
Tsay Keh Dene Band	Agreement in Principle	4	*	Moderate
West Moberly First Nation	Treaty 8		T.L.U.O.S.	Moderate
Yekooche Nation	Negotiating a Final Treaty	5	*	Moderate

Notes:

[1]Employment by Industry: Number of employees per industry

[2]Education: Percentage of population aged 20-34 years of age with less than a high school graduation certificate

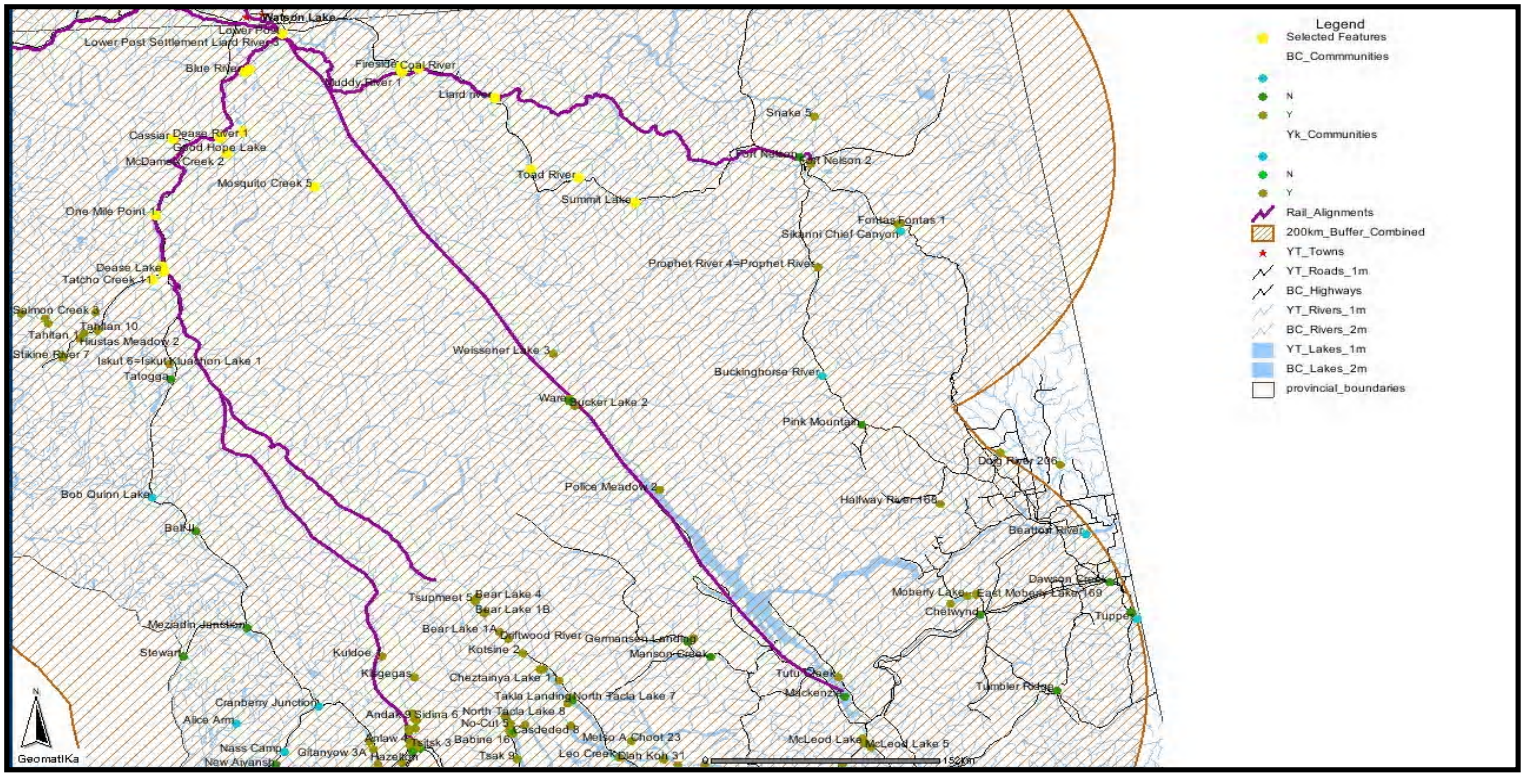
[3]Income: Median total income of persons 15 years of age and over. The median is more illustrative of distribution of income

[4]Language: first learned and understood

[5]Governance Capacity: Measure of institutional infrastructure in relevant community or First Nation
Low, moderate, and high are defined as: low, minimal administration or contact information; moderate, a variation of aspects from low and high; high, extensive presence of an administrative centre, and health, social, and education programs.

[6]TLUOS (Traditional Land Use and Occupancy Study): 59 TLUOS were completed in British Columbia, however because of the Final Information Sharing Agreement (FISA) this information is proprietary

Sub-Corridor 6: Watson Lake To Minaret And Hazelton



Scenario 6: Summary Matrix

Scenario 6. Watson Lake to Minaret; Hazelton	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Bell II	*							**
Burns Lake	*							Low
Dease Lake	*							High
Good Hope Lake	75	70	O - 15	X	50.0%	X	English - 60 O 10	**
Granisle	353	40	A - 65 O - 35 HE - 20	30.3%	0.0%	$ 17,597.00	English only - 330 French only - 15 O - 10	Low
Greenville	*							Low
Hazelton	345	175	HE - 60 A - 35 B - 20	18.2%	25.0%	$ 26,144.00	English only - 290 O - 40	High
Houston	3577	335	MC - 760 WR - 305 A - 300	12.0%	27.2%	$ 27,051.00	English only - 3060 O - 460 French only - 40	Moderate
Liard river	*							Low
Lower Post	28	X	X	X	X	X	X	Low
Meziadin Junction	*							Low
Muncho Lake	*							**
New Aiyansh	716	690	O - 90 HE - 75 A - 60	33.8%	21.4%	$ 13,984.00	English only - 545 O - 170	Low
New Hazelton	750	160	HE - 80 O - 65 MC - 55	22.2%	21.4%	$ 19,223.00	English only - 655 O - 90	High
Smithers	5414	535	O - 685 HE - 550 B - 525	9.3%	20.6%	$ 25,695.00	English only - 4720 O - 505 French only - 90	High
South Hazelton	*							High
Stewart	661	65	O - 160 A - 70 B - 60	24.1%	29.7%	$ 22,608.00	English only - 600 O - 40 French only - 25	Low
Swift River	15	X	X	X	X	X	X	Low
Tatogga	*							**
Teslin	123	45	O - 25 HE - 15 WR - 10	15.4%	0.0%	X	English only - 110 O - 10	High

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Scenario 6: Summary Matrix

Scenario 6. Watson Lake to Minaret; Hazelton	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Tintagel	*							Low
Topley	*							**
Upper Liard	159	125	O - 30 HE - 20 A	33.3%	0.0%	X	English only - 100 O - 50 French only - 10	Low
Ware	*							Low
Watson Lake	912	260	O - 185 HE - 100 B - 70	13.1%	25.7%	$ 22,251.00	English only - 820 O - 60 French only - 30	High
Reserves								
Agwedin 3	*							**
Alphonse Tommy 7	*							**
Anlaw 4	*							**
Augier Lake 22	*							**
Babine 16	*							**
Babine 17	157	155	MC - 20 O - 15 HE - 10	41.7%	33.3%	X	English only - 120 O - 30 French only - 10	Low
Babine 18	*							**
Babine 25	86	80	A - 10	X	75.0%	X	English only - 55 O - 25	Low
Babine 6	77	75	HE - 10	50.0%	66.7%	X	English only - 25 O - 45	Low
Babine Lake 20	*							**
Babine River 21	*							**
Bear Lake 1A	*							**
Bear Lake 1B	*							**
Bear Lake 4	*							**
Bihl'k'a 18	X	X	X	X	X	X	X	N/A
Blue River	*							**
Bulkley River 19	63	60	MC - 10 O - 10	50.0%	66.7%	X	English only - 55 O - 10	Low
Burns Lake 18	*							Low
Casdeded 8	*							**
Chapel Park 28	*							**

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Cheztainya Lake 11	*							**
Chimdimash 2	*							**
Chimdimash 2A	*							**
Classy Creek 8	*							**
Clotalairquot 4	*							**
Coryatsqua 2=Moricetown 2	159	155	MC - 25 HE - 15 O - 10	26.7%	0.0%	X	English only - 125 O - 35	Moderate
Dease Lake 9	66	65	HE - 10 O - 10	50.0%	X	X	English only - 60	High
Dease River 1	*							**
Dease River 2 (Dease)	*							**
Dease River 2 (Liard)	*							**
Dease River 3 (Dease)	*							**
Dease River 3 (Liard)	*							**
Dlah Koh 31	*							**
Driftwood River	*							**
Duncan Lake 2	*							**
Dzin Tl'at 46	*							**
Dzitline-Lee 9	38	X	X	X	X	X	X	Low
Felix George 7	*							**
Fort Ware 1	215	210	A - 30 HE - 20 O - 15	44.4%	81.8%	X	195 O - 20	Low
Foxy Creek 6	*							**
Gitanmaax 1	693	670	O - 75 HE - 70 MC - 50	36.5%	25.0%	$ 12,608.00	English only - 520 O - 165	Low
Gitanyow 1=Kitwancool	369	355	HE - 30 MC - 25 O - 20	34.8%	47.1%	$ 9,248.00	English only - 265 O - 100	Low
Gitanyow 2	*							**
Gitanyow 3A	*							**
Gitsegukla 1	432	430	O - 50 MC - 20 A - 20	59.4%	35.0%	$ 7,504.00	English only - 265 O - 170	Low
Gitsegukla Logging 3	*							**
Gitwangak 1=Kitwanga	475	460	MC - 65 HE - 35 O - 25	39.5%	40.9%	$ 2,952.00	English only - 385 O - 90	Low
Gitwangak 2	*							**
Gitwinksihlkw	212	200	O - 35 HE - 30 A - 20	31.8%	0.0%	X	English only - 175 O - 40	Low
Gul-Mak 8	*							**
Gun-A-Chal 5	*							**

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Hagwilget 1	237	230	O - 20 B - 15 MC - 15	38.1%	20.0%	X	English only - 215 O - 20	Low
Hiustas Meadow 2	*							**
Ikshenigwolk 3	*							**
Iskut 6=Iskut	283	270	HE - 40 O - 30 A - 20	33.3%	30.8%	$ 36,992.00	English only - 235 O - 45	Low
Jean Baptiste 28	5	X	X	X	X	X	X	N/A
Ketoneda 7	*							**
Kis-An-Usko 7	*							**
Kisgegas	*							**
Kispiox 1=Kispiox	651	640	O - 85 HE - 50 A - 45	34.0%	27.6%	$ 11,552.00	English only - 470 O - 180	Moderate
Kitselas 1	*							**
Kits-Ka-Haws 6	*							**
Kluachon Lake 1	X	X	X	X	X	X	X	N/A
Koonwats 7	*							**
Kotsine 2	*							**
Kshish 4	58	55	MC - 10	37.5%	66.7%	X	English only - 50 O - 10	Low
Kshish 4B	*							**
Ksoo-Gun-Ya 2A	*							**
Kuldoe 1	*							**
Kwa-Tsa-Lix	*							**
Liard River 3	102	100	O - 25 B - 10 MC - 10	30.0%	66.7%	X	English only - 90 O - 10	Low
McDames Creek 2	*							**
Metso A Choot 23	*							**
Michell Pierre 12	*							**
Moricetown 1=Moricetown	190	185	MC - 30 O - 20 A - 15	33.3%	57.1%	X	English only - 145 O - 45	Low
Mosquito Creek 5	*							**
Muddy River 1	*							**
Nak'a Lat 39	*							**
Natazutlooh 25	*							**
Nedoats 11	*							**
Nedoats 13	*							**
Ne-Tsaw-Greece 10	*							**
New Gitsegukla 2	*							**
No-Cut 5	*							**

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North Tacla Lake 10	*							**
North Tacla Lake 11A	*							**
North Tacla Lake 7	140	X	X	X	X	X	X	Low
North Tacla Lake 7A	40	40	A - 10	50.0%	X	X	English only - 15 O - 20	**
North Tacla Lake 8	*							**
O K'ay Wha Cho 26	*							**
One Mile Point 1	*							**
Palling 1	24	X	X	X	X	X	X	Low
Pinkut Lake 23	*							**
Poison Creek 17	*							**
Poison Creek 17A	*							**
Police Meadow 2	*							**
Sheraton Creek 19	*							**
Sidina 6	*							**
Sik-E-Dakh 2	171	165	O - 20 B - 10 MC - 15	40.0%	0.0%	X	English only - 130 O - 40	Low
Skooby Island 48	*							**
Sucker Lake 2	*							**
Ta Duhl 36	*							**
Tacla Lake 9	*							**
Tadinlay 15	*							**
Tahlo Lake 24	*							**
Tahltan 1	X	X	X	X	X	X	X	N/A
Tahltan 10	*							**
Takla Landing	*							Low
Tatcho Creek 11	*							**
Telkwa	1371	105	O - 220 B - 140 HE - 120	8.3%	23.1%	$ 20,617.00	English only - 1260 O - 85	Moderate
Teslin Post 13	144	135	O - 40 MC - 15 A - 10	26.7%	25.0%	X	English only - 105 O - 40	**
The Noo'n Che 49	*							**
Tsak 9	*							**
Tsaytut Island 1C	*							**
Tsitsk 3	*							**
Tsupmeet 5	*							**
Tum-Bah	*							**
Waulp 10	*							**
Weissener Lake 3	*							**

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Woyenne 27	593	585	O - 45 MC - 40 A - 35	23.5%	58.6%	$ 9,168.00	English only - 415 O - 175	Moderate
Ye-Koos-Lee 11	*							**
Misc.								
Alice Arm	*							**
Andak 9	*							**
Babine 26	*							**
Babine Lake 21B	*							**
Babine River 21A	*							**
Bob Quinn Lake	*							**
Cassiar	*							**
Cedarvale	*							N/A
Chanoodandidalch 14	*							**
Chig-In-Kaht 8	*							N/A
Coal River	*							N/A
Cranberry Junction	*							N/A
Decker Lake	*							N/A
Evelyn	*							N/A
Fireside	*							N/A
Frances Lake	*							N/A
Kitsegnecla	*							Low
Leo Creek	*							N/A
Nass Camp	*							N/A
Rancheria	*							N/A
Rosswood	*							N/A
Smithers Landing	*							**
Summit Lake	*							N/A
Toad River	*							N/A
Topley Landing	*							**
Tuchitua	*							
Usk	*							**

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**Full Information Not Available
MC: Manufacturing & Constructior
O: Other
WR: Wholesale

Scenario 6: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Kaska Dena	Comprehensive	Unsettled	Seasonal Rounds	Low
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and T.L.U.O.S.	High
British Columbia First Nations				
Acho Dene Koe First Nation	Negotiations to Assess Readiness	2	*	Low
Carrier Sekani Tribal Council	Agreement in Principle	4	*	High
Cheslatta Carrier Niton	Framework Agreement	3	*	Moderate
Gitanyow Hereditary Chiefs	Agreement in Principle	4	T.L.U.O.S.	Moderate
Gitxsan Hereditary Chiefs	Agreement in Principle	4	*	Moderate
Kaska Dena Council	Agreement in Principle	4	Seasonal Rounds	High
Lake Babine Nation	Agreement in Principle	4	*	Moderate
Liard First Nation	Negotiations to Assess Readiness	2	*	High
Nisga'a	Settled		*	Moderate
Ross River Dena Council	Negotiations to Assess Readiness	2	Seasonal Rounds and T.L.U.O.S.	Moderate
Taku River Tlingit	Agreement in Principle	4	Seasonal Rounds and T.L.U.O.S.	High
Teslin Tlingit Council	Agreement in Principle	4	Seasonal Rounds	Moderate
Tsay Keh Dene Band	Agreement in Principle	4	*	Moderate
Tsimshiam Nation	Agreement in Principle	4	*	Moderate
Wet'swet'en Nation	Agreement in Principle	4	*	Moderate
Yekooche Nation	Negotiating a Final Treaty	5	*	Moderate

Notes:

[1]Employment by Industry: Number of employees per industry

[2]Education: Percentage of population aged 20-34 years of age with less than a high school graduation certificate

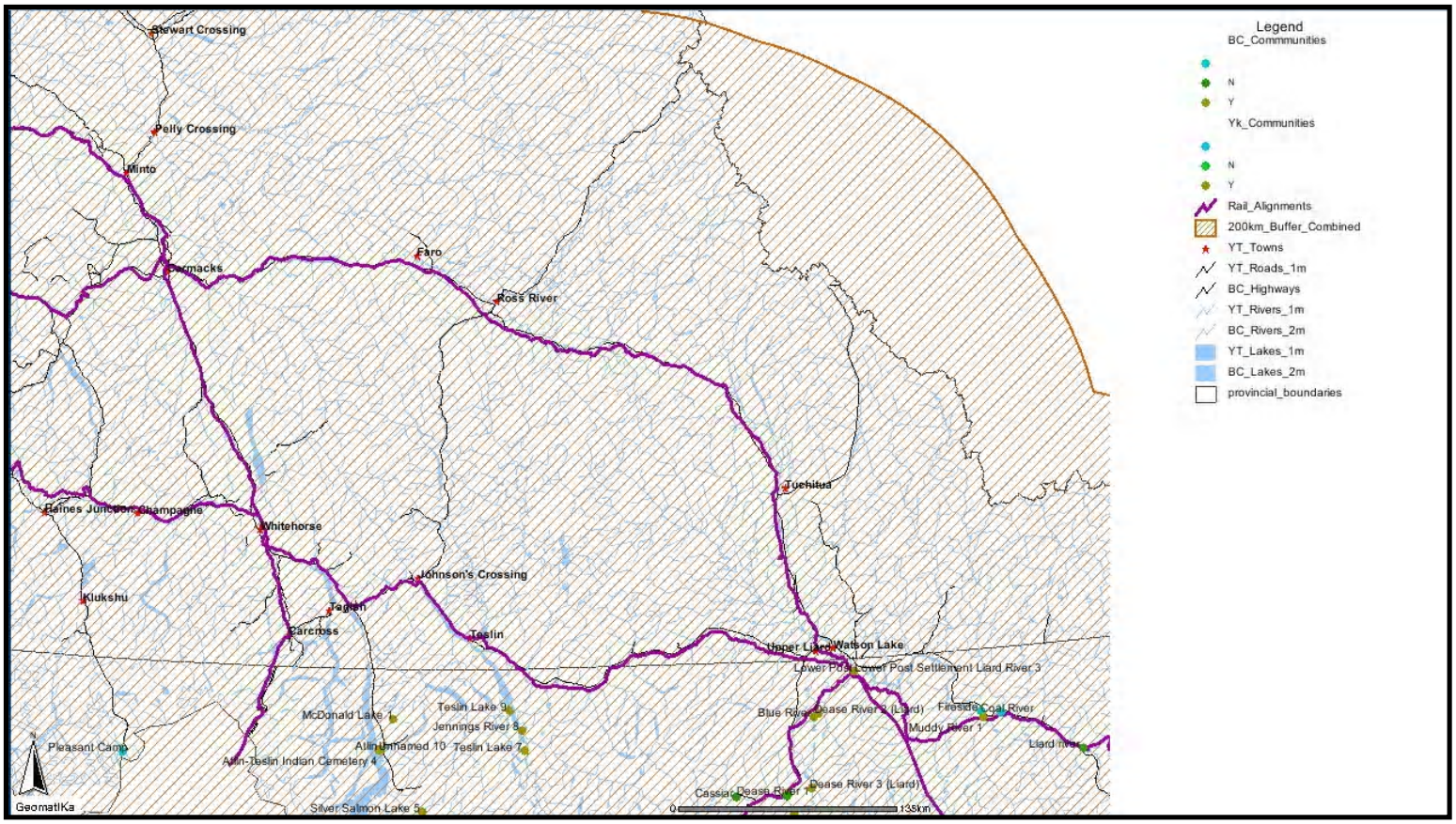
[3]Income: Median total income of persons 15 years of age and over. The median is more illustrative of distribution of income

[4]Language: first learned and understood

[5]Governance Capacity: Measure of institutional infrastructure in relevant community or First Nat
Low, moderate, and high are defined as: low, minimal administration or contact information; moderate, a variation of aspects from low and high; high, extensive presence of an administrative centre, and health, social, and education programs.

[6]TLUOS (Traditional Land Use and Occupancy Study): 59 TLUOS were completed in British Columbia, however because of the Final Information Sharing Agreement (FISA) this information is proprietary

Sub-Corridor 7: Watson Lake To Carmacks



Scenario 7: Summary Matrix

Scenario 7 Watson Lake to Carmacks	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Aishihik	*							**
Bear Creek	*							N/A
Brooks Brook	*							Low
Burwsah Landing	68	55	O - 35 MC - 15 HE - 10	X	0.0%	X	English only - 50 O 15	Low
Carcross	152	90	O - 30 MC - 10 WR -10	18.8%	50.0%	X	English only - 135 French only - 10 O - 20	High
Carmacks	431	295	O - 85 HE - 45 B - 45	26.7%	17.6%	$17,472.00	English only - 325 French only - 10 O - 90	Moderate
Dawson	1251	335	O - 390 B - 105 MC - 90	9.8%	13.3%	$24,026.00	English only - 1115 French only - 40 O - 80	High
Destruction Bay	43	15	O - 20	X	X	X	English only - 30	Low
Faro	313	55	O - 75 A - 30 HE - 25	15.8%	25.0%	$20,032.00	English only - 285 O - 20	Moderate
Haines Junction	531	215	O - 150 HE - 45 B - 40	10.4%	17.6%	$21,952.00	English only - 450 O - 80 French only - 10	Moderate
Ibex Valley	315	90	O - 80 MC - 30 B - 30	17.1%	20.0%	$21,920.00	English only - 270 French only - 15 O languages - 35	**
Jakes Corner	*							Low
Johnsons Crossing	20	X	X	X	X	X	X	Low
Marsh Lake	*							Low
Mayo	366	225	O - 65 MC - 40 HE 35	9.3%	27.3%	$19,051.00	English only - 310 French only - 15 O - 45	Low
Mt. Lorne	379	50	O - 90 B - 55 HE - 40	12.0%	18.2%	$29,976.00	English only - 310 French only - 25 O - 40	Low
Pelly Crossing	328	280	O - 85 HE - 35 B - 30	30.0%	22.2%	$16,277.00	English only - 215 French only - 10 O - 105	High
Rock Creek	*							**
Ross River	337	265	O - 85 MC - 30 HE - 30	36.8%	29.4%	$13,600.00	English only - 235 O - 100	Moderate
Stewart Crossing	40	10	MC - 10 O - 10	50.0%	100.0%	X	English only - 40	Low
Stewart River	*							**
Swift River	15	X	X	X	X	X	X	Low
Tagish	206	55	O - 40 MC - 15 HE - 15	18.2%	0.0%	X	English only - 165 O - 35	**

A: Agriculture and other resource based industries
B: Business Services
HE: Health & Education
X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Construction
O: Other
WR: Wholesale

Scenario 7: Summary Matrix

Scenario 7 Watson Lake to Carmacks	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
Teslin	123	45	O - 25 HE - 15 WR - 10	15.4%	0.0%	X	English only - 110 O - 10	High
Upper Liard	159	125	O - 30 HE - 20 A - 15	33.3%	X	X	English only - 100 O - 50	Low
Watson Lake	912	260	O - 185 HE - 100 B - 70	13.1%	25.7%	$22,251.00	English only - 820 O - 60 French only - 30	High
Whitehorse	19058	3010	O - 4240 B - 2025 HE - 1970	10.0%	14.6%	$30,348.00	English only - 16,615 French only - 575 O - 1680	High
Reserves								
Carcross 4	49	40	WR - 10 B - 10 O - 10	50.0%	0.0%	X	English only - 40 O - 10	**
Champagne Landing 10	20	X	X	X	X	X	X	N/A
Kloo Lake	5	X	X	X	X	X	X	N/A
Klukshu	X	X	X	X	X	X	X	N/A
Lake Labarge 1	16	X	X	X	X	X	X	N/A
Little Salmon	*							**
Marsh Lake 5 (dissolved)	15	X	X	X	X	X	X	N/A
Teslin Post 13	144	135	O - 40 MC - 15 A - 10	26.7%	25.0%	X	English only - 105 O - 40	**
Whitehorse #8	*							**
Misc.								
Big Salmon	*							**
Elsa	*							N/A
Frances Lake	*							N/A
Keno Hill	20	X	X	X	X	X	X	N/A
Livingstone	*							N/A
McQuesten	*							N/A
Minto	*							N/A
Moosehide Creek 2	X	X	X	X	X	X	X	N/A
Rancheria	*							N/A
Robinson	*							N/A
Silver City	*							N/A
Takhini Hotspring	*							N/A
Teslin (Teslin Land)	X	X	X	X	X	X	X	N/A
Tuchitua	*							N/A
Tungsten (NWT)	*							N/A

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X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Constructior
O: Other
WR: Wholesale

Scenario 7: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Carcross/Tagish	Comprehensive	Settled	Seasonal Rounds	Moderate
Champagne & Aishihik	Comprehensive	Settled	Seasonal Rounds	High
Kaska Dene	Comprehensive	Unsettled	Seasonal Rounds	Low
Kwanlin Dun	Comprehensive	Settled	Seasonal Rounds	High
Little Salmon/Carmacks	Comprehensive	Settled	Seasonal Rounds	Low
Nacho Nyak Dun	Comprehensive	Settled	Seasonal Rounds	Moderate
Selkirk	Comprehensive	Settled	Seasonal Rounds	Low
Ta'an Kwëch'an	Comprehensive	Settled	Seasonal Rounds	Moderate
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and T.L.U.O.S.	High
Trondek Hwech'in	Comprehensive	Settled	Seasonal Rounds	High
White River	Comprehensive	Unsettled	Seasonal Rounds	Low
British Columbia First Nations				
Acho Dene Koe First Nation	Negotiations to Assess Readiness	2	*	Low
Kaska Dena Council	Agreement in Principle	4	Seasonal Rounds	High
Liard First Nation	Negotiations to Assess Readiness	2	*	High
Ross River Dena Council	Negotiations to Assess Readiness	2	Seasonal Rounds and T.L.U.O.S.	Moderate
Taku River Tlingit First Nation	Agreement in Principle	4	Seasonal Rounds and T.L.U.O.S.	Moderate
Teslin Tlingit Council	Agreement in Principle	4	Seasonal Rounds	High

Notes:

[1]Employment by Industry: Number of employees per industry

[2]Education: Percentage of population aged 20-34 years of age with less than a high school graduation certificate

[3]Income: Median total income of persons 15 years of age and over. The median is more illustrative of distribution of income

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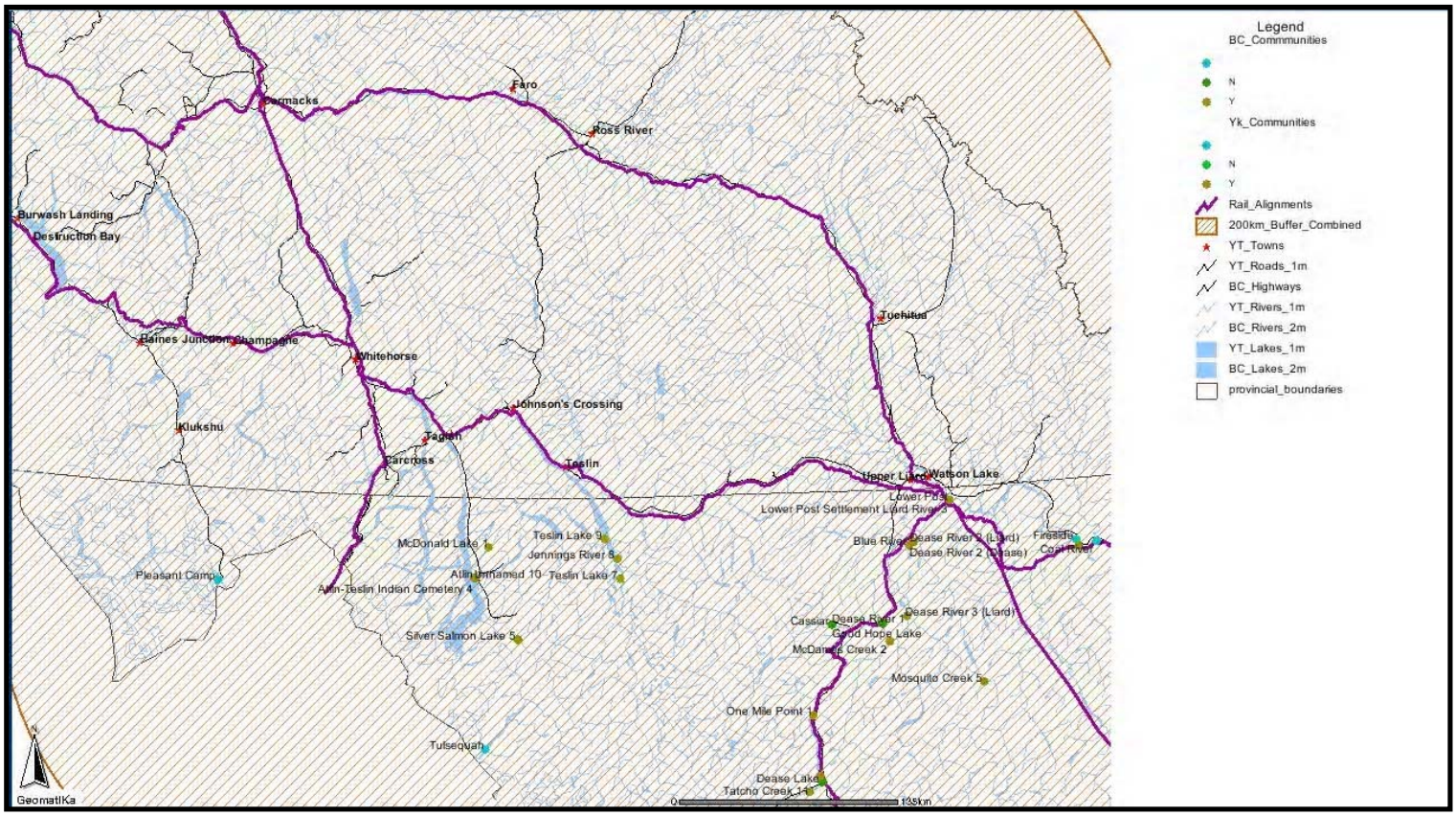
Sub-Corridor 8: Watson Lake To Whitehorse



Scenario 8: Summary Matrix

Scenario 8 Watson Lake to Whitehorse	Population	Aboriginal Population	Employment by Industry[1]	Unemployment Rate	Education[2]	Income[3]	Language[4]	Governance Capacity[5]
COMMUNITIES								
Mixed Communities								
Aishihik	*							**
Bear Creek	*							N/A
Brooks Brook	*							Low
Burwash Landing	68	55	O - 35 M - 15 HE - 10	X	0.0%	X	English only - 50 O 15	Low
Carcross	152	90	O - 30 M - 10 WR -10	18.8%	50.0%	X	English only - 135 French only - 10 O 20	High
Carmacks	431	295	O - 85 HE - 45 B - 45	26.7%	17.6%	$ 17,472.00	English only - 325 French only - 10 O 90	Moderate
Champagne	*							**
Destruction Bay	43	15	O - 20	X	X	X	English only - 30	Low
Haines Junction	531	215	O - 150 HE - 45 B - 40	10.4%	17.6%	$ 21,952.00	English only - 450 O - 80 French only - 10	Moderate
Ibex Valley	315	90	O - 80 M - 30 B - 30	17.1%	20.0%	$ 21,920.00	English only - 270 French only - 15 O languages - 35	**
Jakes Corner	*							Low
Johnsons Crossing	20	X	X	X	X	X	X	Low
Marsh Lake	*							Low
Mt. Lorne	379	50	O - 90 B - 55 HE - 40	12.0%	18.2%	$ 29,976.00	English only - 310 French only - 25 O 40	Low
Swift River	15	X	X	X	X	X	X	Low
Tagish	206	55	O - 40 M - 15 HE - 15	18.2%	0.0%	X	English only - 165 O - 35	**
Teslin	123	45	O - 25 HE - 15 WR - 10	15.4%	0.0%	X	English only - 110 O - 10	High
Upper Liard	159	125	O - 30 HE - 20 A - 15	33.3%	X	X	English only - 100 O - 50	Low

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X: Information Suppressed
* No Statistical Data Available
**Full Information Not Available
MC: Manufacturing & Constructio
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Scenario 8: Summary Matrix

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Watson Lake	912	260	O - 185 HE - 100 B - 70	13.1%	25.7%	$ 22,251.00	English only - 820 O - 60 French only 30	High
Whitehorse	19058	3010	O - 4240 B - 2025 HE - 1970	10.0%	14.6%	$ 30,348.00	English only - 16,615 French only - 575 O - 1680	High
Reserves								
Carcross 4	49	40	WR - 10 B - 10 O - 10	50.0%	0.0%	X	English only - 40 O 10	**
Champagne Landing 10	20	X	X	X	X	X	X	N/A
Kloo Lake	5	X	X	X	X	X	X	N/A
Klukshu	X	X	X	X	X	X	X	N/A
Lake Labarge 1	16	X	X	X	X	X	X	N/A
Little Salmon	*							**
Marsh Lake 5 (dissolved)	15	X	X	X	X	X	X	N/A
Teslin Post 13	144	135	O - 40 M - 15 A - 10	26.7%	25.0%	X	English only - 105 O - 40	**
Whitehorse #8	*							**
Misc.								
Big Salmon	*							N/A
Livingstone	*							N/A
Rancheria	*							N/A
Robinson	*							N/A
Silver City	*							N/A
Takhini Hotspring	*							N/A
Teslin (Teslin Land)	*							N/A

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Scenario 8: Summary Matrix

FIRST NATIONS	Land Claim	Stage	Subsistence Activity[6]	Governance Capacity
Yukon First Nations				
Carcross/Tagish	Comprehensive	Settled	Seasonal Rounds	Moderate
Champagne & Aishihik	Comprehensive	Settled	Seasonal Rounds	High
Kaska	Comprehensive	Unsettled	Seasonal Rounds	Low
Kwanlin Dun	Comprehensive	Settled	Seasonal Rounds	High
Little Salmon/Carmacks	Comprehensive	Settled	Seasonal Rounds	Low
Nacho Nyak Dun	Comprehensive	Settled	Seasonal Rounds	Moderate
Selkirk	Comprehensive	Settled	Seasonal Rounds	Low
Ta'an Kwëch'an	Comprehensive	Settled	Seasonal Rounds	Moderate
Teslin Tlingit	Comprehensive	Settled	Seasonal Rounds and T.L.U.O.S.	High
Trondek Hwech'in	Comprehensive	Settled	Seasonal Rounds	High
White River	Comprehensive	Unsettled	Seasonal Rounds	Low
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Acho Dene Koe First Nation	Negotiations to Assess Readiness	2	*	Low
Carcross/Tagish First Nation	Agreement in Principle	4	Seasonal Rounds	Moderate
Champagne & Aishihik First Nation	Agreement in Principle	4	Seasonal Rounds	High
Kaska Dene Council	Agreement in Principle	4	Seasonal Rounds	High
Liard First Nation	Negotiations to Assess Readiness	2	*	High
Ross River Dena Council	Negotiations to Assess Readiness	2	Seasonal Rounds and T.L.U.O.S.	Moderate
Taku River Tlingit First Nation	Agreement in Principle	4	Seasonal Rounds and T.L.U.O.S.	Moderate
Teslin Tlingit Council	Agreement in Principle	4	Seasonal Rounds	High

Notes:

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Summary and Recommendations

It is the finding of this study, that a true socio-cultural impact assessment cannot be achieved without comprehensive and meaningful consultation. The impact of the ACRL at the socio-cultural level is at the potential magnitude and significance of the proposed Mackenzie Valley Pipeline project of the 1970s. First, the sheer number of communities in the jurisdiction of the Yukon Territory and the Province of British Columbia is sufficiently daunting to warrant a meaningful and effective consultation process in order to begin to assess impact. Second, there is a significant First Nations presence in the region. Third, the state of land claims negotiations is not uniform throughout the proposed ACRL corridor. This creates a complex and potentially volatile environment for the proposed rail link project because significant portions of northern British Columbia do not have settled claims. In contrast, Yukon Territory has largely settled land claims, although there are still three unsettled claims in southern Yukon which are within the corridor. While the non-Aboriginal population constitutes the majority of residents overall, key communities along the corridor are dominated by Aboriginal peoples. Both Aboriginal peoples in terms of the "bush economy" and non-Aboriginal peoples in terms of recreational activities have a significant connection to the land. Therefore, the human ecological and bio-physical implications of the ACRL are significant.

At a strategic level, key factors such as (1) the large numbers of communities for which there are significant gaps in information, (2) the presence of First Nations and the Constitutional and legal requirement for seeking permission for right of way through their lands, and (3) the unsettled nature of land claims in certain jurisdictions, re-iterate the need for undertaking a comprehensive and meaningful process of consultation that includes Aboriginal and non-Aboriginal peoples and their communities.

Noted below is the summary of the socio-cultural and economic context in which the rail link is proposed.

1.0 Communities

- In Yukon Territory there are approximately 37 communities within the ACRL corridor ranging in population from 5 to 19,058. There are 12 First Nations Reserves within the corridor.
- In British Columbia there are approximately 310 communities within the corridor ranging in population from 5 to 85,035. There are 250 First Nations reserves within the corridor.

2.0 State of Land Claims

- Yukon has 11 settled Comprehensive Land Claims, 10 of which are in the ACRL proposed corridor. There are 3 unsettled land claims, all of which are in the study area.
- There is an overlap of claims in British Columbia, Yukon and Treaty 8 lands. The British Columbia Treaty commission has developed a six stage process to settle Comprehensive Land Claims. There are 21 unsettled comprehensive land claims in the ACRL corridor. Three First Nations within the study area are at the Stage 2, "negotiations to assess readiness." One First Nation within the study area is at Stage 3, negotiated a "framework agreement." Fifteen First Nations are at Stage 4, they have an "agreement in principle." Two First Nations are at Stage 5, "negotiating a final treaty." Progress on land claim negotiations is slow in British Columbia.

3.0 Governance Capacity

- In the Yukon Territory, there is a strong governance capacity due to institutional infrastructure in the city of Whitehorse.
- Majority of the Aboriginal peoples live outside of the Yukon. Therefore, it is key to understand institutional capacity because it indicates the First Nations ability to manage or mitigate adverse impacts and the capability to negotiate and take advantage of positive impacts. The key institutional infrastructure is the Council of Yukon First Nations (CYFN) which has eleven members. Nine have reached land claim and self-government agreements. However, the Liard First Nation, the Kwanlin Dun First Nation, and the Ross River Deana Council operate independently

of the CYFN. The majority of First Nations have councils that can facilitate a meaningful consultation process. Furthermore, many of these First Nations also have departments that deal with land and resources, social programs and economic development. These institutions suggest that First Nations communities have the capability to negotiate and ensure their interests are effectively considered.

- It is difficult to assess institutional infrastructure and governance capacity in British Columbia because of the unsettled nature of land claims in the ACRL corridor. While it is safe to assume that larger communities have institutions to address their concerns related to the proposed project, the smaller communities may not. However, the presence of Strategic Land Use Plans in the regional districts of northern British Columbia may be a way to facilitate effective consultation with stakeholders and various interests.

4.0 Demographics and Livelihood

- Yukon largely depends on government and service sector employment. Natural resource exploitation is limited to primary activities with little or no value added manufacturing activity. The Yukon economy is largely dependent on government institutions, service sector and resource extraction.
- Highest unemployment in Yukon is in Aboriginal communities. However, normal economic measures systematically underestimate the value of the active 'bush economy'.
- Mining is Yukon's largest industry, and varies widely with boom and bust cycles.
- Yukon is establishing precedents with its Strategic Forest Management Plan, a jointly implemented plan between the Yukon Government and the Champagne & Aishihik First Nations.
- The natural environment is a major draw for tourism in Yukon.
- In northern British Columbia, nearly twice as many non-native people are able to find work as compared with native people actively looking for employment. However, among people who have received high school and post-secondary diplomas or certificates, both native and non-native people are able to find work.

- Many First Nations workers have low levels of education (over 28% with neither high school nor post-secondary diplomas).
- In northern BC, forestry is the main resource-based activity in the region.
- In 2002 there were five major operational forestry mills in northern British Columbia.
- In northern British Columbia, Aboriginal workers are twice as likely as non-Aboriginals to work in forestry.
- Parks and protected areas exist to preserve forests in northern British Columbia.
- Although both mining for metals and energy production are underway in northern BC, the distance and cost of transportation remain impediments to both activities.
- Since a 40-year low in 2001-2003, new mining is underway in the northern BC and investment in exploration has risen sharply.

5.0 Rules of Engagement

- Developments such as ACRL are regulated by federal and provincial statutes and their corresponding regulatory agencies.
- All developments that have a reasonable likelihood of creating environmental impacts are required to conduct an Environmental Assessment as per the Canadian Environmental Assessment (CEA) Act.
- The CEA Act calls for Aboriginal participation if there is any anticipated effect on socio-economic conditions, physical and cultural heritage or traditional land uses.
- Public participation is required as part of the Environmental Assessment process.
- The Indian Act requires consultation with native peoples.
- On Indian Reserves or in land claim areas, proposed developments are subject to additional regulations of public participation and incorporation of indigenous knowledge.
- Many developments near Aboriginal lands are accompanied by Impact-Benefit Agreements.
- Poor communication can create gaps and stifle channels for mitigating shared problems between First Nations and developers.
- Meaningful community participation is key to successful development.

- By taking part in baseline and socio-economic impact studies, community members can become educated about the project and empowered to give input. Participation by First Nations can help build institutional capacity to voice concerns and make recommendations.
- Incorporating Traditional Ecological Knowledge (TEK) not only helps developers to understand First Nations' issues and concerns, and helps First nations communicate the need for protection of key areas and sacred sites. This knowledge may enhance understanding of bio-physical impacts
- First Nations are entitled to more than minimum consultation. The exact requirements for consultation are not set out in statute but vary with the circumstances.
- The scope of the Crown's duty to consult with First Nations is established in *Haida v. BC* as "proportionate to the strength of the case supporting the existence of the right or title, and to the seriousness of the potentially adverse effect upon the right or title claimed."
- Where comprehensive land claims are under negotiation, Aboriginal groups can be regarded as potential land owners as well as stakeholders.
- One of the goals of the treaty negotiation process is the creation of certainty with regards to Aboriginal relations and development on Aboriginal lands.
- Impact-Benefit Agreements (IBAs) are agreements between proponent companies and communities that establish a formal relationship and outline responsibilities.
- IBAs are enforceable under common law of contract.
- Developers may regard the study area as 'frontier' for development whereas Aboriginal groups may regard the same area as 'homeland'.
- There is a need for considered, long-term planning in the study area region.
- Human resource and institutional capacity are required to participate meaningfully in developments and to enter into IBAs.
- According to the Berger and Alaska Pipeline Inquiries, developments should not occur until sufficient capacity exists within the communities to participate meaningfully in development.

- Meaningful consultation is required in order to address the challenges of shared management or mitigation.
- Financial resource capacity is an issue related to community institutional capacity.
- Many First Nations are not opposed to developments within their traditional territories provided there is meaningful consultation leading to mutual consent.

6.0 Human Ecological Relations

- The human ecological relations that exist in the corridor are both complex and context-dependent.
- Traditional activities are still a significant part of the regional economies in most northern communities, especially Aboriginal communities.
- Traditional activities include food acquisition (meat from hunting and fishing), collection of home heating energy (firewood), medicinal plant collection, and production of clothing, art and traditional crafts (e.g., beaded gloves, moccasins/mukluks, moose hair tuftings, etc.).
- Some First Nations actively spend a quarter of the year 'out on the land' conducting traditional activities such as hunting and trapping *in addition to participating in the wage economy.*
- Traditional activities are organized in yearly cycles, as summarized in the 'yearly round.'
- Service roads provide access to otherwise remote areas, facilitating access to 'outsiders' as well as providing vehicular access to trap lines.
- Consumption of country food indicates the level of dependence on subsistence activities to meet daily needs.
- According to research, "Yukon Indians used a greater variety of traditional food species than other northern Native groups." The diversity of species used approached that of Pacific coastal Indians who reside in the southern reaches of the study area.
- The majority of recreation areas such as campgrounds are located along regional highways.

- As many as 59 Traditional Land Use and Occupancy Studies have been completed in British Columbia under a province-funded program but are not publicly available due to confidentiality restrictions.

Arising from the discussion of the socio-cultural and economic context, noted below are the strategic level socio-cultural implications of ACRL.

7.0 Population movements

- Increased demand for labour, resources and technical skills and trades.
- Outlying communities face out-migration of skilled workers.
- Regional centres and project work sites face in-migration.
- In-migration may marginalize groups such as First Nations by rendering them minorities in their traditional lands.
- In-migration of well-paid workers can cause drastic and localized inflation.
- An in-flux of transient workers may cause socio-economic impacts through increased bar sales, drunkenness, sexual exploitation, disease, racial tensions and violence.
- In-migration may alter community composition and therefore community values. These changes are manifest for example in community goals and vision in planning documents.

8.0 Community infrastructure

- According to Indian and Northern Affairs Canada (INAC), there is a shortage of housing on Indian Reserves and 44% of the existing housing stock requires renovation.
- Local health regions will incur incremental increases in demand for services related to in-migration of construction workers and population growth.
- Increased pressure on pre-existing social infrastructure (community associations, families and civil society) may in turn increase the burden on social and heath care providers.
- Scarce community resources are focused on dealing with acute problems rather than systematic ones.

- Funding for social services lags behind the pace of development, and is often tied to property tax or permanent residency rather than seasonal or temporary residency.

9.0 Family impacts

- Prioritization of "modern education" may lead to reduced ability to transmit traditional knowledge between generations.
- Increases in population can affect crime levels, alcohol and substance abuse rates and create related social problems.
- Students may increasingly drop out of school in favour of well-paying entry level jobs related to development projects.
- Cultural clash can be apparent through services such as child care becoming geared toward children of mine workers (as opposed to local or First Nations children).

10.0 Workforce impacts

- Escalating cost of living may cause workforce shifts, for example women entering the workforce, which may in turn cause increased reliance on social services such as childcare.
- Skills development and training for local residents is key to community participation in construction and project support activities.
- There is a relatively small availability of labour in the region.
- Wage disparity can displace workers from other industries that are not able to match higher wage rates, removing qualified individuals from one industry or region in favour of another.
- If ACRL construction were to occur simultaneously with regional pipeline construction, there would be additional competition for labour resources.

11.0 Resource development and boom and bust cycles

- Many Yukon and British Columbia communities remain highly dependent on resource-based activities. These communities are vulnerable to the boom and bust cycles of world commodity prices.
- Construction projects are viable according to their own boom and bust cycles.

- Benefits to local communities are limited to mostly construction employment and increased demand for local goods and services including housing.
- Successive project phases result in changing land access patterns; with the onset of construction activities, impacts on traditional land use may be intensified.
- There are many similarities between pipelines and railways in the north. A decision to construct a pipeline is based on commitments by oil and gas extractors to feed the pipeline. Similarly public expenditures on transportation systems designed to facilitate extraction of natural resources by private industry amount to industrial subsidies.
- Distance and cost of transportation of both materials and energy continue to be an impediment to industrial development in the study area.

12.0 Community Impacts

- Resource development presents opportunities for economic development that can potentially benefit the people living in the study area.
- Through on-the-job training, promotion and expanded options, workers may have access to new employment opportunities.
- Despite overall reliance on development-specific jobs, new local employment opportunities may reflect a broadening, or diversification, of the community or regional economy.
- The spill-over from economic development can be predicted with multipliers but are often felt in the communities as the emergence of franchise restaurants, professional services and new providers of consumer goods and services.
- Larger communities generally absorb the majority of itinerant workers, creating competition for rental accommodations, goods and services.
- There is fragility in the native harvesting economy in relation to both land-based (biophysical) impacts and socio-cultural impacts.
- With the end of project construction phases, many jobs disappear.

13.0 Impacts on subsistence activities (bush economy)

- Short-term employment creates short-term benefit but land-based impacts create long-term impacts through access to previously remote areas, changes to ethnic balance, cultural pressures and disruption of sacred sites and traditional land use areas.
- Participation in the 'bush economy' is difficult to track. Benefits from traditional activities are not normally part of economic indicators.
- Elders and full-time trappers are generally categorized as unemployed. Conventional economic analysis thus systematically misrepresents the traditional economy.
- Scholars of the Canadian north continue to note that hunting and trapping remains an integral part of contemporary life in the north, contributing to household income and cultural continuance through traditional art, production of traditional goods and ongoing communion with the land.
- By way of illustration, in one part of the study area research shows that bush harvest usually accounts for 35 to 40 per cent of household income.
- Many First Nations groups have integrated participation in the wage economy and traditional activities in the bush economy, creating a mixed, or blended, economy.
- The ACRL project will change the physical and perceptual landscape in the study area, creating new access to remote areas and changing land use patterns in the region.
- New access to previously remote areas has allowed virtually unrestricted access of 'whites' or 'outsiders' to hunt or fish deep inside the heartlands of many First nations' territories.

14.0 Cultural impacts

- The ACRL project will likely reinforce English as the dominant language at the work site and in local businesses, causing negative impacts to the use of traditional languages and therefore aboriginal culture.
- Community changes resulting from large-scale development projects can be fundamental and very rapid.

- First Nation traditional territory, including graves, cabins, historical sites and hunting areas have a high chance of being affected by large-scale economic development projects.
- Efforts must be made to record the location and preservation of sacred sites before the project proceeds.
- Resource development brings with it changes in how Aboriginal people live their lives. Whereas Elders were the decision-makers or influencers within Aboriginal communities, provincial regulatory agencies have a different basis of authority; the transition from one basis of authority to another represents a cultural impact in predominantly Aboriginal communities.
- Yukon and Northern BC are home to several guiding and outfitting businesses whose attractiveness is based on the intact landscape and plentiful wildlife.
- Railways in wilderness areas have public safety and wildlife mortality effects that can reduce an area's appeal as a tourism destination.
- Biophysical impacts in the form of sound, vibration and visual disturbance, as well as liminal effects from linear transportation infrastructure are likely to affect these businesses, especially during construction phases of the ACRL project.

There are four key recommendations arising from this study. These recommendations suggest the next steps.

- The next phase of ACRL must involve meaningful consultation including both Aboriginal and non-Aboriginal communities.
- A comprehensive impact assessment must include indigenous (Aboriginal) and local (non-Aboriginal) knowledge of and therefore, community participation.
- Consideration of the project in phases to enable and encourage settlement of First Nation land claims. Therefore, scenarios that favour development in Yukon should occur before northern British Columbia. Furthermore, corridors within the Yukon where the claims are settled should proceed before those where they are still under negotiation.

- Development of strategic plans for building governance capacity to realize benefits and investment in institutional infrastructure to mitigate and manage adverse effects of ACRL.

The Alaska Canada Rail Link project is of significant international, national and regional magnitude as it opens the path to extraction and movement of natural resources across borders. Its development must proceed with the support and participation of local communities. Given a proper investment of time and resources at the front end to community involvement, potential benefits both in terms of economic efficiency and socio-cultural effectiveness may be realized. Furthermore, given the settlement of land claims by First Nations, the potential for equity investment also exists. Fundamentally, it is within the reach of the ACRL project planning team to act in a manner so as realize these benefits with effective community consultation.

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