

Alaska Canada Rail Link

Strategic Environmental Assessment Integrated Socio-Cultural Assessment



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1.0 Executive Summary

This report summarizes social and cultural impacts of a proposed railway linking Alaska to existing railroads in Canada and the United States. The study forms part of a strategic level scoping of issues for policy-makers and affected communities that will inform the political decision of whether to proceed with a full slate of technical, economic, social and ecological assessments for the proposed Alaska Canada Rail Link (ACRL).

A key finding of this study is that a complete Strategic Environmental Assessment cannot be achieved without comprehensive and meaningful consultation with affected individuals and communities – a process that must begin as part of determining feasibility of the Alaska Canada Rail Link.

In Canada, impact of the ACRL at the socio-cultural level is high. This study assesses overall effects of rail development as having the potential magnitude and significance of the Mackenzie Valley Pipeline proposal of the 1970s, and notes parallels between the Mackenzie Valley and ACRL. First, the sheer number of communities in the jurisdiction of the Yukon Territory and the Province of British Columbia is sufficient to warrant a meaningful and effective consultation process. Second, there is a significant First Nations presence in the region whose participation and consultation are protected by Canada's laws, including the Constitution Act and the Canadian Environmental Assessment Act. Third, the status of land claims negotiations is not uniform throughout the proposed ACRL corridor.

This combination of factors 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. Yukon Territory has largely settled its land claims, although there are still three unsettled claims in southern Yukon within the corridor that could have considerable bearing on project sites, partnerships, cost and feasibility.

While the non-Aboriginal population constitutes the majority of residents overall, key communities along the corridor have a predominately Aboriginal population. Aboriginal and non-Aboriginal residents in the ACRL corridor have significant connections to the land based on traditional use, subsistence and other "bush economy" activities, and recreation. Therefore, the human ecological and biophysical implications of the ACRL are significant.

2.0 Socio-Cultural Context of the ACRL

2.1 *Communities*

Yukon Territory has 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 approximately 310 communities lie within the corridor ranging in population from 5 to 85,035. There are 250 First Nations reserves within the corridor. Alaska has 14 communities within the ACRL corridor, with populations ranging from 14 to an estimated 8,000. The corridor communities have a mix of city and tribal governments and informal community associations.

Canada

The Summary of Communities Matrix (Table 1) on page 5 provides an overview, by specific corridor of the railway link, of potentially affected communities. The columns indicate organizational capacity within those communities, the status of land claims, the significance of subsistence lifestyle, income range comparing median incomes, and the range of unemployment rates between communities. Data is provided for First Nations and mixed communities, which include both First Nations and other Canadians.

It is important to note that for a significant number of communities and reserve lands, there is insufficient data or it has been suppressed by Statistics Canada. These areas tend to be small in population compared to the larger centres.

Organizational capacity is determined by the presence of institutional infrastructure in the region. The presence of infrastructure in terms of governance and administration, housing, education, health, economic development, lands and resources, suggests greater institutional capacity to deal with change. Furthermore, organizational infrastructure to successfully negotiate settlement of land claims and the ability to undertake traditional land use and occupancy studies are further indicators of capacity. Indeed, settled land claims may also produce potential business development and investment capacity.

The status of land claims, particularly in British Columbia, is central to the rail link. Some land claim negotiations have regressed in British Columbia. The time frame for successful completions these negotiations average approximately a decade or longer.

Subsistence activities include hunting of ungulates and fur-bearing animals; fishing; and gathering of berries. Forty-five percent of Yukon First Nations understand an Aboriginal language – a strong indicator of the continual presence and significance of subsistence lifestyle. Non-aboriginal Yukoners also participate in hunting, fishing and gathering activities.

There is a close correlation between communities with low median income and high unemployment and communities where First Nations people reside. If communication about development of ACRL includes commitments to help bridge that gap with specific socio-economic benefits, the affected communities will have fewer objections to the project. Likewise, it will be very important to have assurances that people in the ACRL corridor communities will have opportunities for true involvement from the initial planning to the operational phases.

Alaska

The Table 1 summary of ACRL Communities includes Alaska information in Segments 1 and 3. There are 14 communities in the Alaska sectors, although some have separate municipal and tribal governing units and some occupy discontinuous land areas, making it possible to count 18 communities. Land claims are not at issue for the Alaska communities, but negotiations for rights-of-way will require involvement of a variety of entities.

Four communities within the proposed corridor have a municipal government in place – Delta, Eagle, Haines and Skagway. In Native villages and unincorporated communities, negotiations will be conducted with tribal or village councils, citizens' groups and individuals. Informal conversations with Native leaders indicate general willingness for a railroad extension, primarily for economic reasons. The possibility of additional wage employment, reduced transportation costs, and increased tourism create interest in the railroad.

Lack of available wage employment means many rural residents rely heavily upon subsistence for their way of life. Dependence on land and animal resources for sustenance and continuation of cultural traditions makes protection of the environment essential for community buy-in for the project.

Total population within the proposed railroad corridor represents less than two percent of Alaska residents. Six communities have minimal Native representation, with the majority of villages ranging from 40 to 95 percent Alaska Native. With an average unemployment rate of 20 percent, these communities have a 14 percent higher unemployment than the Alaska average of six percent.

Communities that will see effects of ACRL are primarily in the Upper Tanana Region, with a wide disparity of available modes of transportation. The Alaska Highway is accessible to most of the communities, and contributes to their economies with refueling, restaurant or retail patronage, and local arts and craft sales. Haines and Skagway are situated at the northern end of the Alaska Marine Highway System. Only two communities, Healy Lake and Tetlin, do not have road access. The addition of rail transport would ease accessibility issues and allow possible cost reduction for importation of goods.

Table 1: Summary of ACRL Communities

Railway Corridor	Communities and Reserves		Organizational Capacity	Status of Land Claims		Presence of Subsistence Lifestyle (Seasonal Round)			Canadian Income and Unemployment Ranges (see Note for Alaska ranges)	
	Number	Data Missing or Insufficient		Yukon: Settled Claims	BC: Stages	Alaska	Yukon	BC	Income	Unemployment
1. Whitehorse - Skagway	FN: 14 MC: 18	FN: 7 MC: 7	FN: Moderate - High MC: Moderate – High	7 of 9	St. 4: 4	No	Yes TLUOS: 1	Yes TLUOS: 1	\$17,472 (Carmacks)~ \$30,348 (Whitehorse)	10%(Whitehorse) ~ 50% (Reserve: Carcross 4)
2. Whitehorse - Carmacks	FN: 11 MC: 21	FN: 4 MC: 7	FN: Moderate - High MC: Low – Moderate	9 of 11	St. 4: 4		Yes TLUOS: 1	Yes TLUOS: 1	\$16,277 (Pelly Crossing)~ \$30,348 (Whitehorse)	9.3% (Mayo)~ 50% (Stewart Crossing)
3. Delta Junction – Whitehorse	FN: 14 MC: 33	FN: 4 MC: 9	FN: Moderate - High MC: Moderate	9 of 11	St. 4: 4	Yes, in 9 of 11 communities	Yes TLUOS: 1	Yes TLUOS: 1	\$16,277 (Pelly Crossing) ~ \$30,348 (Whitehorse)	9.3%(Mayo) ~ 30% (Pelly Crossing)
4. Watson Lake - Fort Nelson	FN: 36 MC: 12	FN: 28 MC: 5	FN: Moderate MC: Low – Moderate	1 of 2	St. 4: 3 St. 2: 3 Treaty 8: 2		Yes TLUOS: 1	Yes TLUOS: 3	\$22,251 (Watson Lake) ~ \$36,992 (Reserve: Iskut)	5.6% (Fort Nelson) ~ 50% (Reserve: Dease Lake 9)
5. Watson Lake – Mackenzie	FN: 123 MC: 30	FN: 102 MC: 20	FN: Moderate - High MC: Low – Moderate	1 of 2	St. 5: 2 St. 4: 7 St. 2: 3 Treaty 8: 3		Yes TLUOS: 1	Yes TLUOS: 7	\$9,168 (Reserve: Woyenne 27) ~ \$27,785 (Fort St. James)	7.2% (Fort St. James) ~ 75% (Reserve: Blueberry River 205)
6. Watson Lake – Hazelton	FN: 121 MC: 25	FN: 94 MC: 12	FN: Moderate - High MC: Moderate	1 of 2	St. 5: 1 St. 4: 10 St. 3: 1 St. 2: 3 Settled: 1		Yes TLUOS: 1	Yes TLUOS: 3	\$2,952 (Reserve: Kivwanga) ~ \$36,992 (Reserve: Iskut)	8.3% (Reserve: Telkwa) ~ 59.4% (Reserve: Gitsegulka 1)

Railway Corridor, Cont'd.	Communities and Reserves		Organizational Capacity	Status of Land Claims		Presence of Subsistence Lifestyle (Seasonal Round)			Canadian Income and Unemployment Ranges (see Note for Alaska ranges)	
	Number	Data Missing or Insufficient		Yukon: Settled Claims	BC: Stages	Alaska	Yukon	BC	Income	Unemployment
7. Watson Lake – Carmacks	FN: 9 MC: 27	FN: 3 MC: 7	FN: Moderate MC: Moderate	9 of 11	BC: Stages St. 4: 3 St. 2: 3		Yes TLUOS: 1	Yes TLUOS: 3	\$13,600 (Ross River) ~ \$30,348 (Whitehorse)	9.3% (Mayo) ~ 50% (Stewart Crossing)
8. Watson Lake - Whitehorse	FN: 9 MC: 20	FN: 3 MC: 6	FN: Moderate MC: Moderate	9 of 11	St. 4: 5 St. 2: 3		Yes TLUOS: 1	Yes TLUOS: 2	\$17,472 (Carmacks) ~ \$30,348 (Whitehorse)	10% (Whitehorse) ~ 50% (Reserve: Carcross 4)

Legend: FN = In Canada, First Nation communities (Indian Reserves)

MC = In Alaska, communities with 80% or more Alaska Native population

TLUOS = Mixed Communities

Stages: Traditional Land Use and Occupancy Study

(BC Claims) Stage 1 = Statement of Intent to Negotiate

Stage 2 = Readiness to Negotiate

Stage 3 = Negotiation of a Framework Agreement

Stage 4 = Negotiation of an Agreement in Principle

Stage 5 = Negotiation to Finalize a Treaty

Stage 6 = Implementation of the Treaty

Note: Alaska Income Range = \$67,500 (Northway Junction) ~ \$6,875 (Eagle Village)

Alaska Unemployment Range = 3.2% (Fort Greely) ~ 46.9% (Tetlin)

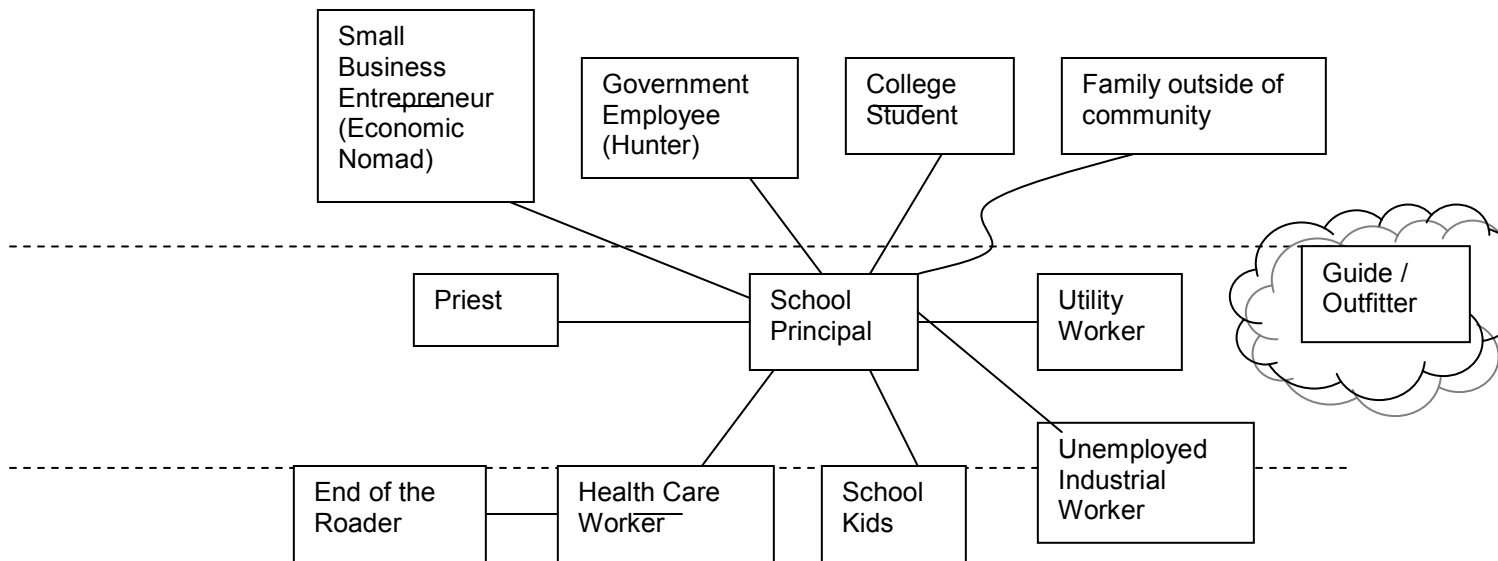
Native and Non-Native Communities

A distinction exists in the types and severity of cultural and social impacts of the ACRL to communities in the Study Region based on the nature and function of those communities as well as the impacts of construction and operation of the rail line. Anticipated direct impacts of an economic boom and in-migration of itinerant workers will be accompanied by a range of associated induced impacts.

The following diagram illustrates a community structure that could be considered typical in many non-Native and mixed communities in the Study Area. For the purposes of this illustration, the scenario begins with the school principal at the hub. Although there are connections between the school principal and many other individuals in the community, there is a tendency toward stratification rather than networks of relationships. Often one can note a scarcity of significant cross-generational or extended family relationships.

Indirect impacts will be different here than in Native communities. The mixed or non-Native community starts with greater reliance within nuclear families and greater dependence on the cash economy, so workers leaving or construction workers migrating into the community have less impact on basic social structure.

Figure 1: Non-Native Communities

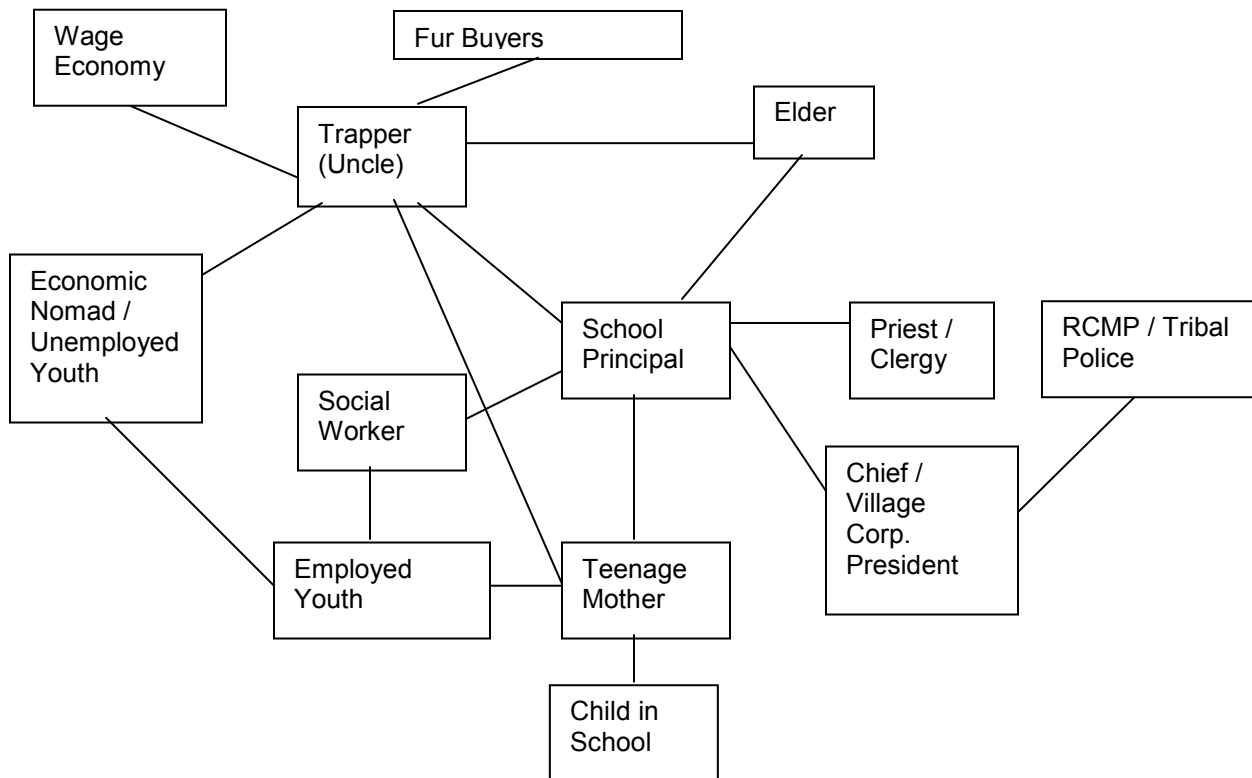


By contrast, the social interconnections in typical Native communities have a more complex structure, often tied by family or clan association, and to varying degrees, by traditional community roles, especially in remote areas where the wage economy has not replaced traditional or hereditary structures. In predominantly Native communities the social structures tend to be deeply interdependent and intergenerational. While these features exist in non-Native communities, it is generally not to the same extent.

In communities where the bush economy is still employed, significant non-monetary benefits are gained by the primary harvester, hunter or artisan. Further benefit is felt by the distribution of food, clothing, firewood, and a range of cultural skills, language and other non-tangibles through this complex web of interactions. It is these interactions that have provided resiliency in Native communities in which a pre-existing and functioning 'bush economy' is still evident despite previous periods of intense pressures from resource industry-based boom and bust cycles. In these communities, the practice of sharing (in culturally-appropriate ways) provides for transmission of cultural heritage as well as distribution of tangible items such as meat to the elderly and to family relations.

The following figure illustrates social patterns that might be found in these communities:

Figure 2: Native Communities



Direct impacts of removing construction workers from small communities will affect both Native and non-Native communities. But while the direct impacts are similar, the induced or corollary impacts will be different. Sharing can be seen as the 'glue' of traditional

Native society, providing for community distribution of country food (especially meat) and transmission of cultural capital. Therefore, the removal of the hunter/trapper uncle from the figure above (for a construction job) will interrupt the food supply of the elder and possibly language transmission to the youth. Rapid growth in non-Native communities can be uncomfortable; rapid growth in Native communities can be disruptive. A narrative of mixed, or non-Native, communities is provided in Appendix B.

2.2 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 in the study area. There is an overlap of claims in British Columbia, Yukon and Treaty 8 lands by bands whose traditional territories span provincial/territorial borders. 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.

Of the 18 Alaskan communities within the ACRL corridor, eight communities have ANCSA or former reserve lands preserved totalling 1,250,931 acres.

2.3 Governance Capacity

In the Yukon Territory, there is a strong governance capacity due to institutional infrastructure in the city of Whitehorse. The majority of the Aboriginal peoples live outside of Whitehorse. Therefore, it is pivotal 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 Aboriginal institutional infrastructure in Yukon is the Council of Yukon First Nations (CYFN) which has eleven member Nations. Nine have reached land claim and self-government agreements. However, the Liard First Nation, the Kwanlin Dun First Nation, and the Ross River Dena 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 in Yukon 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 provide a vehicle through which to facilitate effective consultation with stakeholders and various interests.

Alaska communities have a wide range of institutional capacity and governance mechanisms, ranging from incorporated cities and boroughs (Delta, Eagle, Skagway and Haines) to unincorporated communities (Tok) and village councils (Alaska Native villages, including Dot Lake, Tanacross, Tetlin, Northway, Eagle, and Mentasta). In several instances Native and non-Native populations live in mixed or in side-by-side communities. Effective consultation will reflect the institutional and customary practices of each community.

2.4 *Demographics and Livelihood*

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. Successive project phases result in changing land access patterns; with the onset of construction activities, impacts on traditional land use may be intensified.

Benefits of ACRL to local communities primarily involve construction employment and increased demand for local goods and services, including housing. Appropriate training can help local residents to participate in longer-term entrepreneurial spin-offs or legacy industry jobs.

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. Distance and cost of transportation of both materials and energy continue to be an impediment to industrial development in the study area.

Canada

Yukon's economy depends heavily on government institutions, service sector employment, and resource extraction. Natural resource exploitation is limited to primary activities with little or no value added manufacturing activity. Mining is Yukon's largest industry, and varies widely with boom and bust cycles. In terms of joint or regional management, Yukon is establishing precedents with its Strategic Forest Management Plan, a jointly implemented plan between the Yukon Government and the Champagne & Aishihik First Nations and the Porcupine Caribou Management Agreement, consisting of the Government of Canada, Government of Yukon, Government of the Northwest Territories, Inuvialuit Game Council, Gwich'in Tribal Council, and the Council of Yukon First Nations. The natural environment continues to be a major draw for tourism in Yukon. The highest levels of unemployment in Yukon are found in Aboriginal communities. However, it is noteworthy that normal economic measures systematically underestimate the value of the active 'bush economy'.

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).

Forestry is the main resource-based activity in northern BC. In 2002 there were five major operational forestry mills in northern British Columbia, where 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. [does this sentence add value?]

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.

Alaska

The majority of affected Alaska communities rely on government, social services, tourism occupations and subsistence as the economic base. Education, health and social services, and retail trade rank highest among industry employers for Alaska corridor communities. Several communities have a strong summer tourism market to assist their economies. Subsistence activities are a prominent feature of the local economies, and some communities offer little wage earning employment.

High rates of unemployment generally occur in ACRL corridor communities along the Alaska Highway; unemployment is greatest in villages with a high percentage of Native residents.

A U.S. National Wildlife Refuge and other parks occur within the proposed corridor. Mining is seeing a renewed interest in the state with the opening of Pogo Mine outside of Delta Junction, and Kensington gold mine under development near Juneau. Additional Alaska mines farther from the ACRL corridor include Usibelli coalmine; Greens Creek silver, zinc, gold and lead mine; Red Dog zinc and lead mine; and Fort Knox gold mine.

3.0 Human Ecological Relations

Complex and context-dependent relationships

Traditional activities continue to comprise a significant part of the regional economies in most northern communities, especially Aboriginal communities in Canada and Alaska Native villages in Alaska. 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.).

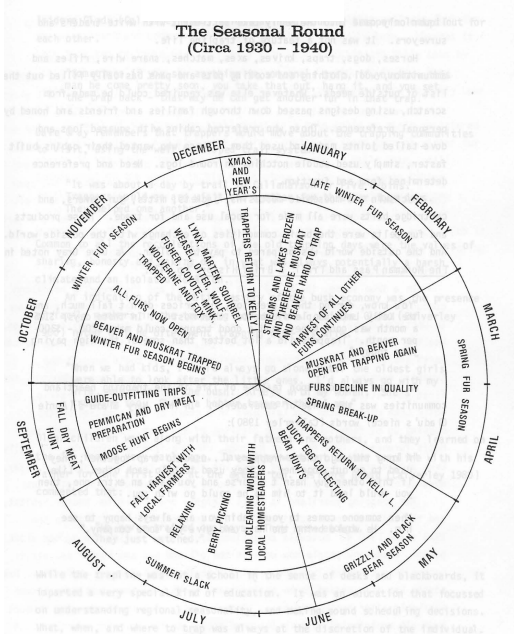


Figure 3 Kelly Lake Seasonal Round (Petro_Canada, 1983)

Many First Nations people 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.'

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." (Alaska was not included in the research.) The diversity of species used approached that of Pacific coastal Indians who reside in the southern reaches of the study area.

Land uses and development

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

Development impact scenarios can help to create an understanding that greater economic activity in villages will improve some aspects of quality of life, but may negatively affect other conditions. Mitigation can include optimizing employment of people from villages along the railroad route with minimal disruption to the provision of traditional foods and cultural activities.

Alaska residents in the Upper Tanana valley define their relationship to the land, animals, and communities through economic, cultural, and nutritional patterns that together are called subsistence. A previous Alaska impact study identified direct subsistence impacts of greatest concern in the Upper Tanana. They include:

- Availability of resources: Changes in the abundance, displacement, contamination, or health of a resource.
- Access to resources: New roads, industrial or residential development, and improved transportation and technology.
- Competition for resources: Increased numbers of people with access to subsistence areas.
- Realignment within rural communities of subsistence priorities and supportive technologies: Changes in time and space patterns of subsistence resource use.

The impact of climate change is discussed in a growing body of scientific work and traditional knowledge. Evidence shows that climate change is accelerating and impacting northern indigenous peoples with complex interactions between climate change, industrial activity, subsistence resources and subsistence activities.

The Alaska Highway corridor contains known hazardous material sites, leading to speculation that considerably more contamination exists from prior military and other government projects. Hazardous wastes must be addressed in the earliest stages of project development, with a focus that includes mitigation of past injustices.

The majority of recreation areas such as campgrounds are located along regional highways. Service roads provide access to otherwise remote areas, facilitating access to 'outsiders' as well as providing vehicular access to trap lines.

Previous project legacies: cumulative impacts and lasting concerns

Cumulative effects include interaction between the impacts of former military and mining activities, new gas pipeline activities, and subsistence resources and activities. Military pipelines carried products northward from Whitehorse (CANOL) and Haines (Haines-Fairbanks pipeline), leaving a suite of issues that should be integral to discussions with knowledgeable people in the region as part of the EIS process. In the Upper Tanana, as in other regions, there are additional on-going questions about hazardous waste liabilities remaining from past military activities; trespassing on Native allotments; rights-of-way; and gravel sales.

4.0 Anticipated Impacts of ACRL

The following section provides a summary of key findings presented by theme.

4.1 *Population movements*

Isolated communities face out-migration of skilled workers while regional centres and project work sites face in-migration due to increased demand for labour, resources, technical skills and trades. In-migration may marginalize groups such as First Nations and Alaska Natives by rendering them minorities in their traditional lands. In-migration of well-paid workers can cause drastic and localized inflation as well as 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. [This sentence seems not to belong here, have we provided these documents, where do we refer to them?]

4.2 *Impacts on Community infrastructure*

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.

Local health resources will incur incremental increases in demand for services related to in-migration of construction workers and population growth. Although construction camps will provide their own medical care, emergencies and the care of migrants not directly employed by ACRL will impact local health resources. Increased pressure on pre-existing social infrastructure (community associations, tribal governments, other civil society institutions, and families) may in turn increase the burden on social and health care providers. Scarce community resources are focused on dealing with acute problems rather than systemic ones. Social service programs in rural communities are limited, with no funds for expanding services.

Each ACRL corridor community in Alaska, with the exception of Chicken, has a local health clinic in operation. Village clinics are not prepared for an influx of transient workers and would require additional staffing and resources to provide additional medical services during railroad construction.

The majority of villages in Alaska do not have a resident public safety presence; they rely upon State Trooper call-in assistance in emergencies. An increase in population during construction likely will increase the need for on-site officers.

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. With the possible exception of Delta, the Alaska rail corridor communities face similar housing shortages.

4.3 *Family impacts*

Particularly in Canada due to the larger number of communities being affected, immigration may lead to prioritization of “western education,” further reducing transmission of traditional knowledge between generations. Students may increasingly drop out of school in favour of well-paying entry level jobs related to development projects. Increases in population can affect crime levels, alcohol and substance abuse rates and create related social problems.

Cultural clash can be apparent through services such as childcare becoming geared toward children of construction workers (as opposed to local children).

Negative experiences with previous projects in Alaska cause many village residents to fear that animals and lands used for subsistence may become contaminated with waste from future construction. Further, people have concerns that outside hunters may negatively impact hunting grounds traditionally used for subsistence by locals.

4.4 *Workforce impacts*

Escalating cost of living may cause workforce shifts; for example the need for dual incomes means more women entering the workforce, which may result in greater use of services such as childcare.

There is a relatively low availability of labour in the region. Skills development and training for local residents is key for ensuring community participation in construction and project support activities. Through on-the-job training, promotion and expanded options, workers may have access to new employment opportunities. Wage disparity can displace workers from 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, additional competition for labour resources would result in shortages and greater wage pressures.

4.5 Community Impacts

Engagement of local people in policy and planning should begin with the earliest stages of project visioning and include consistent involvement and consultation. Of primary importance is to talk to people in affected areas about their concerns, including their identification of important subsistence areas and cultural sites.

Resource development presents opportunities for economic development that can potentially benefit the people living in the study area. Despite overall reliance on development-specific jobs, new local employment opportunities may reflect a broadening, or diversification, of the community or regional economy. The impact from economic development can be predicted with multipliers but is often felt in the communities as the emergence of franchise restaurants, professional services and new providers of consumer goods and services. With the end of project construction phases, many jobs disappear, thus also affecting consumer goods and services.

Larger communities generally absorb the majority of itinerant workers, creating competition for rental accommodations, goods and services. Construction crews could make minor purchases in villages, bringing additional income to local residents; larger communities could benefit from commodity purchases. There is fragility in the Native harvesting economy in relation to both land-based (biophysical) impacts and socio-cultural impacts.

Housing availability during construction would be limited. Larger communities have motels that could be leased. The Alaska Native village of Tanacross has expressed interest in erecting lodging for construction crews and developing ongoing use for such a facility as a railroad crew-change lodge.

The City of Skagway would oppose activities from rail construction that would negatively impact or impede their summer tourist season, which is the foundation of the community's economy. ACRL expansion with a freight spur to Skagway would require extensive port renovations.

4.6 Impacts on Subsistence Activities (Bush Economy)

Short-term employment creates short-term benefit. However, 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. Government statistics generally categorize Elders and full-time trappers as unemployed. Conventional economic analysis thus systematically misrepresents the traditional economy. Scholars of the north 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 connectivity 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 / Alaska Native groups have integrated participation in 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.

4.7 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. In Alaska corridor communities, English is already in wide use, creating less concern about language impacts.

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 effects from linear transportation infrastructure are likely to affect these businesses, especially during construction phases of the ACRL project.

Changes in resource availability or access to subsistence areas will affect the daily lives of people in Alaska's Upper Tanana region. Adequate involvement of tribes and individuals will help to avoid negative impacts, and mitigation measures can assist. Concerns about implementation of eminent domain will need to be met openly: right of way negotiations should be approached in a collaborative and sensitive manner.

5.0 Findings

5.1 *Rules of Engagement*

Canada

Developments such as ACRL come under 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 per the Canadian Environmental Assessment (CEA) Act. Public participation is required as part of the Environmental Assessment process.

The CEA Act calls for Aboriginal participation if there is any to determine anticipated effect on socio-economic conditions, physical and cultural heritage or traditional land uses. The Indian Act requires consultation with native peoples. 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. On Indian Reserves or in land claim areas, proposed developments are subject to additional regulations of public participation and incorporation of indigenous knowledge.

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."

Many developments near Aboriginal lands are accompanied by Impact-Benefit Agreements (IBAs) between proponent companies and communities that establish a formal relationship and outline responsibilities. IBAs are enforceable under common law of contract.

Meaningful community participation is key to successful development. Poor communication can create gaps and stifle channels for mitigating shared problems between First Nations and developers.

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) 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.

Where comprehensive land claims are under negotiation, Aboriginal groups can be regarded as potential landowners 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.

There is a need for considered, long-term planning in the study area region. Developers may regard the study area as 'frontier' for development whereas Aboriginal groups may regard the same area as 'homeland'.

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. Financial resource capacity should be considered as an issue related to community institutional capacity.

Meaningful consultation is required in order to address the challenges of shared management or mitigation. Many First Nations are not opposed to developments within their traditional territories provided there is meaningful consultation leading to mutual consent.

Alaska

In the United States, the National Environmental Policy Act remains the authority for impact studies. NEPA requires federal agencies to take the lead in providing protection for the environment. NEPA contains a series of action-forcing procedures to be evaluated through the preparation of an Environmental Impact Statement (EIS).

NEPA applies to federal actions, but a non-federal activity may be subject to the law when it requires a permit, regulatory decision or funding from a federal agency. NEPA provides for public involvement at various steps, particularly during scoping and for public review of the draft EIS.

Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA) directs federal agencies undertaking any project involving public lands in Alaska to study effects on the subsistence use of natural resources and to determine how to avoid or mitigate potential effects. Section 810 further outlines the process for evaluating impacts on subsistence use and needs.

Historic site analysis under the ANILCA Section 106 process (typically a multi-year effort) requires a basic inventory and evaluation of cultural and historic sites for inclusion in the National Register. The process includes development of a mitigation plan – either moving the route to avoid site(s) or taking mitigating actions, such as data recovery/excavation, archival research and/or photography. An inventory must be part of further planning, either by accessing existing, proprietary information, or by conducting a new survey.

The original Alaska Railroad authorization allowed the use of eminent domain; under Public Law 69, the 63rd Congress provided authorization for the President to “locate, construct and operate a railroad in the Territory of Alaska...”

Lands that were chosen as Native allotments are more likely to have a long history of traditional use and therefore often have historic and cultural value. They may have a greater likelihood of having traditional cultural property or sacred site issues. Executive Order 13007 requires the government to accommodate access and use for Native Americans and mandates avoidance of “affecting the physical integrity of such sacred sites.” If allotments are sold and come out of Native ownership, the sale constitutes a federal action that triggers the Section 106 process. Since the entire rail corridor study will come under Section 106, sale of any allotments will be incorporated into that overview.

5.3 Conclusion

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. Further development of the project concept must proceed with the support and participation of local communities.

The key findings of this study suggest the following 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 Alaska Native) and local, non-Aboriginal knowledge and community participation.
- Consideration of the project in phases may enable and encourage settlement of First Nation land claims in Canadian segments of the ACRL. Therefore, scenarios that favour development in Yukon may be favoured over those in northern British Columbia. Furthermore, corridors within the Yukon where the claims are settled may be favoured over those where they are still under negotiation.
- In concert with affected communities, strategic plans should be developed for building governance capacity to realize benefits and investment in institutional infrastructure to mitigate and manage adverse effects of ACRL. A series of community visioning opportunities could be a significant tool.

Given a proper investment of time and resources in community involvement at the front end, the ACRL project has the potential to realize benefits both in terms of economic efficiency and socio-cultural effectiveness. Furthermore, given the settlement of land claims by Canada 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.