
Initial Socio-economic Effects Assessment of the Faro Mine Closure

INITIAL INTERIM PARTIAL DRAFT

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Executive Summary

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1 Introduction

This sample draft presents the initial work done to July 20, 2007 on the Initial Socio-economic Effects Assessment — Faro Mine Closure. It is not intended to be complete at this stage, but rather to serve as a progress report and to obtain feedback from the Faro Mine Closure Planning office and Assessment and Abandoned Mines Branch of the Yukon Department of Energy, Mines & Resources.

A number of sections have been completed in draft form as was agreed at a meeting on June 8:

- ◆ A discussion of the scope of the evaluation
- ◆ The socio-economic setting as required by the Yukon Environmental and Socio-economic Assessment Board (YESAB)
- ◆ A discussion on social effects assessment
- ◆ A partial baseline, presenting a number of readily available statistical indicators for the affected communities and the Yukon

2 Scope and methodology of assessment

The Faro Mine Closure presents a challenge from a technical and socio-economic effects perspective. First, given the nature of the previous mining activity and inherent chemistry of the rock, there is no permanent closure solution that is considered to be economically viable within the foreseeable future. The mine site and tailings can only be cleaned up to a point; full site rehabilitation to the pre-existing mining state is not a realistic outcome. It is anticipated there will always be sufficient residual environment risk to warrant ongoing active site management albeit at a much reduced scale. This includes monitoring of environmental effects and some treatment of runoff prior to discharge into the Pelly River.

Second, the scale of reclamation work required and its associated economic cost represents a significant infusion of cash into the Yukon economy. How those funds are injected into the Yukon economy and over what timeframe the investment occurs, represents a balancing of interests, values expectations and economic efficiencies at the local, regional and Yukon levels. For example, from an ideal economic efficiency perspective, it would make sense to issue one overall contract that allowed the reclamation contractor to complete the cleanup in as short a time as possible. Local and regional benefit would be of interest to the contractor only to the extent that it meets their immediate needs for labour, supplies, equipment etc. The future of the Town of Faro that derived its existence from the mine would be irrelevant. In the traditional mine closure scenario, once a mine closes, the single-industry town that relies on its existence follows suit. The closure issue is simply how and when it will be done and to what standard of reclamation.

Third, Faro has not died and a core population remains committed to reinventing a sustainable community. Neither Canada nor Yukon has collectively provided any clear direction concerning its future. Thus for the purposes of this socio-economic assessment the default position must be that the community will continue to exist. The consequences of this assumption have a significant bearing on mitigation options and residual considerations. For example, the Ross River Dena have referred to the land around the mine and mineral claims as their “larder and bread basket” so reclaiming the landscape to sustain such traditional pursuits as hunting and harvesting is a desired outcome. However, the continued presence of the Town of Faro and the manner in which reclamation will likely be pursued means the landscape has irreversibly been changed.

Fourth, the effects of mine closure and site clean up have related but also different implications for the two principal communities of Faro and Ross River. For example, during the initial community consultation, Faro indicated a desire to leverage closure planning to ensure its continued existence and to buy time for economic diversification. Encouraging workers involved in closure operations to reside in the community is perceived as a positive mitigation measure. Ross River indicated a desire to maximize benefits for community residents but did not favour immigration while Pelly Crossing, as the downstream community emphasized the need for environmental protection of water quality and employment opportunities.

Fifth, given the nature of this decommissioning project the socio-economic and environmental assessment goals are different. The environmental goals are clearly focused on mitigation and risk management while the socio-economic aims focus on enhancement of the opportunities created by the nature, scale and project timing. The base line condition is of course the same. The mine is closed and there are significant environmental liabilities. A key assumption, based on the mine property circumstances, local rock chemistry and available technical knowledge, is that complete site restoration is not an attainable goal. By implication then there will be limitations regarding

the suitability of the site for other potential land uses including restoration of prior traditional land use activities carried out by First Nation people prior to discovery of the mining opportunity.

By implication then, the assessment has to consider two phases – site restoration to a steady management state based on best practices and landscape circumstances and the challenges associated with “on-going care and maintenance” for the foreseeable future. Neither is dependent on the continued existence of the Town of Faro but as stated earlier, the default position is that the community will continue to exist. This assumption substantially alters the perspective of how the socio-economic effects of the mine closure would be treated. Under the traditional mining model, the closure of a mine meant that the single-industry town on which it depended closed too so the focus became one of mitigating the effects of displacement and relocation. In this instance, from a base line perspective the displacement/relocation phase has already transpired and the community population is expected to stabilize in the 3-400 range or approximately one-third of the community’s previous size attained during active mining periods. This means it has an inherent capacity to absorb new growth and not surprisingly, the focus of the remaining residents is to ensure that the closure planning maximizes such opportunities. The age and current state of the town infrastructure is an issue to be taken into consideration in assessing the ability of the town to realistically rebuild and sustain a larger population base once the major remediation work is completed.

Just as it is important to recognize the differing needs and socio-economic objectives of the Town of Faro and Ross River in particular, it is also relevant to recognize that the employment effects during the decommissioning and ongoing care and maintenance phases have different consequences and implications for communities whose clear desires involve economic diversification and community stability. In the big picture context, a half a dozen care and maintenance jobs may seem relatively insignificant, yet in a rural community of 3-400 people, their value to community health and economy may be many times their actual direct economic value. Similarly, for a community such as Carmacks that “is on the way to the mine site” pass through traffic generated by reclamation activity can result in modest enhancements to the local economy.

Another dimension of the assessment challenge is that circumstances could change significantly within the estimated four years leading up to the actual start of substantive decommissioning activities. While this complicates the assessment process, it also creates an opportunity to identify and in some cases, plan for and carry out activities that are not dependent on a final decision on the reclamation approach to be taken. For example, if the Government of Yukon as a matter of transportation policy intends eventually to completely rebuild the Robert Campbell Highway, it may make good fiscal sense to complete the Carmacks – Faro –Ross River section first as the outcome would be mutually beneficial.

At the same time this raises the issue of which costs should or should not be attributed to the mine closure liability account or belong in the Government of Yukon “regional economic development investment” account.

From a socio-economic perspective, maximizing health and safety has direct, indirect and induced effects that need to be considered in the broader regional context. For example, reconstructing the Campbell Highway has been a longstanding regional development objective and driver safety a key argument to upgrade the road. If traffic generated by reclamation activity is likely to increase significantly because of activities such as commuting workers, bringing in equipment and supplies etc, and a decision is made to expedite completion of the upgrade prior to

commencement of reclamation activity, it can be argued that the project has induced both a cost and benefit, a portion of which would be fair to attribute to the closure project.

It is known that there will be a significant shortage of the skilled labour required for remediation and reclamation of contaminated sites¹. It is also known that the local Yukon and community labour forces have some of the skills required but overall all some worker immigration will be required. To maximize needed local employment opportunities, considerable attention will need to be paid to training. However, industrial accidents do happen and this can strain local community health care resources. Any significant injury will necessitate medevac flights initially to Whitehorse and usually onward to Edmonton or Vancouver.

As with a number of government positions, especially in Faro, as the community has shrunk in population it becomes more and more difficult to sustain professionals like nurses and teachers even though the public facilities required to accommodate them may be in good condition. This is a key concern in a community like Faro that is trying to reinvent itself. The loss of key people in a community also have effects on the ability of a community to support recreation activities as many of these same people are an essential component of the volunteer base. Reclamation employees housed in a camp situation have no commitment to the community because they have no direct investment. In a camp scenario, they may also have less social impact on the community depending on where the camp is located and how it is run.

In both the decommissioning and care and maintenance stages of operation there will be a requirement for an emergency response presence to deal with a variety of situations from accidents to spills and breaches of containment structures etc. The nature of the response capability, the time required to initiate action and remedy the situation all have costs that need to be considered in the risk evaluation. Inevitably there will be trade-offs between the economic cost, the environmental and subsequent health risk etc that consider the likelihood of the event occurring, its probable magnitude and the potential consequences of not being able to act quickly enough. For example, an area could be fenced to reduce inadvertent intrusion by people or wildlife and this may be the preferred risk management approach for the short, medium or long term.

There are potential socio-economic benefits that arise when local communities have an ability to influence project decision-making. The sociological effects can range from a greater sense of ownership and transference of stewardship to a more positive appreciation of what effects have to be managed in the interest of community health. The tendency is to focus on the employment and income benefit without appreciating the complex dynamic and opportunities inherent in working with the underlying community structure and systems. For example, the community may have high unemployment so a training and employment strategy would seem a logical initiative to undertake.

However, it has been demonstrated on numerous occasions that a sudden influx of wealth can create its own set of social problems that simply compound an existing underlying condition. Depending on the project scale, size and duration, the legacy can be positive or negative. Mining towns have a long history of boom and bust economies and Faro has been no exception. The impacts on Ross River have largely been overlooked and there has been and continues to be a feeling that Ross River residents were not properly compensated and did not benefit from the

¹ ECO Canada. *Who Will Do The Cleanup? Canadian Labour Requirements for Remediation and reclamation of Contaminated Sites 2006-2009*. ECO Canada 2007

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mines presence to the degree that they could or should have. As history cannot be re-written, that point is now moot but it does represent an underlying condition that must be given fair consideration. The First Nation people have not forgot the past. The project presents an opportunity to restore relationships between people and with the land that have been disrupted as a result of the mining activity.

Key considerations are the degree to which this project can:

- Enhance local economic stability, help buy the time necessary to diversify the economy, and enhance community resilience. The primary communities of concern are Faro and Ross River;
- Make a net positive contribution to community health and social development;
- Optimize the capacity of underutilized local infrastructure capacity without exacerbating future costs once the project reaches the care and maintenance stage;
- Contribute sufficient income from municipal taxes, license, fees and goods or services purchased locally to strengthen community economies;
- Reduce the duration of additional costs incurred by government as a result of closure activities;
- Build local capacity for engaging in economic, health and social development;
- Avoid boom/bust effects on real estate property values and reduce investment risk by providing clarity and certainty on project life, scale and cost;
- Reduce direct and induced effects on Dena culture, traditional pursuits and the option of pursuing a traditional lifestyle for those who choose to do so;
- Provide employment, contracting and business development opportunities for First Nation people from affected communities that want full or partial engagement with the mainstream economy;
- Mitigate effects and subsequent risks to the local environment including air and water quality, plants, wildlife habitat and species diversity; and
- Build trust, communication and joint ventures between the Ross River Dena, the citizens of Faro and the transient workforce that will be required to some degree.

2.1 Geographic scope

The principal socio-economic impacts and consequences associated with the mine closure and reclamation project will be felt in the community of Faro and secondarily Ross River because of their proximity to the mine itself. While Pelly Crossing is affected by environmental concerns, it is not as directly affected from a socio-economic perspective except to the extent that its residents may work at the site. Carmacks is more likely to be more affected than Pelly Crossing as it is closer to the mine and likely to have much traffic go through it as a result. Whitehorse will inevitably be the major supply point for the project, because of its size, diversity of services available and dominance of the Yukon economy.

2.2 Economic effects assessment

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2.3 Social effects assessment

The Socio-economic Effects Assessment process has elements of both the “social” and economic sides of the life of a community and region. In theory, these two elements would be balanced with equivalent weight being given to both. Community life is inextricably linked and set within the context of the natural environment, the cultural and political environment as well as the effects of development in the region. This is an initial, limited review of relevant previous assessments and

other literature, relevant to the mine closure. b In looking at the history of socio-economic impact assessments, it become obvious that the process has been weighted to the economic side although more focus has being brought to the “social” side in the last ten years. The term “social”, as used here includes the health, social, education and justice aspects of community life.

The following section provides a context for identifying and documenting the extent, magnitude and nature of social effects relevant to mine closure and reclamation. Drawing from the work of the past, terms will be defined and fundamental elements and processes identified that will begin to outline a conceptual model for social effects assessment within the Faro mine and Yukon context.

2.3.1 Understanding Community Perspectives and Dynamics

The approach taken in the NWT Mackenzie Pipeline SEIA projects was designed to focus on how the project may affect the wellness of a community. The reports state that “wellness is often the most highly valued aspect of community life, and depends on the well-being of individuals, families and community as a whole. Community wellness may be significantly enhanced by project benefits, and may be vulnerable to adverse effects.” The effects assessment is focused on addressing community concerns, with the aim of designing and implementing the project using procedures that optimize beneficial effects and reduce effects the communities believe to be undesirable. The approach was “community driven”. (Aklavik Report, p. 1-6)

Community Driven – A community driven approach requires knowledge about the characteristics of the communities that may be affected and an understanding of the interests and concerns of these communities. (Aklavik Report, p. 1-6)

Individual, Family and Community – The recent socio-economic impacts assessment work in NWT related to the Mackenzie Valley Pipeline project has led the way in defining and reinforcing the idea that the community must be seen from the perspectives of the individual, family and community. This is particularly important in working with First Nation communities such as Ross River and can just as easily be applied to the town of Faro as a rural Yukon community as well.

Four Aspects of Health, Wellness and Well-being – The Yukon First Nation people speak about the four aspects of health: mind, body, spirit and heart as represented by intellectual, physical, spiritual and emotional components of health. These four aspects are set within a cultural and social context which assesses the quality of relationships with self, other human beings, other living things and all of creation (the natural world). In the NWT work referenced above, “human health” was defined as “a state of complete physical, mental and social well-being, and the ability to adapt to the stresses of daily life. It is not merely the absence of disease or infirmity.” Well-being is defined as “everything that affects the experience of life, except physical and mental health, including the circumstances of physical existence, the quality of relationships and the threat of violence and crime.” Wellness “includes physical, emotional and mental health, and relationship well-being.”

Human Health Assessment – This is a narrow term within the s-e effects context and is defined in the NWT work as an assessment process that “considers the effects of hazardous substances, environmental factors and exposure conditions on local and regional populations. It should? consist of quantitative and qualitative assessments.” The “human health assessment” as defined here is not within the scope of the s-e effects assessment.

Diversity within and between Communities – In the Yukon process, the concerns and interests of both First Nation and non-First Nation individuals, families and communities need to be taken into consideration in an equitable way. In addition, within the First Nation community, there are a variety of lifestyle characteristics and options that need to be made available to provide reasonable choices for all individuals interested in gaining access to the benefits of the closure project. In his book *Dual Realities – Dual Strategies: The Future Paths of Aboriginal People's Development* (1985), Bill Hanson describes the difference between the “change oriented” First Nation people interested in full engagement with the mainstream economy and other people from the “subsistence oriented” reality that are interested in a lifestyle more aligned with the social and cultural roots and traditional practices of First Nation people of the past generations. Subsistence oriented people may be interested in jobs as well but are more likely to prefer seasonal, part year or part time work on the land that does not impact their ability to carry out traditional roles and responsibilities. This type of work also needs to be aligned with their knowledge base and traditional appreciation of their inherent stewardship responsibilities.

2.3.2 Information and Reporting on Individual, Family and Community Wellness

In the NWT projects, information related to wellness was collected about physical, mental and emotional health; family relationships and community behaviors. Most of the data was negative, rather than positive e.g. rates of illness, family violence and crimes as opposed to positive (i.e. healthfulness, family solidarity or good citizenship), because official data is not often reported publicly on positive indicators.

Influences that affect wellness such as alcohol and drug use at the individual level and levels of problems or conditions are reported by protective or helping agencies, health and social services and the police at an institutional level.

In the NWT reports, information was provided on health conditions; health care facilities and services; family concerns and community conditions; social services facilities and services; and education and training. Police data on reports of family violence; property and violent crime; sexual abuse or assault and alcohol and drug related incidents were also included in the reporting. (Aklavik report. P. 4-1) Information on the prevalence of tuberculosis, sexually transmitted disease, foetal alcohol syndrome disorders and suicide was reported because the data was available and the problems in these areas significant.

Health conditions included areas such as use of tobacco, cases of accidents, injuries and poisonings; suicide attempts; cases of mental disorders. Family and community conditions included police calls, including those related to alcohol and/or social problems. Hospitalizations for alcohol related illnesses were also reported. Family violence is identified through the number of assaults reported and transition home use.

The number of children taken into care by the child welfare authorities was seen as a way of tracking the degree to which the families are unable to take care of their responsibilities. Number of charges under the Young Offenders Act was another way of tracking the ability of the families and communities to care for youth. Violent crimes and property crimes provided a negative indicator related to safety and stability of the community.

Levels of education and training is a more positive indicator of the ability of the community to support youth in staying in school and accessing additional training as well as opportunities for adults to return to school or access post secondary programs.

2.3.3 Social Infrastructure, Social Capital and Quality of Life

Social Infrastructure – In the NWT work, social infrastructure is defined as “health, wellness and education services that may require enhancement or expansion as a result of project based activities.” The NWT reports speak to justice issues extensively with overviews of alcohol related incidents, violent crime, property crime, family violence, etc., and other that basis, we will add justice related services to this definition.

Quality of Life – Many countries around the world a struggling to come to a definition of quality of life. This is a useful concept in looking at a comprehensive view of how the community is doing before, during and after the project is completed. One model has been developed by the Canadian Mortgage and Housing Corporation, Centre for Future Studies in Housing and Living Environments.

The paper *Developing Quality of Life (QoL) Indicators for Canadian Municipalities* (1993) says the following about their model of QoL: “This model attempts to measure QoL from an objective perspective, while recognizing that an individual’s QoL is mediated by life experiences.”

The life experiences on both First Nations and non-First Nation northerners is different and therefore, these “objective measures” need to be considered in that context. In addition, the model begins with the economic, political and social contexts of the municipality and includes other qualitative and objectives domains such as physical environment, public services, dwelling, health, safety, crime, education and recreation. While all of these factors may provide some indication of the state of the municipality, individual or group characteristics are important in the perception of value attached to any specific measures. Therefore, characteristics such as income, education, class, ethnicity, religion, gender and age must be taken into consideration.

All of these characteristics are aspects of an individual’s life experiences, attitudes and values, expectations and aspirations. The combination of objective and subjective criteria results in satisfaction ratings in eight domains. The Community-Oriented Model of the Lived Environment links sectoral policies and programs in six areas (housing, land use, transportation, natural environment, employment/commerce, public services) to four components of livability which are economic viability, social well-being, environmental integrity and cultural congruence. The third segment of the model seeks to identify indicators of “livability” in order to monitor present state and change over time.

The concept of “cultural congruence” is an interesting one that may need to be pursued along with economic vitality and social well-being which is linked to environmental integrity.

2.3.4 Linked Areas

Traditional Culture and Language – In the NWT work, traditional culture, including knowledge, skills, disciplines, beliefs and values of Aboriginal people was reported on in a separate section. Use of Aboriginal language was also reported separately. The reporting is linked to community wellness as traditional culture and language is a source of community pride, worth, distinctiveness and identity. The knowledge is the basis for harvesting the benefits and meeting the challenges of survival on a land they respect and love (traditional economy) and the primary defense against the prejudice and discrimination sometimes experienced from Euro-Canadians. The three indicators used and the traditional culture section were involvement in traditional harvesting; amount of country food consumed; and the ability to speak a traditional language. (Aklavik report, p. 1-9)

Traditional Knowledge – The traditional knowledge research process is being carried out through a separate process at the community level, supported by experts in the field. Traditional knowledge work needs to inform land use and environmental effects assessment work. In addition, there is less well-known traditional knowledge that relates to individual health and development as a “human being”. How that relates to the integrity and cohesiveness of the family and community also needs to be researched, understood and incorporated into the First Nation aspects of this s-e effects assessment.

Traditional methods for dealing with family and community problems and conflicts as well as how these issues were prevented is all relevant in contributing to developing strategies for supporting community wellness and positive development throughout the life of the project and beyond.

Environmental Effects and Integrity – The reporting on the environmental effects is being done separately but is inherently linked to the s-e effects work. In reviewing the research in quality of life, it further strengthens the need for an integrated approach to effects assessment.

2.3.5 Community Concerns and Interests

Community concerns and interests have been conveyed at a series of public meetings and consultation held throughout the life of the Faro mine closure project to date. Individuals have expressed their interest in positive impacts such as increased jobs, increased business opportunities, training and education improvements; and possible improvements in local amenities and infrastructure. On the other side, there is a worry about the development-related change and the possible negative effects on community wellness which needs to have as high a profile and the economic related positive impacts.

Most recently, the report of Joanne Barnaby, Traditional Knowledge consultants highlights the issues.

Issues identified in her report include:

- Downstream water quality, water flow and drinking water quality;
- Health of the fish and wildlife dependent on the watershed;
- Degree of contamination of the land surrounding the site and potential for future use of that area;
- Impacts on traditional land use activities, culture, language, traditional knowledge transmission, traditional decision making methods, intellectual property rights related to traditional knowledge, lifestyle and traditional economy;
- Methods for healing the relationship with affected land and water in emotional and spiritual ways;
- Rainwater carrying contaminants;
- Cumulative effects;
- Effects on berries, medicine plants and other plants and roots harvested;
- Insects and how their activity affects the food chain; and
- Business and employment opportunities.

The communities expressed interest in full participation in the planning and implementation of the Faro Mine Closure project.

The community consultations in NWT and Alberta Aboriginal communities related to the Mackenzie Pipeline project resulted in the identification of the following concerns:

- Impacts on heritage resources;
- Demand on physical and social infrastructure;
- Health of workers in camps and impact on community (e.g. STI's);
- Drugs and alcohol substance abuse;
- Social services needs;
- Harvest success – loss of culture – loss of language – sacred sites – country food use;
- Crime rate;
- Training and education;
- More money and the impacts;
- Roads;
- Governance;
- Population migration and growth; and
- Pollution effects of more population.

Some of these areas may be relevant to review with Yukon people in affected communities.

In a further report from community visits in the NWT during 2005, concerns identified were as follows:

- Pressures on social and physical infrastructure;
- In-migration and out-migration effects;
- Sustainable development vs. boom and bust economic cycles;
- Training, education and job retention, including long term planning for continued employment;
- Pace of change on vulnerable communities;
- Language and cultural maintenance;
- Housing and cost of living;
- Protection of cultural and heritage resources;
- practice of traditional economy and harvesting success;
- maintaining jobs, business and revenue in the north;
- vulnerable sub-populations – women, elders, youth; and
- Addictions and criminal activity.

In the same report, process needs were identified that also may be relevant, in part to the Yukon process:

- Early and continuous community engagement;
- Improve preliminary screening of socio-economic effects;
- Avoid consultation burnout;
- Avoid information overload;
- Identify vulnerable populations and sub-populations;
- Use locally appropriate data collection and interpretation;
- Find ways to make socio-economic measures stick;
- Support community based assessment; and
- Improve community capacity.

3 Socio-economic setting

The closure and reclamation of the Faro mine will have significant economic and social effects, not just on the nearest communities, but on the territory as a whole. The Yukon Environmental and Socio-economic Assessment Board (YESAB) requests that proponents demonstrate that they are aware of the background social and economic conditions against which the project will take place. Specifically, YESAB writes that a general understanding of the historical trends and current status of:

- Societal relationships with the biophysical environment;
- Political and social resources;
- Culture, attitudes, social-psychological conditions;
- Economic and financial background; and/or,
- Relevant population (or demographic characteristics (e.g. age, gender, education and employment distributions)).

will be valuable in helping with identifying valued components and initial effects as completely as possible from the start.²

The sections below provide a summary description of the socio-economic setting of the project that, for the purposes of the socio-economic effects assessment will consist of the Yukon as a whole and the communities of Faro, Ross River, Pelly Crossing, and Carmacks. The Yukon — and especially the territorial economy — is dealt with in more detail than any of the most-affected communities both because the project will have significant territory-wide economic effects and because the socio-economic baseline for each of the communities contrasts each community against the Yukon as a whole for each indicator. Each community setting section below also has a greater focus on history, social infrastructure and social issues than the Yukon section. While the anticipated economic effect on the communities is likely to be large, the potential for social effects is relatively much larger than for the Yukon as a whole.

3.1 The Yukon

The Yukon is a large territory with a small population and the heavy reliance on government that is typical of relatively remote jurisdictions across the circumpolar north. Although the Yukon has a variety of economic and industrial sectors, government — largely financed through federal transfers — is by far the largest. It can be said that Canadian sovereignty is the Yukon's largest export.

The Yukon's strong public sector and its continued growth through increased federal government transfers has proved to be a double-edged sword — it has provided economic stability but has done little to generate private sector economic diversification and exports. However, the importance of government — and of mining in the past — resulted in the Yukon having high average or median incomes, typically among the highest in Canada if not the highest.

Mining has traditionally been the mainstay of the Yukon's private sector industry. In fact, the territory owes its separate existence to the Klondike gold rush of 1896-1898. The dependence on mining gave rise to boom-and-bust cycles typical of economies dependent on natural resources. Until this century, the size of the non-aboriginal population fluctuated with the fortunes of the mining industry. The opening of the Faro mine, one of the world's largest lead-zinc producers, in

² Yukon Environmental and Socio-economic Assessment Board. *Guide to Socio-economic Effects Assessments*. June 2006. p.33.

1969 provided a significant boost and its closure and partial reopening in the early and mid 1980s resulted in a substantial economic decline and population losses. Its reopening in 1989 boosted the territorial economy and its closure in 1992-93 brought down the territorial GDP by 20% and its population by 2%. A similar phenomenon occurred in 1995-1997 with the re-opening and closure of the mine. While GDP did not drop as much as with the previous closure, the Yukon saw a population decline of over 4% from 1997 to 1998.

Whitehorse, the territorial capital, has become increasingly important. With close to three-quarters of the population it dominates the territorial economy. Most services are only available in Whitehorse. Rural communities, where the First Nation population is concentrated, are not benefiting from the high incomes and economic prosperity of the capital. Yukon rural communities, like other rural and First Nation communities across Canada, suffer disproportionately from a number of social and economic problems, including generally high unemployment, low income, alcohol and drug abuse, low educational levels.

In 1992, the Council for Yukon Indians (today the Council of Yukon first Nations) and the federal and territorial governments signed an “Umbrella Final Agreement” to serve as the template for individual land claims agreement. Among the many provisions of that agreement is the creation of a new system of environmental and socio-economic assessment, the current YESAA as well as the development of a self-government regime giving signatory First Nations a number of additional powers. Most Yukon First Nations have signed a land claims agreement. However, significantly for this project, the Ross River Dena have not and remain an Indian Act band.

3.1.1 Demographics

In December of 2006 the estimated population of the Yukon was 32,335 up 2.4% from a year earlier. The Yukon’s population has been increasing slowly since 2000 — when 30,776 people lived in the territory — but has not yet reached its 1997 peak of 33,519. More than 75% of Yukoners live in Whitehorse or its immediate vicinity with most of the rest distributed in 16 small, widely scattered communities.

The territory’s population is evenly divided between men and women; there is no frontier-style skew toward men. In the 2001 Census, approximately 23% of respondents identified themselves as aboriginal.

The median age of the Yukon’s population is estimated by Statistics Canada to be 38.0, only slightly under the Canadian figure of 38.8 years and up sharply from the 2001 figure of 35.8. The territory therefore does not have an unusually young population. However, the Yukon has proportionately far fewer seniors aged 65 and up than the Canadian average (7.4% versus 13.2%) and very similar proportions of the population aged 19 and under (25.7% Yukon and 24.0% Canada). These figures point to a skew in the population structure toward working-aged adults.

3.1.2 Labour force & employment

For several years leading up to 2006, the Yukon had a pattern of a growing labour force, growing levels of employment and falling levels of unemployment. In May of 2006, the labour force was 16,500, with 15,700 employed and an unemployment rate of 4.8%. The May 2007 data, however, shows a labour force that has declined to 15,400 with 14,800 employed and a 4.5% unemployment rate. The unemployment rate compares favourably to Canada’s unemployment rate of 6.1% during the same month but is up from a low of 2.5% in December 2006.

The Yukon has tended to have a very high labour force participation rate. The 2001 Census found 79.8% of Yukoners aged 15+ in the labour force compared to only 66.4% for Canada as a whole. (This high rate is not a result of people choosing work over schooling. The proportion of people attending school full-time in the territory is almost identical to the Canadian average). By May 2007 the Yukon's participation rate had dropped to 71.8%, but it has been as high as 80.3% (in 1996).

The number of Yukoners directly employed by the federal, territorial, and municipal governments in the territory was 5,620 in March of 2007. With that month's employed labour force estimated at 14,900, the three levels of government directly employ 37.7% of working Yukoners. If the employees of First Nation governments are added, that figure likely approaches or exceeds 40%.

3.1.3 Education

Yukoners are, on average, at least as highly schooled as Canadians as a whole. The 2001 Census found that the proportion of those aged 20-34 years who have not yet completed high school was 15.2% in the Yukon compared with 15.6% for Canada as a whole. More than 17% of Yukon adults over the age of 20 have trade certifications, a substantially higher proportion than the approximately 12% for Canada as a whole. And the proportion of older adults — those aged 35 to 64 years — with university degrees is also higher in the Yukon than in Canada.

3.1.4 Earnings & incomes

Average weekly earnings (from employment) are higher in the Yukon than in Canada as a whole. The difference between the territory's industrial aggregate weekly wage and the national average tends to be in the 11 to 12% range. The figures for March 2007 put average weekly earnings (including overtime) at \$862.25 in the Yukon.

The 2001 Census, however, found that overall average earnings in the Yukon were slightly lower than in Canada as a whole (and more than \$4,000/year lower for men). For those working full-time and year-round, average earnings were \$44,605, or \$1,300 higher than the Canadian average. Yukon women working full-time and full-year do exceptionally well, out earning their Canadian sisters by \$4,000 to \$5,000 per year on average. These figures point to the conclusion that those Yukoners with full-time and year-round employment do well, but that there are many who are either seasonally employed or under employed.

The 2001 Census found a median total income of \$26,488 in the Yukon, almost 20% higher than the Canadian median of \$22,120. And Yukoners rely more heavily on wages and salaries for their incomes — 85.6% versus the Canadian average of 77.1%.

The Yukon's personal income per person (based on GDP) was \$40,968 in 2005 — 29% higher than the figure for Canada. And 2005 personal disposable income was \$34,548, up 7.3% from the year before.

3.1.5 GDP & inflation

The Yukon's GDP at market prices totalled \$1.521 billion in 2005, or \$45,548 per person. Real GDP growth has been strong, with a revised 4.6% in 2004 and 4.9% in 2005.

The territory's 2004 GDP by industry is summed up in the table below.

Table 1 Yukon Industries as a percentage of GDP

Industry	Percentage of GDP
Public administration	22.1%
Finance, insurance and real estate	18.8%
Construction	9.1%
Health care and social assistance	6.6%
Retail trade	6.0%
Mining and oil & gas extraction	5.8%
Educational services	5.8%
Information and cultural industries	4.9%
Other services (except public administration)	4.4%
Accommodation and food services	4.2%
Wholesale trade	3.4%
Transportation and warehousing	2.9%
Professional, scientific and technical services	2.6%
All others	3.4%

Inflation, as measured by the consumer price index, has been somewhat lower in Whitehorse than in Canada as a whole over several years (note that inflation is measured for Whitehorse rather than the Yukon as a whole). The data for April of 2007 show a 1.7% annual inflation rate in Whitehorse, 0.5% below the Canadian rate of 2.2%. From 2002 through 2004, Whitehorse's inflation rate was 1.1% below the Canadian rate on average.

3.1.6 Industrial structure

As noted previously, the Yukon's industrial structure is heavily tilted to government and government-related industries. However, the resource sector, construction and tourism all play a role.

3.1.6.1 Government

The territorial economy is dominated by industries that are largely the purview of governments. The public sector contribution to GDP tends to be in the range of 40% of the Yukon's overall economic activity, compared to the Canadian average of about 15%.

Federal government transfers to the Yukon government have been increasing, in part because of the devolution of some powers to the territorial government. Total transfers to the Yukon government were \$473 million in 2003/04 and are expected to reach \$554 million in 2006/07. Over 90% of the transfers are a result of territorial formula financing, a policy designed to fill the gap between the expenditure requirements and revenue-raising capacity of all of Canada's northern territories. Federal transfers account for approximately 70% of the Yukon government's budget. The federal government also spends directly in the Yukon and provides some funding to First Nation governments.

3.1.6.2 Mining

Although the Yukon has traditionally relied on mining as an economic mainstay, the industry entered into a prolonged slump following the closure of the Faro lead-zinc mine in January of 1998. By 2002 there were no operating hard-rock mines in the Yukon, mineral exploration spending had declined steeply, and even placer gold production had fallen to a 23-year low. The total value of mineral production in the territory fell from \$225 million in 1997 to \$82 million in

2003. In 2004 the value of total mineral production rose to \$96 million and mineral exploration expenditures have risen sharply through to 2006. Two mineral properties — the Minto copper deposit and the Wolverine lead-zinc deposit — have seen considerable development expenditures over the past two years. Sherwood Copper has now begun production of copper concentrate at its Minto property and is expected to reach full production in the fall of 2007.

3.1.6.3 Oil & Gas

The Yukon has one producing natural gas field, Kotaneelee, located in the territory's south-eastern tip. Production at Kotaneelee peaked in 1999 at 486.7 million m³ and has been declining since. By 2004 production had dropped below 150 million m³. Devon, the operator at Kotaneelee, drilled a development well in 2004 to boost production levels. The well came into production in May 2005 and initially production was boosted by about 40%. However, production has since fallen again.

Despite the strong rise in oil & gas prices, until very recently the Yukon has not been attracting significant interest and investment in oil & gas exploration. Devon Canada drilled a wildcat well on its Eagle Plain permit in early 2005 to fulfill its work commitment requirements. This is the first exploration well drilled in the Yukon in 20 years but was not successful. No drilling activities were carried out in 2006. The Yukon Government conducted its fourth Call for Bids in the Peel Plateau basin in late 2004 but no bids were received. However, in June 2007 Northern Cross was awarded 13 land dispositions in the Eagle Plains oil and gas basin.

3.1.6.4 Construction, tourism, & other sectors

A booming construction sector helped drive the Yukon's economy through 2003 and 2004. The value of building construction rose sharply in 2004 on top of an already very busy 2003. In 2005, however, the sector began to cool, with total value dropping by 2% from 2004 levels. Building the necessary infrastructure for the 2007 Canada Winter Games has played a large role in the strong performance of the sector. But residential construction has also been very strong, with building permits valued at \$37.3 million issued in 2004, \$44.1 million in 2005, and \$40.7m in 2006.

The Yukon's tourism industry has recovered somewhat following a decline precipitated by the September 2001 terrorism attacks. The Yukon's Department of Tourism counted 324,284 visitors to the territory in 2005 with a moderately positive outlook for 2006.

Manufacturing does not play a large role in the Yukon's economy, accounting for only 0.2% of GDP in 2004. Similarly, agriculture, forestry and fishing together account for a similar sliver of GDP at 0.3%. Total value of agricultural production in the Yukon is less than \$5 million per year, and forestry has largely been confined to local fuel wood and very small-scale valued added milling for local consumption.

3.2 Faro

Faro, located above the north bank of the Pelly River approximately 70km from Ross River, is the Yukon's newest community, built in 1969 to house the Faro mine workers and their families. The community's relatively short history has been marked by wild swings in population as the mine has opened and closed. Faro, by virtue of its proximity to the site, is likely to feel all the effects — environmental, economic and social — of the Faro mine reclamation project very strongly.

3.2.1 History

The claims that would become the Faro lead-zinc mine were first staked by Al Kulan in 1953 (the Vangorda deposit) and 1956 (Faro No. 1). Lack of funds, low metal prices, and the area's remoteness stopped further work and the claims were allowed to lapse. However, rising metal prices renewed interest in the area in the early 1960s and by 1965 extensive exploration showed clearly that the makings of a mine were present. Cyprus Anvil made the decision to go into production in 1967 and construction of the town began in the fall of 1968. In June of 1969, the first 50 houses were near completion when, on Friday the 13th, a forest fire roared through the area, destroying 48 of them. It was an inauspicious start, but the decision to rebuild on the same site was made immediately. Three months later, the first families moved into the new town of Faro.

Although the company owned nearly all the housing in the community and had built the recreation centre, Faro did not remain a company town for long. The town incorporated in December of 1970. The 1970s were boom times for Faro. The mine was profitable, wages were high, there were the benefits of heavily subsidized housing, and the town grew. Although there were strikes, social problems — alcohol and drug abuse were not uncommon — and a seemingly constant shortage of housing, most residents recall the early years fondly.

The picture began to lose its rosy hue in the early 1980s. Cyprus Anvil became a subsidiary of Dome Petroleum in 1981. Dome had neither the expertise nor the interest to run the mine, metal prices dropped, and Cyprus Anvil began losing money and building up debt. A temporary shutdown was announced in June of 1982, and Dome put the operation up for sale. The shutdown continued as metal prices remained very low the mine remained unsold. A stripping operation, heavily subsidized by government, provided work for approximately one third of the mine's workforce from mid-1983 to October of 1984 when the company locked out its remaining workers. In May 1985 the company announced it was mothballing the mine.

With the announcement of permanent closure came severance pay for the locked-out workers, and by July 1985, Faro was a virtual ghost town. There was no apparent reason for anyone to remain, but a stubborn few hung on, believing that, contrary to all the evidence, Faro had a future. These few (totalling less than 100) were proven correct. During the summer of 1985 Curragh Resources Inc. began negotiations to buy the mine, mill and the housing in the town. Dome and the federal and territorial governments were all eager to make a deal and in November 1985 Curragh took over the mine, mill and housing. The effective purchase price was zero; Dome received nothing but a possible share of future profits despite paying \$340 million in cash for the mine in 1981. Curragh provided \$20 million in capital towards the \$40 million required to restart the mine. Most of the rest was provided — either directly or through loan guarantees — by the federal and territorial governments. In addition, most of Cyprus Anvil's debt was written off, power was supplied to Curragh at below cost, and \$25 million was spent upgrading the highway to Skagway to allow concentrate to be shipped to tidewater. In the spring of 1986 the Faro mine and mill were back in operation and the town of Faro emerged from a near-death experience.

Curragh carried on mining the Faro ore body and then moved on to the Vangorda deposit in 1990 when the Faro pit was exhausted. Everything appeared to be running smoothly and the mine was profitable. By 1992 however, the company was mired in difficulties and these drove the company to bankruptcy. In April of 1993 the Faro mine was shut down for the second time. This time there was no major stripping program to allow some people to continue working, and again the town's population dropped precipitously (though it never fell below approximately 400).

But the mine had been profitable, and there was still ore in the ground. A new company, Anvil Range Mining Corporation, bought the property in 1994 — with no direct government assistance — and after a \$75 million stripping program and work at the mill, production began again in August of 1995. Work resumed at the Vangorda deposit and the company began to mine the Grum deposit. Full commercial production was achieved by November 1995. Again, the community got back on its feet, and many hoped for stability as the new company had little debt and owned no other properties.

In November of 1996, however, Anvil Range suddenly announced that there would be a temporary closure of the mine by the end of the year. The mill would continue to operate until March 1997 using stockpiles of ore. Lower metal prices and a higher Canadian dollar were given as the reasons for the shutdown. The shutdown occurred as announced, but the company appears to have had problems greater than metal prices and exchange rates. Anvil Range declared bankruptcy in April 1998, leaving the property in the hands of a receiver.

3.2.2 Demographics

Since 2000, the town's population has remained stable at just under 400 residents. In December of 2006, Faro's population was 398 according to Yukon Bureau of Statistics data. The 2001 Census found that Faro's population was closely balanced between men and women but had very few people in their early 20s and relatively few young children or the elderly. In 2006, Faro's proportion of children and young people appears to be match reasonably closely with the Yukon as a whole, but the community has far fewer people in their 30s and a relatively more of the elderly. Faro has relatively few aboriginal residents, with 18% of the population identifying themselves as aboriginal in the 2001 Census.

The 2001 Census found that Faro had proportionately fewer single parent families than the Yukon as a whole (13% of families versus 20%) but has a greater proportion of couples with children. Faro matches the overall education levels of the Yukon quite closely, except in having a higher proportion of college certificate holders and a lower proportion of university graduates.

3.2.3 Community economy

Statistics on the GDP of individual Yukon communities are not kept, but a reasonably good indicator of the size of the local money economy is aggregate personal income. In the 2003 tax year, residents of Faro reported a total of \$8.11 million in income from all sources. It is important to note that this represents only the formal, dollar economy; the value of subsistence activities and any other unpaid work are not captured by dollar measures of economy size.

The Yukon Bureau of Statistics spatial price index for April of 2007 found that the average price of a selected basket of goods was 8.8% higher in Faro than in Whitehorse. Gasoline cost 20.4% more, but meat was cheaper in Faro.

The 2001 Census found that Faro had an experienced labour force of 250 people. The most common industry employing Faro workers was public administration (26% of the labour force) but the community had 13% of the workforce working in mining and oil and gas extraction, higher than the Yukon as a whole. The Census shows the most common occupations in Faro to be in the trades, transport and equipment operators category, in sales and service occupations, and in business, finance and administration occupations.

Average incomes in Faro are lower than those in the Yukon as a whole. The 2001 Census showed an average income of \$24,800 in the community, with an average family income of \$54,000. The

Yukon's average family income in the 2001 Census was \$69,500. Levels of self-employment in Faro closely match those in the Yukon as a whole — in 2003 approximately 18.5% of tax filers in both the Yukon and Faro reported self-employment income. Investment income plays a much smaller role in community incomes with approximately 18% reporting such income compared to 27% Yukon-wide. People in Faro are proportionately not much more dependent on tax-exempt income (mostly Social Assistance and Workers' Compensation payments) than Yukoners as a whole (15% versus 13%).

3.2.4 Social infrastructure and issues

Faro has been an incorporated municipality since 1970 and the Town collects property taxes, delivers a variety of municipal services, and has the authority to pass bylaws in the municipality. The Yukon government provides other community infrastructure and services including the school and the health centre.

Policing in Faro is the responsibility of the Royal Canadian Mounted Police who maintain a local detachment. Fire protection, ambulance and search and rescue services are provided by volunteer organizations.

The RCMP keeps very detailed records of reported incidents of crime for all of the Yukon communities. Between 1995 and 2003 the average number of reported crimes in Faro was 95 per year. However, because of the abrupt drop in population following the closure of the mine in 1998, the average figure does not apply well to e.g., 2003 and 2003 when the number of reported crimes were 22 and 26 respectively. On a per capita basis, the reported crime rate in Faro has tended to be the lowest in the Yukon. In 2003, for example, Faro had 7.2 reported crimes per 100 residents, far below the Yukon average of 32.4. As with overall crime, the level of reported violent crime in Faro is the lowest in the Yukon at 1.1 per 100 residents in 2003 compared with the Yukon average of 4.1 per 100 residents.

The Yukon government maintains the Faro Community Health Centre staffed by nurse practitioners. The territorial government also provides schooling in Faro through the Del van Gorder School which offers classes from Kindergarten through to Grade 12. In May 2006 total enrolment was 51 for all grade levels. Yukon College operates a satellite community campus in Faro. The community campus provides academic upgrading courses, GED, computer training and various occupation-related courses in Faro. The community is lobbying for the establishment of a mine training centre in Faro.

Faro has a municipal recreation centre that offers a variety of programs and recreation opportunities — including an indoor hockey rink, a four sheet curling rink, summer swimming pool, squash court and weight room — and it has a highly unusual golf course that wends its way through the center of the community.

3.3 Ross River

Ross River is located on the south bank of the Pelly River near the confluence of the Ross and Pelly Rivers. The South Canol Road runs through the community with a seasonal ferry providing access to the North Canol during the summer. The community is approximately 10 km from the Campbell Highway. The community's proximity to the Faro mine site and particularly the site's location in the heart of the Ross River Dena's traditional territory will make the community one of the most affected by the reclamation work.

3.3.1 History

The confluence of the Ross and Pelly Rivers has long been used as a gathering place for First Nation peoples, particularly in the late summer. The first permanent settlement was established in 1901 when Tom Smith started a small trading post on the north bank of the Pelly and called the spot Smiths Landing. That winter approximately 15 First Nation families overwintered near the post, creating the beginnings of the permanent community of Ross River. By 1903 a second, rival, trading post was set up on the south bank of the Pelly opposite Smiths Landing. The settlement attracted an increasing number of people, mostly the Kaska but including many First Nation people from the Mackenzie River region who would travel over the divide to meet others, trade, and sometimes stay. By 1914 over 1,000 people were gathering at Ross River in the late summer. But a severe influenza epidemic in 1916 hit the community's First Nation people hard, and increasing economic activity and new trading posts along the Mackenzie River reduced the numbers of people gathering and settling at Ross River.

World War II and the years immediately following brought massive changes to Ross River. The building of the Canol Road and pipeline between 1942 and 1944 brought a massive, but temporary, influx of outsiders to the area and the new road made the community much more accessible. The late 1940s and early 1950s also saw a collapse of fur prices and the permanent closure of most of the region's fur trading posts — including Pelly Banks, Sheldon Lake, Rose Point, Frances Lake and Macmillan River. By 1952 Ross River was designated as a band village and had the only remaining trading post in the region. The Canol Road shifted the commercial centre of the community to the south bank of the Pelly River at the new ferry crossing point and the federal government began pressuring the First Nation to move across the river from the Old Village. By the mid 1960s that pressure resulted in the complete abandonment of the Old Village and the community of Ross River assumed the shape it has today.

Mining exploration increased in the region around Ross River through the 1950s and an exploration and mining boom occurred in the 1960s and 1970s with the discovery and development of the Faro mine. Although Ross River Dena people did work in mining exploration — it was Ross River Dena citizens Arthur John, Jack Ladue, Robert Etzel and Joe Etzel who led Al Kulan to Vangorda Creek where he staked the first claims of what would become the Faro mine — the mining boom did little to benefit most of the First Nation.

The re-openings of the Faro mine and a smaller mining exploration boom in the 1990s brought more economic benefits to the First Nation and its people than in the 1960s and 1970s, but those benefits remained relatively small and social problems remained large. The experience of being the indigenous population located in a region undergoing extended economic booms and gaining little economic benefit increased the determination of the Ross River Dena Council to be at the centre of a long-term sustainable regional economy. Most recently, the development of a mining strategy for the community — *The Snow that Eats the Snow* — and *Building on Strength: An Economic Development Strategy for Ross River* reflect that determination.

3.3.2 Demographics

Since the mid-1980s, Ross River's population has hovered at around the 350 mark. At the end of 2006 the Yukon Bureau of Statistics put the population of Ross River at 352. The 2001 Census reported a community population of 335, over with over 80% self identifying as aboriginal people. The 2001 Census found that Ross River had very few people in their late teens and early 20s — the community was predominantly made up of middle-aged and older adults and some children. Overall in 2001 there were more men in Ross River than women.

In the 2001 Census, Ross River had proportionally many more single parent families than the Yukon as a whole, while matching the territorial pattern for couple families with and without children. Ross River had a very high proportion of residents who have not finished high school (36% of those aged 15 and over) and a very low proportion of university degree holders (4.5%) compared to the Yukon as a whole (16.5% and 22% respectively).

3.3.3 Community economy

In the 2003 tax year, residents of Ross River reported a total of \$4.38 million in income from all sources. As noted above, total reported income is the best available estimate for the size of each community's money economy. It is important to note that this represents only the formal, dollar economy; the value of subsistence activities and any other unpaid work are not captured by dollar measures of economy size.

The Yukon Bureau of Statistics does not keep a spatial price index for Ross River. It is therefore extremely difficult to estimate how much greater the cost of living is in the community compared with Whitehorse.

Various levels of government provide Ross River's economic base. In 2001 the Census found that the First Nation, territorial, and federal governments employed over 40% of the labour force. The most common jobs are in the trades and in the transportation occupational cluster, which includes most construction workers, equipment operators and truck drivers (many of whom are employed by governments). Sales and service occupations are the next most common jobs and include those working in the retail sector, daycare workers, restaurant and hotel workers and others.

Average incomes in Ross River are far below the territorial average. The 2001 Census found the average family income in Ross River was approximately one half of the Yukon average of \$69,500 while the median family income (where half of families make more and half make less) was only 40% of the Yukon figure.

3.3.4 Social infrastructure and issues

Ross River is the home community of the Ross River Dena, a Kaska First Nation and it is a predominantly aboriginal community. The Ross River Dena Council is not recognized as a self-governing First Nation by the federal government under the UFA, but does see itself as exercising inherent self-government rights over its traditional territory. The First Nation delivers a variety of services to its citizens in the community. Ross River has no form of local or municipal government.

Policing in Ross River is the responsibility of the RCMP who maintain a detachment in the community. Fire and ambulance services are provided by volunteer organizations. The Yukon government maintains a health centre staffed with community nurse practitioners in the community. The Ross River School offers Kindergarten through Grade 10. A total of 73 students were enrolled in all grades in May 2006. The community has some recreational facilities including a hockey rink but not a full-fledged recreation centre.

In developing an integrated community sustainability plan in 2006, people in Ross River identified substance abuse as a serious health and social problem in the community and made the elimination of such abuse as a long-term community goal. Another community health issue identified in the plan was the need for clean, high quality water in the community and better means of sewage disposal.

RCMP crime statistics show that, between 1995 and 2003, Ross River averaged 249 reported crimes annually. On a per capita basis Ross River tends to have one of the highest levels of reported crime in the Yukon. In 2003, for example, there were 68.1 reported crimes per 100 residents, almost double the Yukon average of 32.4 per 100 residents. Ross River appears to have a particularly high level of reported violent crime with 17.6 reported incidents per 100 residents in 2003, more than four times the Yukon rate of 4.1 per 100 residents.

3.4 Pelly Crossing

Pelly Crossing is located approximately half way between Whitehorse and Dawson City where the Klondike highway crosses the Pelly River. The community's location downstream of the Faro mine and tailings give it a strong environmental connection to the Faro reclamation project. Its distance by road from the site, however, likely gives it a weaker connection than closer communities in the economic and social spheres.

3.4.1 History

The area around Pelly Crossing has always been a hunting, fishing, and trapping area for the Northern Tutchone people of the Selkirk First Nation. The Selkirk First Nation people would usually gather several times a year at the confluence of the Pelly and Yukon rivers, the site of Fort Selkirk. But after the building of the all weather road from Whitehorse to Mayo in 1950 and the cessation of paddle wheeler service, Fort Selkirk was no longer on a major transportation route. People began to re-settle at Minto Landing (on both the river and the new highway) and then at Pelly Crossing where the federal government established a new settlement at the site of the Van Bibber homestead.

Pelly Crossing has remained a small community made up largely of Selkirk First Nation people. In 1997 a major change occurred when the Selkirk First Nation signed land claim and self-government agreements, creating a self-governing first nation. The Selkirk First Nation now exercises control over its settlement lands and provides a wide variety of services to its citizens.

The recent development and opening of the Minto copper mine across the Yukon from Minto Landing has brought large-scale industrial economic development into the community's area for the first time.

3.4.2 Demographics

The population of Pelly Crossing was 303 in December 2006, up slightly from 294 in December 2005. The 2001 Census found 330 people in the community, 85% of whom identified themselves as aboriginal and somewhat more men than women. Family structures in Pelly Crossing appear to closely match the Yukon's, with a slightly greater proportion of couples with children.

The 2001 Census found that Pelly Crossing has a lower proportion of people age 15 and older without a high school diploma than the Yukon as a whole (11% versus 16.5%). The community also has a very high proportion of people (54%) holding at least a college certificate (the Yukon's figure is 20%). However, Pelly Crossing has proportionately fewer people with trades certificates and university degrees.

3.4.3 Community economy

As noted above, statistics on the GDP of individual Yukon communities are not kept, but a reasonably good indicator of the size of the local money economy is aggregate personal income. In the 2003 tax year, residents of Pelly Crossing reported a total of \$5.32 million in income from

all sources. It is important to note that this represents only the formal, dollar economy; the value of subsistence activities and any other unpaid work are not captured by dollar measures of economy size.

The Yukon Bureau of Statistics does not keep a spatial price index for Pelly Crossing. It is therefore extremely difficult to estimate how much greater the cost of living is in the community compared with Whitehorse.

Pelly Crossing, like the rest of the Yukon, is heavily dependent on different levels of government providing the community's economic base. The 2001 Census found the major occupation groups of community residents to be: government service, education, sales and service occupations, business, finance and administration occupations, and trades, transportation and equipment operators. Employment by industry classifications in the 2001 Census found nearly 40% of workers employed in public administration, while educational services and construction accounted for about 13% each.

Average incomes in Pelly Crossing are far below the Yukon averages. The 2001 Census found the average income in the community was \$21,300. Average family income was \$43,600, well below the Yukon average of \$69,500.

Data from Revenue for the 2003 tax year show that Pelly Crossing is proportionately far more dependent on tax-exempt income (mostly Social Assistance and Workers' Compensation payments) than Yukoners as a whole. The community has a relatively low number of the self-employed, 9.5% of tax filers versus 18.5% for the Yukon as a whole.

3.4.4 Social infrastructure and issues

The Selkirk First Nation, a self-governing first nation under the UFA, administers many of the services in the community including water, sewer, local road maintenance and community recreation. There is no municipal government in Pelly Crossing.

Pelly Crossing's Eliza Van Bibber School runs from Kindergarten to Grade 12 and enrolment was 59 for all grade levels in May 2006. Yukon College, in partnership with the Selkirk First Nation, maintains a community campus in the community, offering academic upgrading, computer courses, courses in accounting and office administration, and various work force entry preparations courses for the trades and the oil and gas industry.

The Yukon government maintains a community health centre in the community, staffed with community nurse practitioners. Policing is provided by a detachment of the RCMP while fire and ambulance services are provided by volunteers.

RCMP crime statistics show that, between 1995 and 2003, Pelly Crossing had an average of 194 crimes reported per year. On a per capita basis Pelly Crossing tends to be near the top in levels of reported crime in the Yukon. In 2003, for example, there were 57.2 reported crimes per 100 residents, well above the Yukon average of 32.4 per 100 residents. Reported violent crime in the community shows a similar pattern, with annual reported incidents per 100 residents exceeding the Yukon average by two to four times.

Pelly Crossing has a recreation centre that includes an ice arena and curling rink as well as a community hall, Heritage Centre, and a youth centre.

3.5 Carmacks

The community of Carmacks lies approximately 180km north of Whitehorse on the Klondike Highway at the confluence of the Nordenskiöld and Yukon rivers. Its location at the confluence of the rivers and at the junction of the Klondike and Robert Campbell highways has long made the community a meeting place and transportation hub in the Central Yukon.

3.5.1 History

The area around Carmacks has long been the territory of Northern Tutchone people. The confluence of the Nordenskiöld and Yukon rivers was a natural meeting and trading place as both rivers were extensively used travel and trade routes. The Carmacks area was also important for its many fishing camps along the Yukon.

The modern community was named after George Carmack, one of the discoverers of the Klondike gold fields who found a coal seam at Tantalus Butte in 1893 and settled there, working the coal seam and building a small trading post. Some First Nation families began spending more time around the post, making for the beginnings of the community.

Following the discovery of Klondike gold, Carmacks became a re-fuelling stop for paddle wheelers on the river and an overnight rest house was built for the Overland Trail between Whitehorse and Dawson City. The Northwest Mounted Police built a post on the north bank of the river, and the Dominion Telegraph line was built through the community, bringing with it an office to maintain the line and service the community. The areas coal seams were developed to supply the paddle wheelers and Dawson City as firewood became scarcer and more expensive along the river. Coal mining continued steadily until the late 1930s but then only sporadically. Coal from Tantalus Butte was used in the mill at Faro in the 1970s but the seam caught fire in 1978 and was permanently sealed.

When an all weather road from Whitehorse to Mayo was built through Carmacks in 1950 the community grew as a transportation service centre. During the same period, the First Nation people were pressured to move from the south bank of the Yukon River to the north bank, away from the commercial centre of the community. The road, along with the decrease in the importance of the river as a transportation route, added to the number of First Nation people moving away from camps and settlements such as Little Salmon and settling in Carmacks.

In 1968 the Robert Campbell highway, running east from Carmacks to Faro and Ross River was completed and the Faro mine began operating a year later. Carmacks continued its development as a transportation hub and as a supplier of coal to the Faro mill. Although there are a number of known copper and gold deposits in the area to the west of Carmacks, only one quartz mine — at Mt. Nansen — has operated for a short period.

In 1997 the Little Salmon/Carmacks First Nation signed and ratified a final land claim and self-government agreements with the federal and territorial governments. The LSCFN now exercises control over its settlement lands and provides a wide variety of services to its citizens.

3.5.2 Demographics

The population of Carmacks was 405 in December 2006, effectively unchanged from December 2005. In the 2001 Census approximately 68% of Carmacks residents identified themselves as aboriginal. In 2001 the community had roughly equal numbers of men and women overall, but women outnumbered men in the younger adult age groups while men outnumbered women in the

older age ranges. Compared to the Yukon as a whole, Carmacks has a relatively young population with proportionately more children. According to the 2001 Census, Carmacks has a much lower proportion of married-couple families than the Yukon in general and a correspondingly larger proportion of common-law couple families. Lone-parent families are more prevalent in the community than in the Yukon as a whole.

The 2001 Census found Carmacks to have proportionately more people aged 15 or older without high school diplomas than the Yukon as a whole. The community shows higher proportions of residents holding trades certificates and having some post-secondary education but university degrees are rarer in Carmacks than in the Yukon as a whole.

3.5.3 Community economy

Statistics on the GDP of individual Yukon communities are not kept, but a reasonably good indicator of the size of the local money economy is aggregate personal income. In the 2003 tax year, residents of Carmacks reported a total of \$7.63 million in income from all sources. It is important to note that this represents only the formal, dollar economy; the value of subsistence activities and any other unpaid work are not captured by dollar measures of economy size.

The Yukon Bureau of Statistics spatial price index for April of 2007 found that the average price of a selected basket of goods was 13.3% higher in Carmacks than in Whitehorse. Fruit and vegetables cost 24.2% more, but household operations were only 2.5% higher.

The 2001 Census found that Carmacks had an experienced labour force of 220 people whose employment by industry did not differ substantially from that of the Yukon as a whole. It appears that Carmacks had proportionately more people employed in health & education and in business services, and, to a lesser degree, in resource-based industries than the Yukon. However, the community's pattern of employment by occupation did differ from the Yukon's in Census 2001. Carmacks had proportionately more people employed in the trades and as equipment operators and had more than double the percentage of people employed in primary industry occupations than the Yukon as a whole.

Average employment earnings in Carmacks for both men and women —whether working full-time and year-round or not — are substantially lower than for the Yukon as a whole. The 2001 Census found shows that, on average, men in Carmacks earn only 67% of what average Yukon men do while women in Carmacks earn 74% of the Yukon female average. Self-employment is much less common in Carmacks than in the Yukon as a whole given that in 2002 only 6.5% of community tax filers reported self-employment income (about one third of the 18.5% Yukon-wide). Investment income also plays a much smaller role in community incomes with only 13% reporting such income compared to 27% Yukon-wide. People in Carmacks are proportionately more dependent on tax-exempt income (mostly Social Assistance and Workers' Compensation payments) than Yukoners as a whole.

3.5.4 Social infrastructure and issues

There are three levels of government in Carmacks, the Yukon government, the Little Salmon Carmacks First Nation, and the municipal government. The Little Salmon Carmacks First Nation is a self-governing First Nation under the Umbrella Final Agreement. Carmacks incorporated as the Village of Carmacks in 1984, collects property taxes, delivers a variety of municipal services, and has the authority to pass bylaws in the municipality.

Policing in Carmacks is the responsibility of the Royal Canadian Mounted Police who maintain a local detachment. Fire protection, ambulance and search and rescue services are provided by volunteer organizations. There is an agreement between the fire department, the municipality, and the Little Salmon Carmacks First Nation that the department covers First Nation lands and property within the community to avoid the need for the First Nation to duplicate this service. Ambulance services are also covered by the agreement.

The RCMP keeps very detailed records of reported incidents of crime for all of the Yukon communities. Between 1995 and 2003 the average number of reported crimes in Carmacks was 176 per year. In general on a per capita basis, the reported crime rate in Carmacks is toward the middle of the range of the smaller Yukon communities — similar to rates in Carcross and Teslin, lower than Pelly Crossing, Ross River and Old Crow, and higher than Haines Junction, Dawson, and Mayo. In 2003, for example, Carmacks had 41.3 crimes reported per 100 residents; higher than the Yukon average of 32.4 per 100 residents. As with overall crime, reported violent crime in Carmacks falls in the mid-range of Yukon communities apart from Whitehorse. Almost half (about 85 per year on average) of all reported crimes in Carmacks fall into the category that includes vandalism, disturbing the peace, and violations of probation or bail conditions.

The Yukon government maintains the Carmacks Community Health Centre staffed by nurse practitioners while the First Nation provides its citizens with a variety of health and wellness programs. Anecdotal evidence suggests that the two largest community health issues in Carmacks are substance abuse and ongoing problems with potable water supplies taken from shallow ground water wells. No data is available on the range and depth of substance abuse problems, but if the perceptions of some in the community are accurate, the use of illicit drugs such as crack cocaine is especially serious among local teens.

Carmacks is served by the Tantalus School which offers classes from Kindergarten through to Grade 12. In May 2006 total enrolment was 94 for all grade levels. The school has 14 teachers — 3 of whom are native language teachers — plus two educational assistants and one remedial tutor. A new school building is currently under construction and is scheduled to open in September of 2007. Yukon College operates a satellite community campus in Carmacks located in the First Nation Administration Building. The community campus provides academic upgrading courses, GED, computer training and various occupation-related courses in Carmacks. Carmacks has a municipal recreation centre that offers a variety of programs and recreation opportunities, including a gym, weight room, an outdoor covered skating rink.

4 Valued socio-economic components (VSECs)

[FORTHCOMING]

5 Socio-economic baseline

The following is a partial draft and outline of the socio-economic baseline.

In an effects assessment, the baseline provides the necessary indicators for answering the question; what effects will the project have on the community? The baseline indicators are what we measure anticipated changes against. In YESAB's *Guide to Socio-economic Effects Assessments*, the following direction on selecting baseline indicators is given:

The social and economic assessment indicators are derived from the VSECs and point to measurable change in human population, communities and social and economic relationships resulting from a proposed project. The delineation of socio-economic assessment indicators defines categories of social and economic change and selects the most suitable measures from which to describe current conditions and predict change. It achieves the goals of scoping by focusing on the most important categories of change and on useful and meaningful indicators.³

Thus, the socio-economic baselines presented here have not been put together simply to provide a backdrop for the effects assessment or as a background primer for those not familiar with the affected communities of Ross River, Faro, Carmacks and Pelly Crossing. Rather, all of the data on the affected communities and for the Yukon as a whole that make up the baselines has been selected to provide useful and meaningful indicators for measuring the anticipated effects on each of the identified valued socio-economic components (VSECs) for the proposed reclamation of the Faro mine.

In each section of the baseline below, the linkage between the data presented and the VSEC that it will be an indicator for is made explicit.

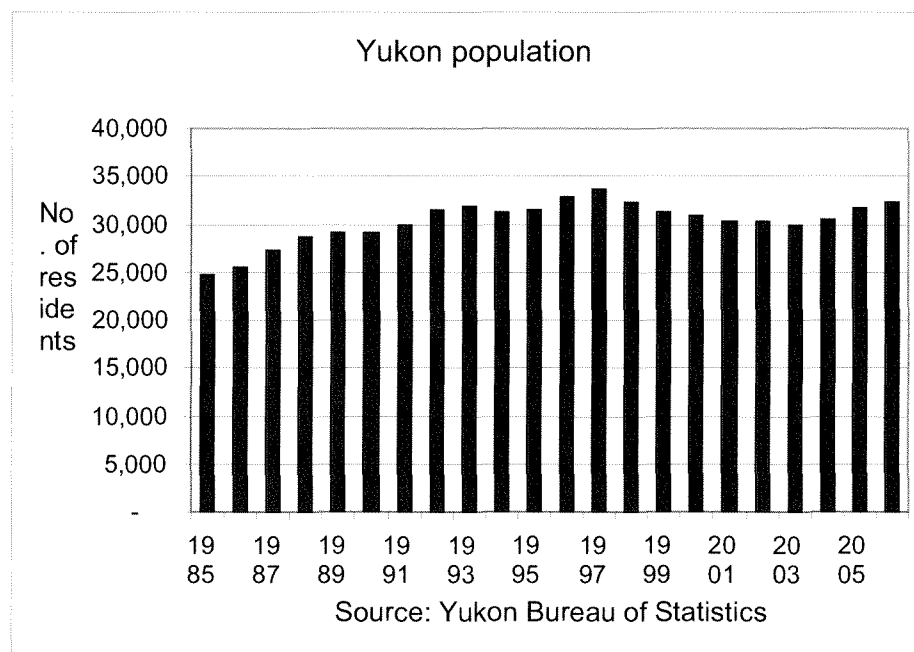
5.1 Population & demographics

The basic outlines of a community's existing socio-economic conditions are set by its demographics, including overall population, patterns of population growth or decline, age and sex ratios, ethnicity, and family and household structure. Family and household structures within a community can give insights into the stability and vulnerability of that community when it is faced with changes.

5.1.1 Population

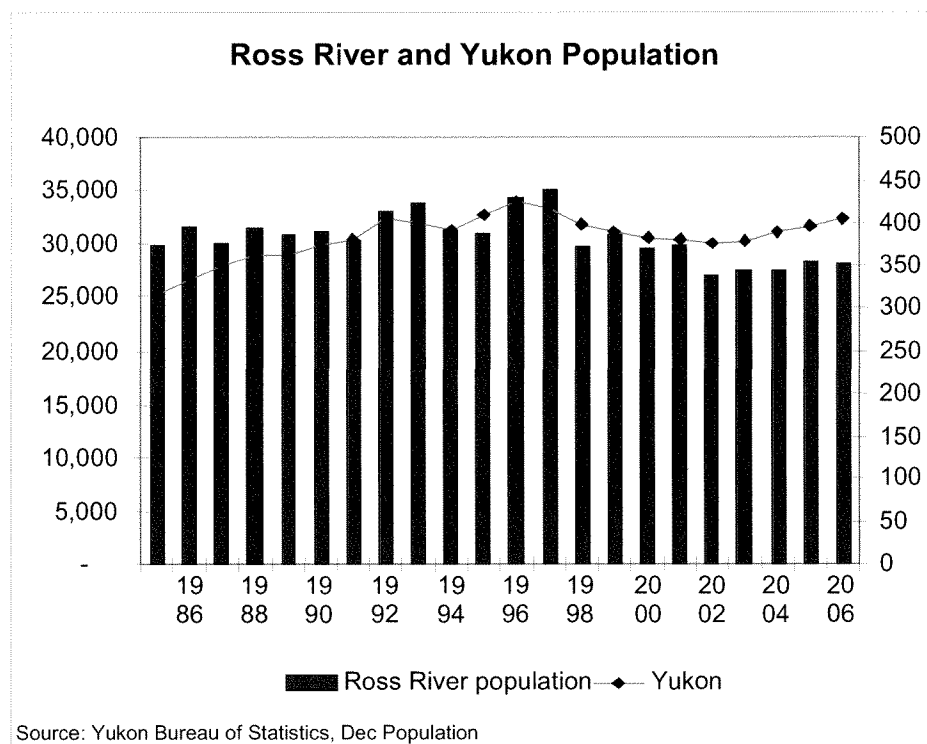
Residents of both Faro and Ross River have indicated that community size and growth is a VSEC for each community, though for different reasons (see Section 4). Population figures are also required baseline data for estimating the potential effects of the Ketza River mine on social and community infrastructure — including health care, policing and justice, water and sewer, and school capacity.

³ YESAB. June 2006. *Guide to Socio-economic Effects Assessments*. p.49

Figure 1 Health Care Population Estimates, Yukon, 1985 to 2006**Key Points:**

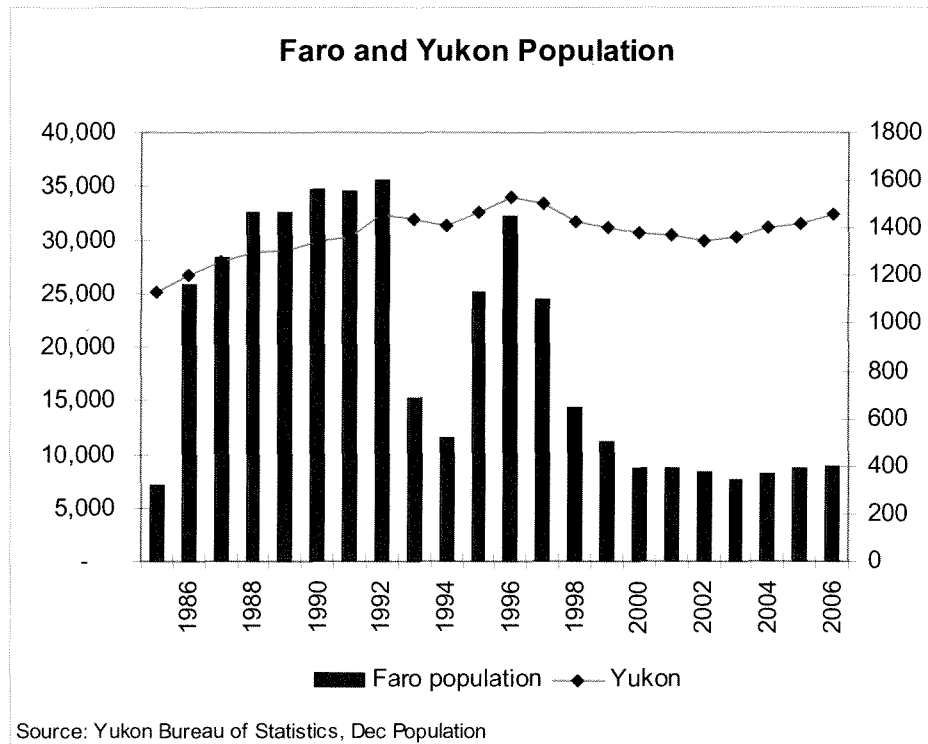
- The Yukon's population followed a generally upward trend following the reopening of the Faro mine in 1985, reaching a peak of 33,586 in 1997, and then losing population until 2003.
- The territory's population has not yet recovered after falling to a post-1997 low of 29,976 in 2003.
- In December of 2006 the Yukon's population was estimated to be 32,335.

Figure 2 Health Care Population Estimates, Ross River, 1985 to 2006

Key Points:

- Ross River's population, like the Yukon's, reached a peak in 1997, but has otherwise not followed the territory's pattern of growth and decline.
- Since 1997, the community's population has remained relatively stable around the 350 resident mark.
- In December of 2006, Ross River's population was estimated to be 352.

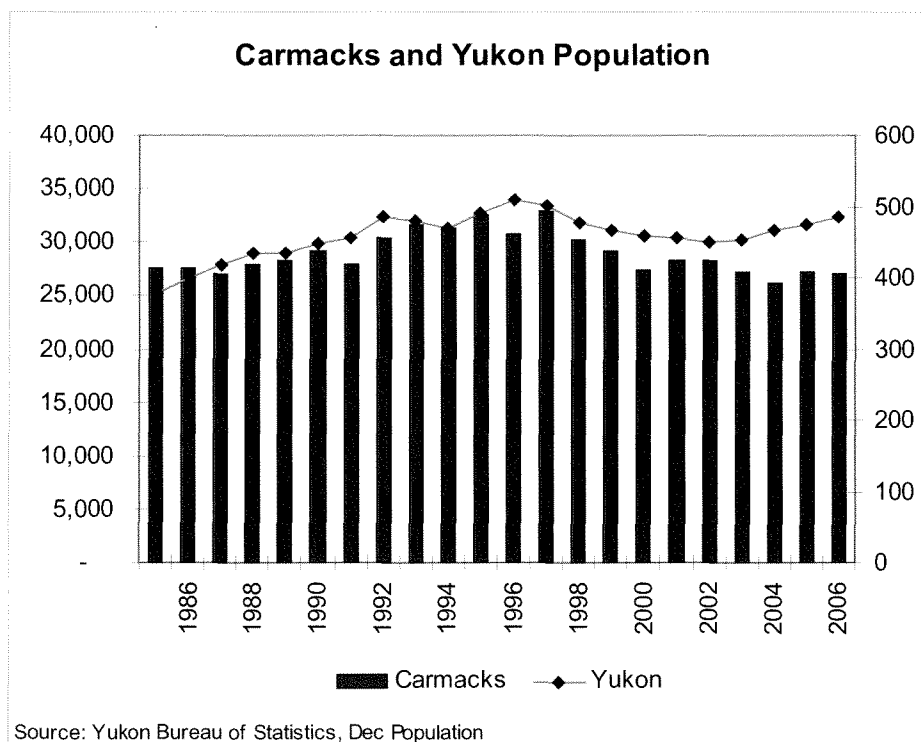
Figure 3 Health Care Population Estimates, Faro, 1985 to 2006



Key Points:

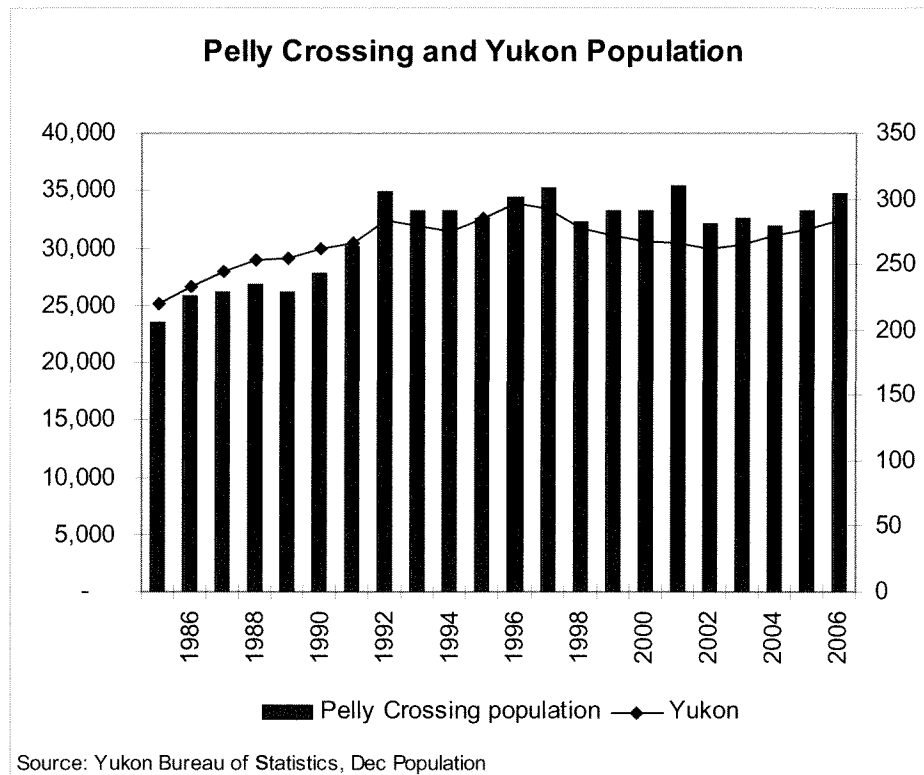
- Faro's population has swung wildly up and down with the openings and closings of the Faro mine since 1985.
- Since 2000, the town's population has remained stable at just under 400 residents.
- In December of 2006, Faro's population was estimated to be 398.

Figure 4 Health Care Population Estimates, Carmacks, 1985 to 2006

Key Points:

- Carmack's population, like the Yukon's, reached a peak in 1997, but has otherwise not followed the territory's pattern of growth and decline.
- Since 1997, the community's population has remained relatively stable around the 400 resident mark.
- In December of 2006, Carmack's population was estimated to be 400.

Figure 5 Health Care Population Estimates, Pelly Crossing, 1985 to 2006



Key Points:

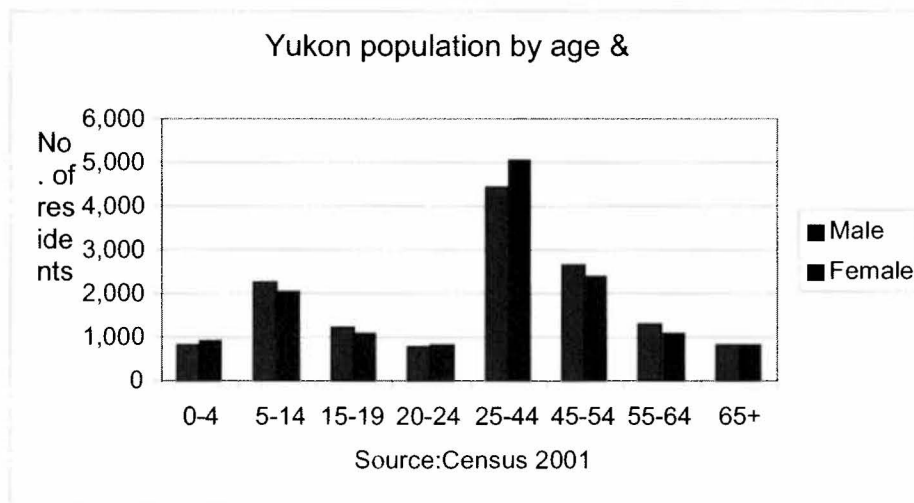
- Pelly Crossing's population, reached a peak in 1992, unlike the Yukon which reached a peak in 1997 but has otherwise not followed the territory's pattern of growth and decline.
- Since 1992 the community's population has remained relatively stable around the 300 resident mark.
- In December of 2006, Pelly Crossing population was estimated to be 300.

5.1.2 Population by age and sex

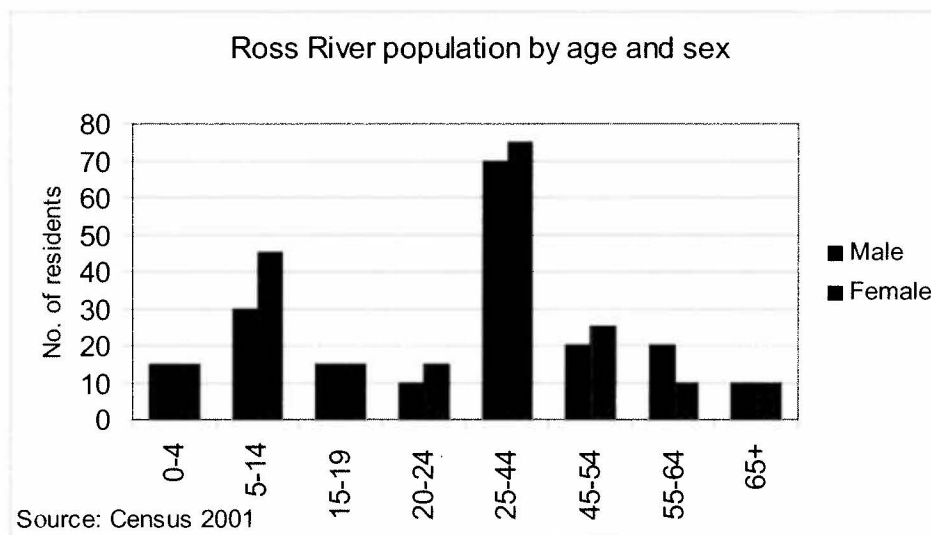
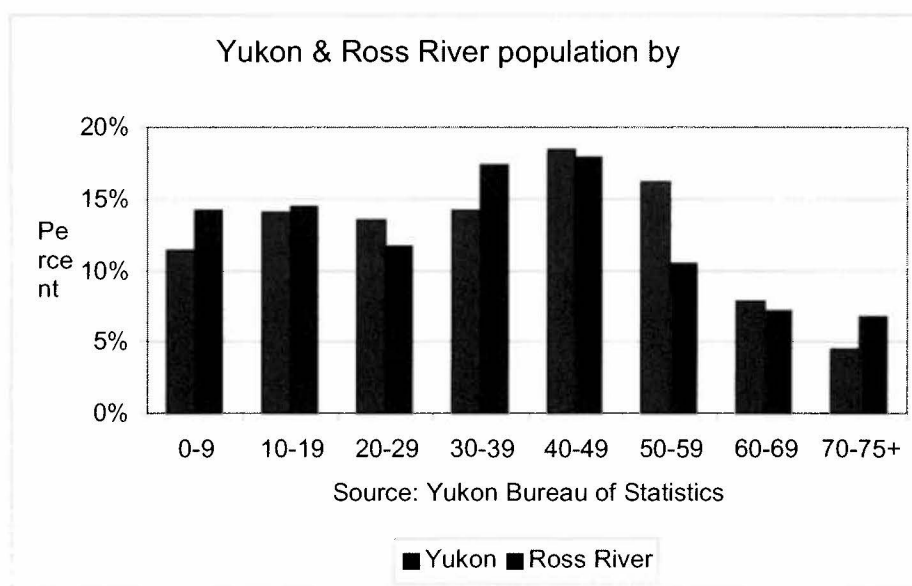
The distribution of a community's population by age and sex provide indicators for the population and community growth VSEC identified by Ross River, Faro, Carmacks and Pelly Crossing and are linked to other VSECs, including alcohol and drug abuse and crime, where age and sex can be correlated with behaviour.

The 2001 Census provides a breakdown of populations by both age and sex, while the Yukon Bureau of Statistics provides much more recent data on age distributions in the communities and for the Yukon as a whole.

Figure 6 Yukon population by age and sex, Census 2001



Key Points:

Figure 7 Ross River population by age and sex, Census 2001**Figure 8 Yukon & Ross River, population by age, 2006****Key Points:**

- In 2001 Ross River had very few people in their late teens and early 20s — the community was predominantly made up of middle-aged and older adults and some children.
- Overall in 2001 there were more men in Ross River than women.
- In 2006 Ross River had proportionately fewer people in their 20s than the Yukon as a whole, but more children and the elderly.

Figure 9 Faro population by age and sex, Census 2001

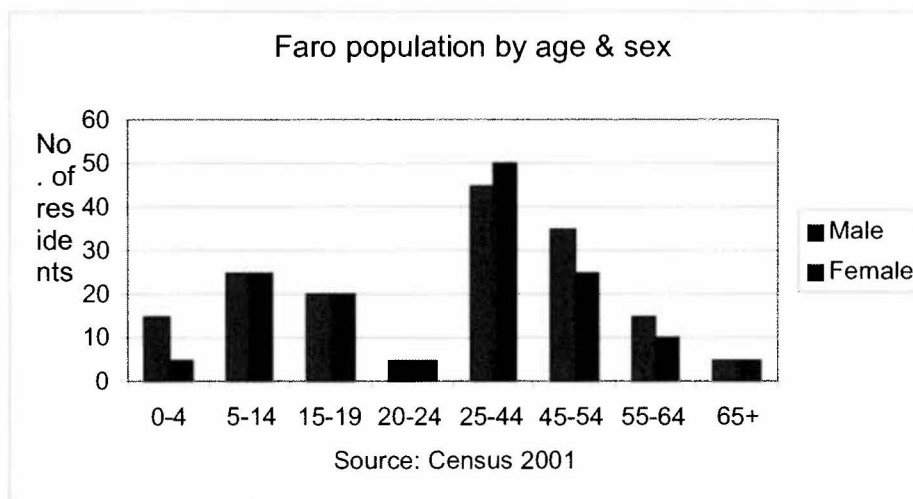
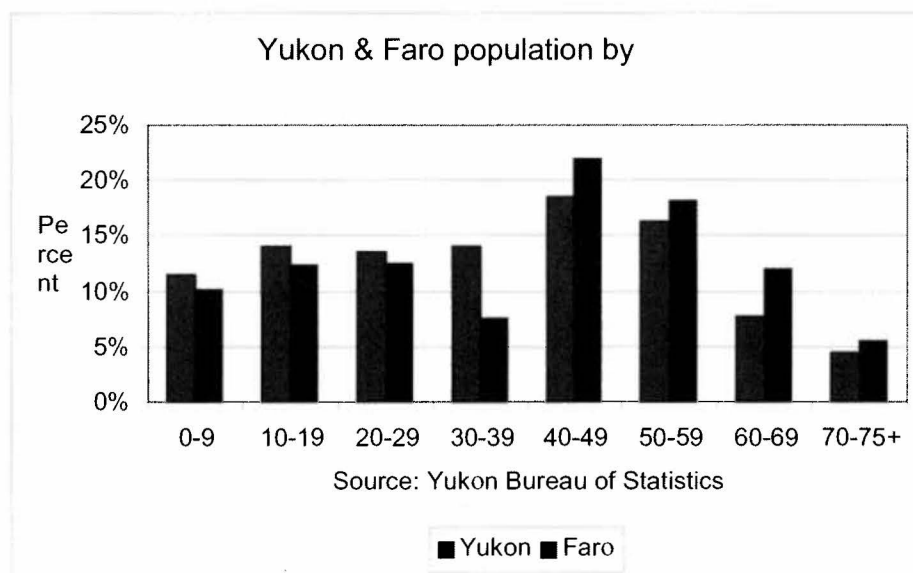


Figure 10 Yukon & Faro, population by age, 2006



Key Points:

- In 2001 Faro had very few people in their early 20s and few young children or the elderly.
- In 2006, Faro's proportion of children and young people appears to be match reasonably closely with the Yukon as a whole, but the community has far fewer people in their 30s and more of the elderly.

Figure 11 Carmacks population by age and sex, Census 2001

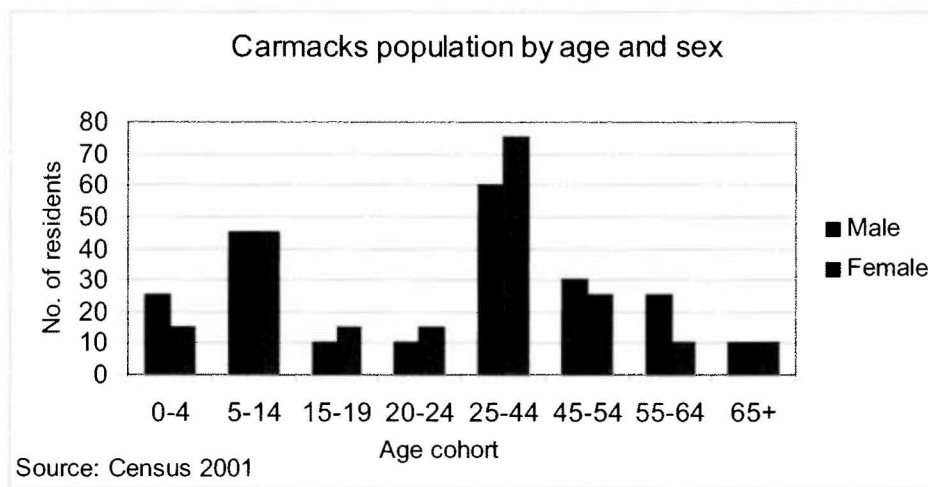
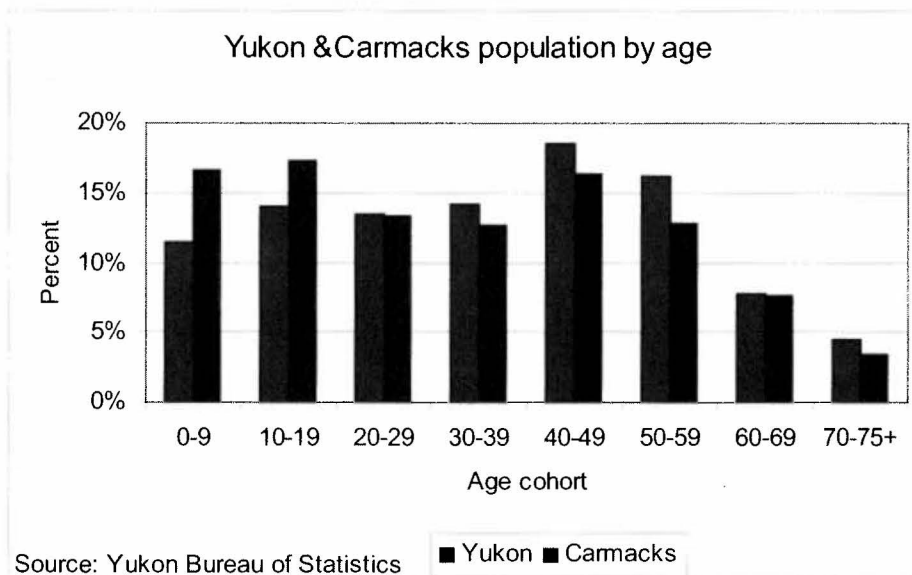
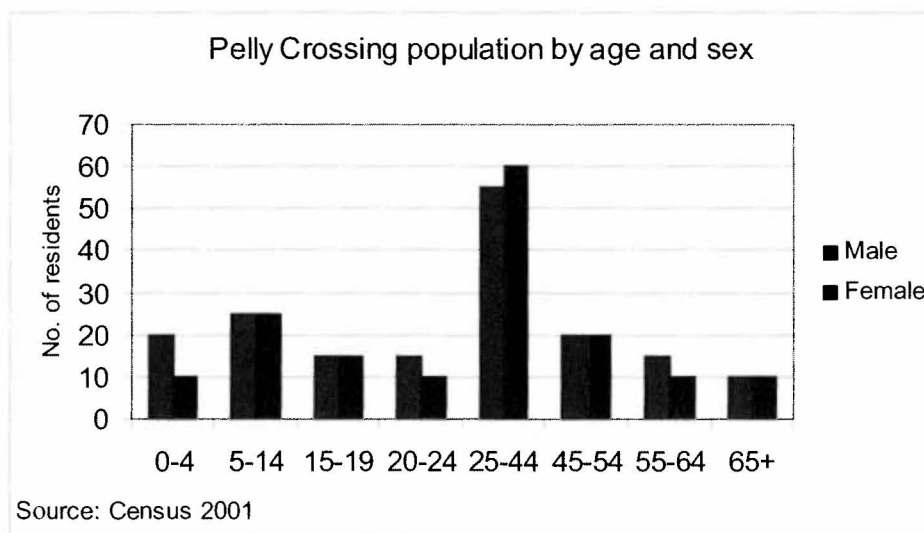
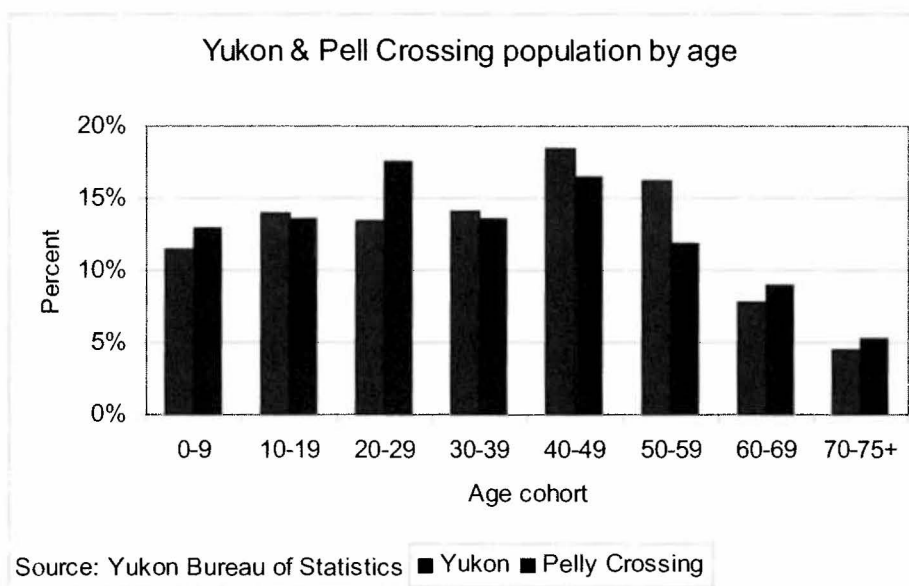


Figure 12 Yukon & Carmacks, population by age, 2006

**Key Points:**

- In 2001 Carmacks had very few people in their late teens and early 20s — the community was predominantly made up of middle-aged and older adults and some children.
- Overall in 2001 there were about the same amount of men and women in Carmacks.
- In 2006 Carmacks had proportionately the same amount of people in their 20s as did the Yukon as a whole, but more children and the elderly.

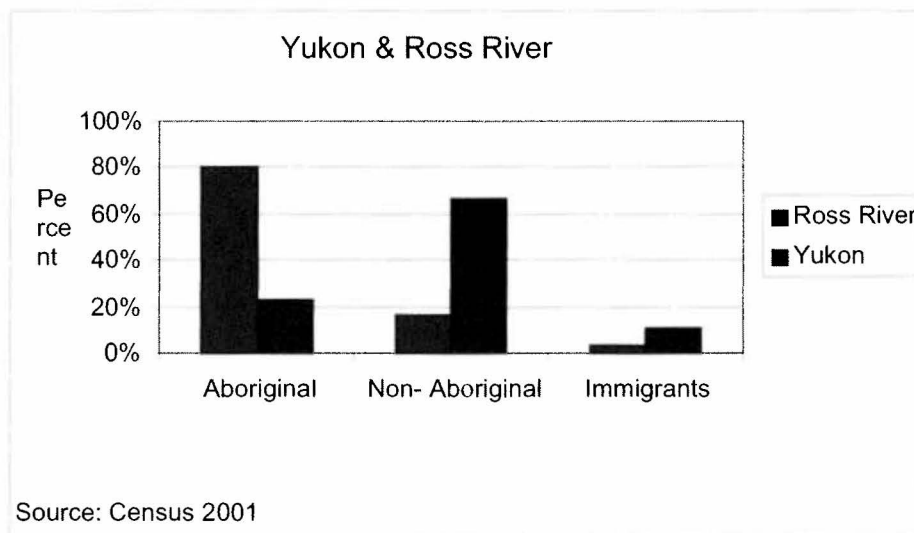
Figure 13 Pelly Crossing's population by age and sex, Census 2001**Figure 14 Yukon & Pelly Crossing, population by age, 2006****Key Points:**

- In 2001 Pelly Crossing had a relatively large proportion of people in their 20s and a relatively small number of people in their 50s.
- Overall in 2001 there were more women in Pelly Crossing than men.
- In 2006 Pelly Crossing had proportionately more people in their 20s than the Yukon as a whole, but more children and the elderly.

5.1.3 Ethnicity

The ethnic makeup of a community, especially the relative importance of the First Nation populations, is an important indicator tied to the racial discrimination VSEC raised in Ross River.

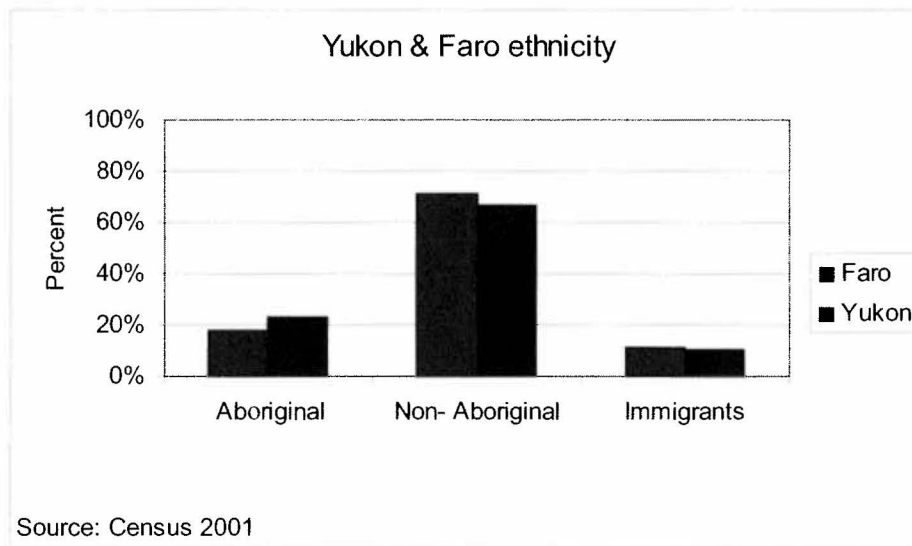
Figure 15 Yukon & Ross River ethnicity, Census 2001



Key Points:

- Ross River is predominantly a First Nation community with over 80% of residents identifying themselves as First Nation in 2001.
- Ross River has proportionately very few immigrants.

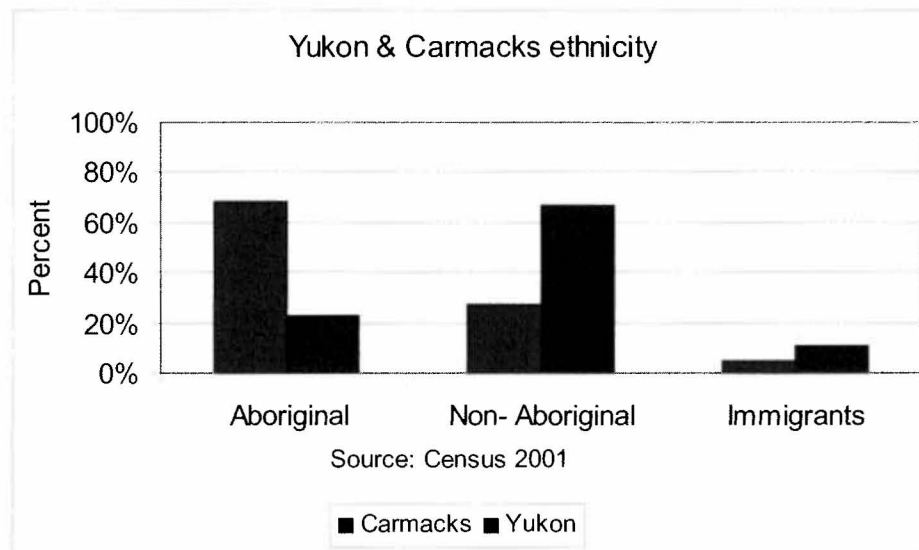
Figure 16 Yukon & Faro ethnicity, Census 2001



Key Points:

- Faro has proportionately fewer aboriginal people than the Yukon as a whole while the proportion of immigrants matches the Yukon closely.

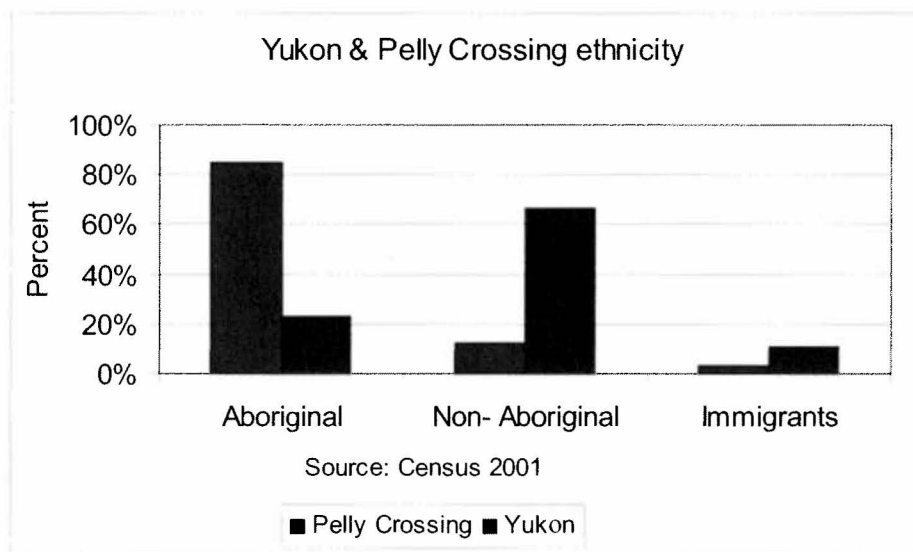
Figure 17 Yukon & Carmacks ethnicity, Census 2001



Key Points:

- Carmacks is predominantly a First Nation community with over 70% of residents identifying themselves as First Nation in 2001.
- Carmacks has proportionately very few immigrants.

Figure 18 Yukon & Pelly Crossing ethnicity, Census 2001

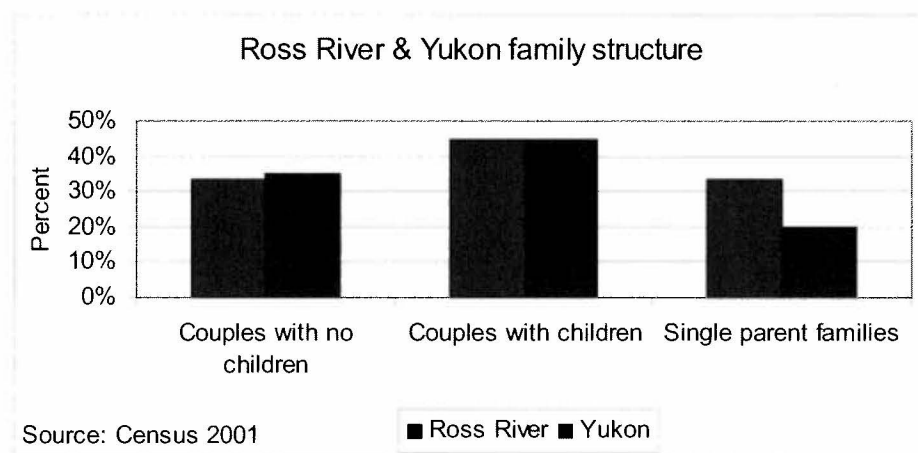
Key Points:

- Pelly Crossing is predominantly a First Nation community with over 80% of residents identifying themselves as First Nation in 2001.
- Pelly Crossing has very few non-aboriginal, averaging less than 20% compared to the Yukon average of more than 60%.
- Pelly Crossing has proportionately very few immigrants

5.1.4 Family structure

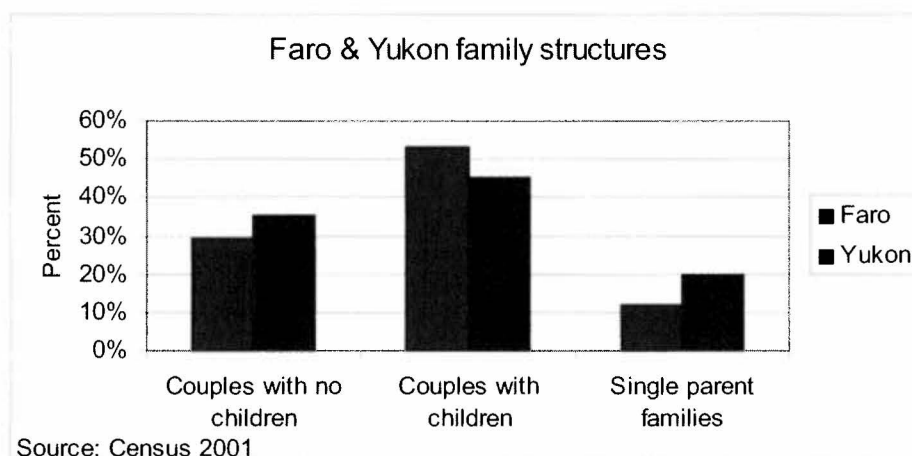
The Family structure makeup of a community is an important indicator tied to how stable the community is and to the work force, VSEC raised in Ross River.

Figure 19 Yukon & Ross River Family structure, Census 2001

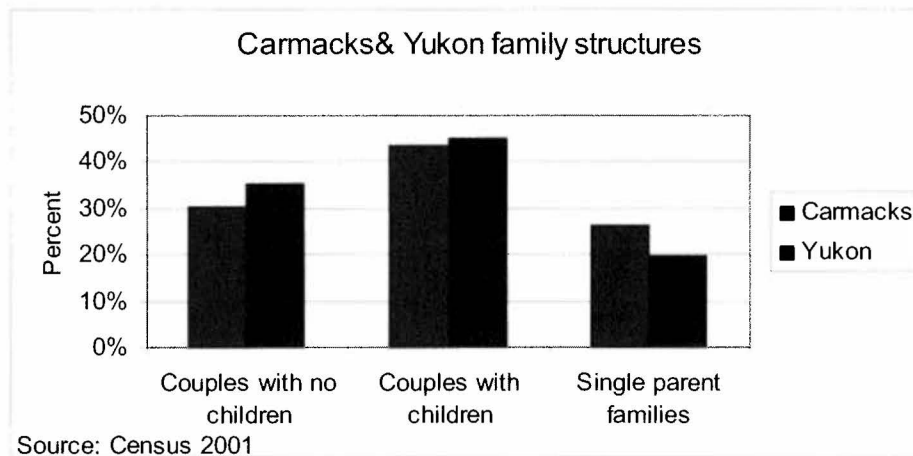


Key Points:

- In 2001, Ross River proportion of couples with children appears to be match reasonably closely with the Yukon as a whole, but the community has far more single parent families than the Yukon as a whole.
- Couples with no children in Ross River are just under the average in Yukon as a whole, which are over 35% of the population.

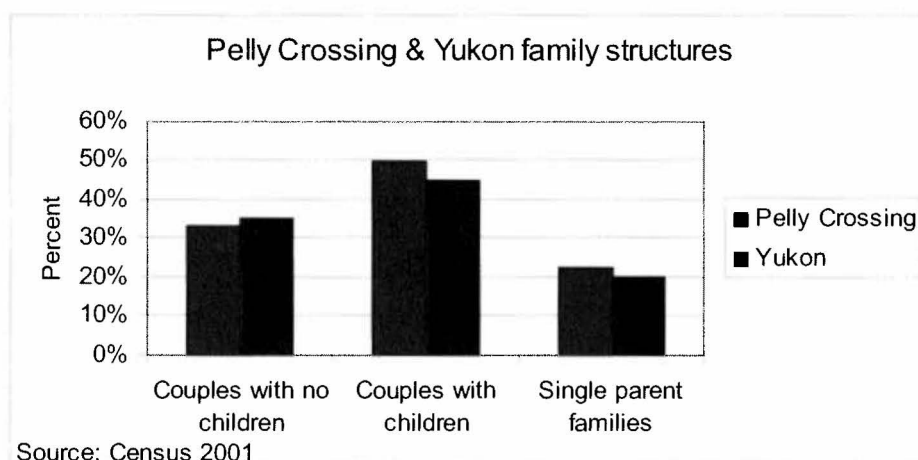
Figure 20 Yukon & Faro Family structure, Census 2001**Key Points:**

- In 2001, Faro proportion of couples with children appears to be much higher than, the Yukon as a whole, but the community has far less single parent families than the Yukon as a whole.
- Couples with no children in Faro are just under the average in Yukon as a whole, which are just over 30% of the population.

Figure 21 Yukon & Carmacks Family structure, Census 2001**Key Points:**

- In 2001, Carmacks proportion of couples with children appears to be match reasonably closely with the Yukon as a whole, but the community has far more single parent families than the Yukon as a whole.
- Couples with no children in Carmacks are just under the average in Yukon as a whole, which are over 30% of the population.

Figure 22 Yukon & Pelly Crossing Family structure, Census 2001

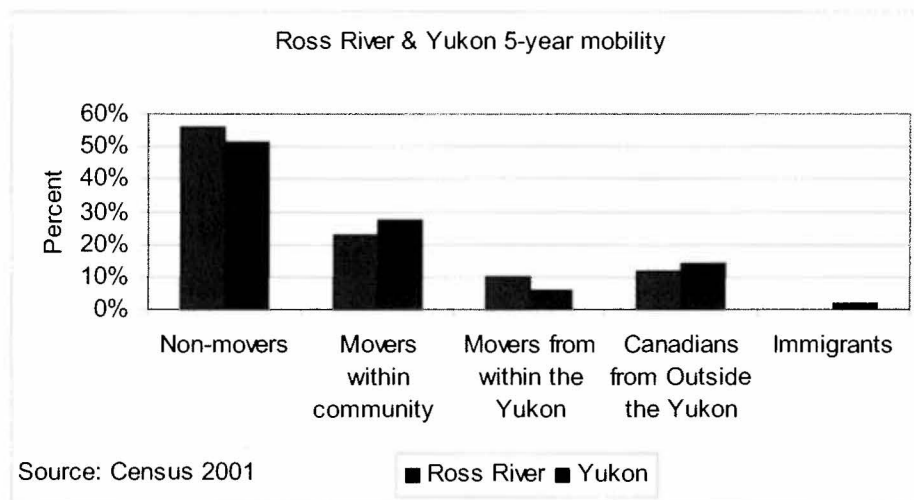
Key Points:

- In 2001, Pelly crossing proportion of couples with children appears to be match reasonably closely with the Yukon as a whole, but the community has slightly more single parent families and childless couples than the Yukon as a whole.

5.1.5 Mobility

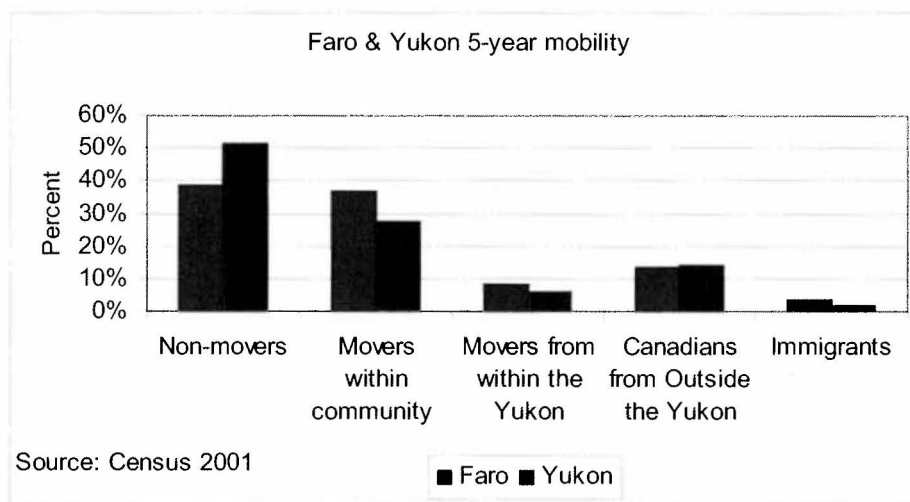
The mobility makeup of a community is an important indicator tied to the growth of the community and how much people coming and going, VSEC raised in Ross River.

Figure 23 Population mobility, 5-Year, Yukon & Ross River, Census 2001

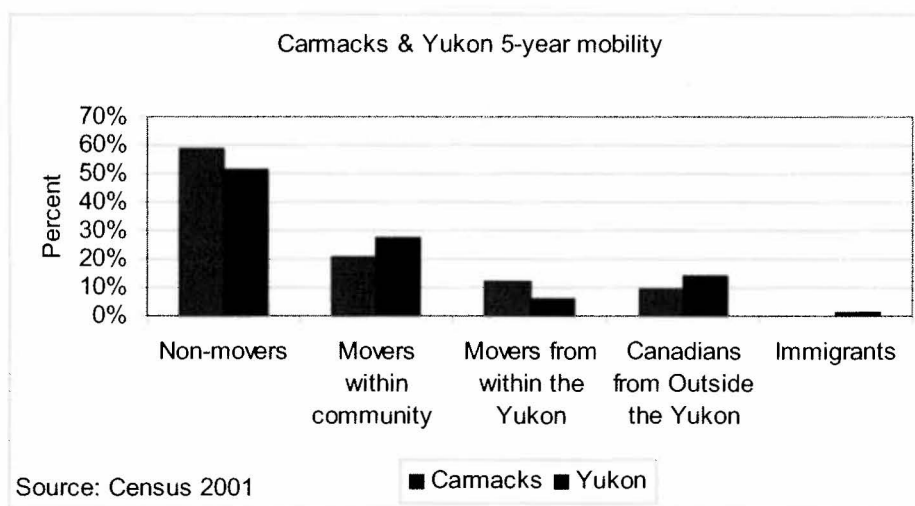


Key Points:

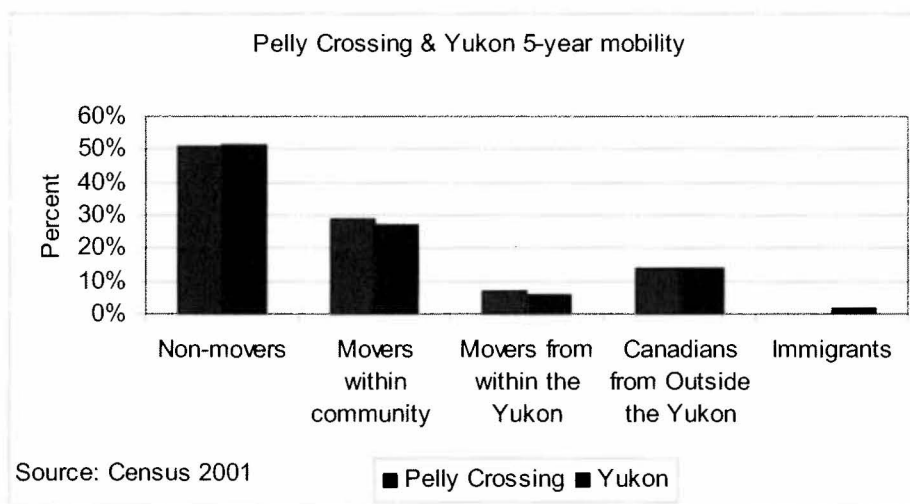
- In 2001, the Ross River proportion of non-movers appears to match reasonably closely with the Yukon as a whole, but the community has far fewer immigrants than the Yukon as a whole.
- In Ross River, movers within the community are just under the average, Yukon as a whole, which are over 25% of the population.
- Canadians from the outside the Yukon moving to Ross River appears to be match reasonably closely with the Yukon as a whole.

Figure 24 Population mobility, 5-Year, Yukon & Faro, Census 2001**Key Points:**

- In 2001, the Faro proportion of non-movers appears to be smaller than the Yukon as a whole, but the community has proportionately far more immigrants than the Yukon as a whole.
- In Faro, movers within the community are above the average, Yukon as a whole, which are over 35% of the population.
- Canadians from the outside the Yukon moving to Faro appears to be match reasonably closely with the Yukon as a whole.

Figure 25 Population mobility, 5-Year, Yukon & Carmacks, Census 2001**Key Points:**

- In 2001, Carmacks proportion of non-movers appears to be more than the Yukon as a whole, but the community has no immigrants at all.
- In Carmacks, movers within the community are below the Yukon average, which are over 20% of the population.
- Canadians from the outside the Yukon moving to Carmacks appears to be match reasonably closely with the Yukon as a whole.

Figure 26 Population mobility, 5-Year, Yukon & Pelly Crossing, Census 2001Key Points:

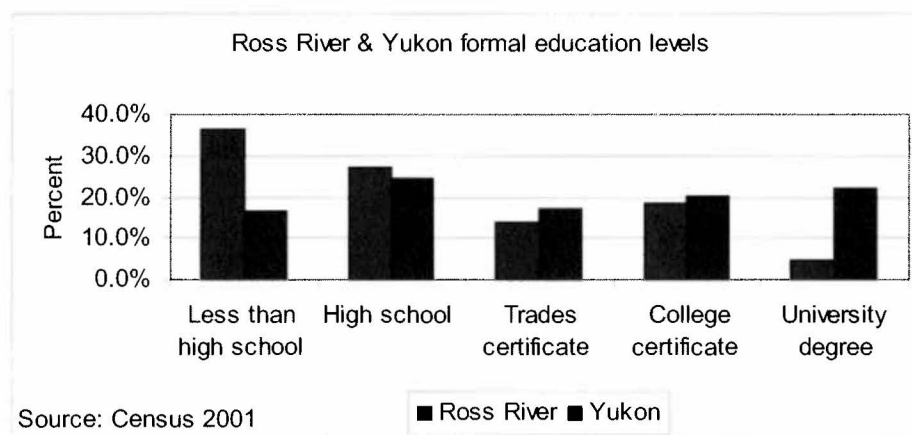
- In 2001, Carmacks proportion of non-movers appears to be more than the Yukon as a whole, but the community did not have any immigrants at all.
- In Carmacks, movers within the community are below the Yukon average (more than 20% of the population).
- Canadians from the outside the Yukon moving to Carmacks appears to be match reasonably closely with the Yukon as a whole.

5.2 Education & Training & Skills

5.2.1 Educational levels

The educational levels makeup of a community is an important indicator tied to income and employment.

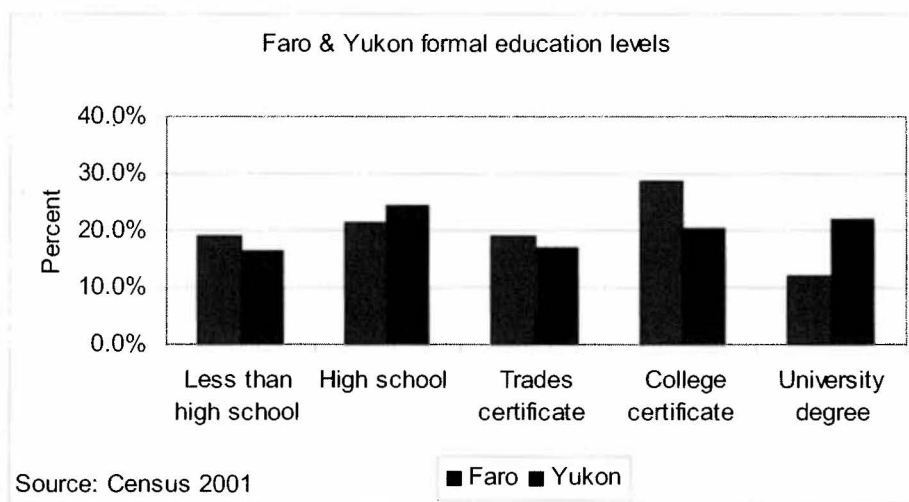
Figure 27 Education levels, Yukon & Ross River, Census 2001



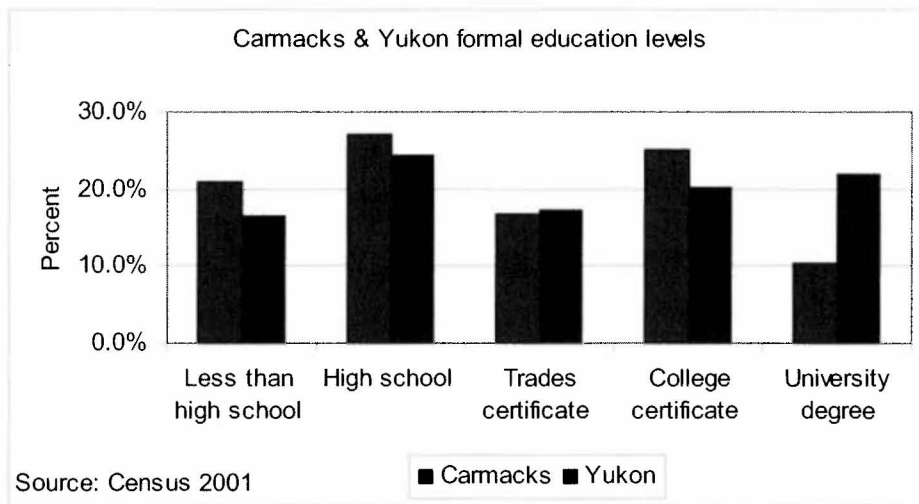
Key Points:

- In 2001, the Ross River proportion of less than high school graduation appears to be more than the Yukon as a whole, and the community has far fewer university graduates than the Yukon as a whole.
- In Ross River, the proportion of people with only high school graduation within the community is above the Yukon average.
- Ross River appears to match reasonably closely with the Yukon average for people with trades and college certificates.

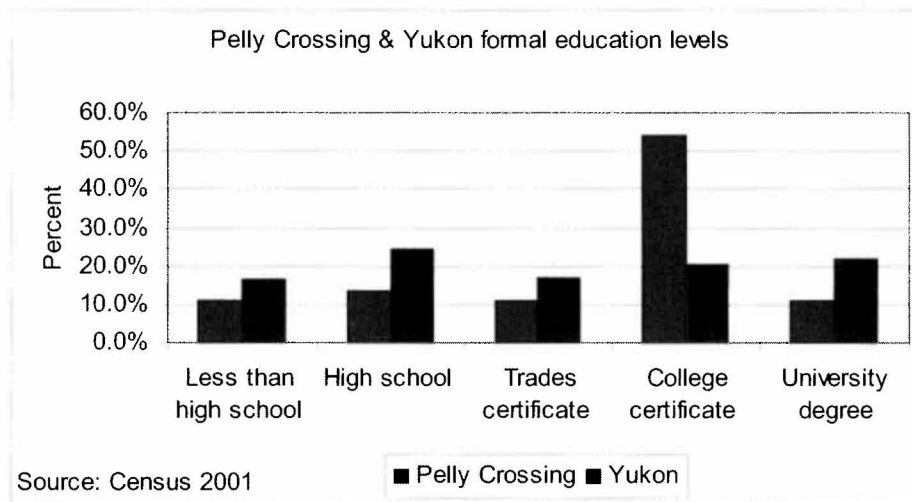
Figure 28 Education levels, Yukon & Faro, Census 2001

Key Points:

- In 2001, Faro proportion of less than high school graduation appears to be just above the Yukon as a whole, but the community has fewer university degree graduates than the Yukon as a whole.
- In Faro, the percentage high school graduates is below the Yukon average.
- Faro appears to have a greater proportion of people with trades and college certificates than the Yukon as a whole.

Figure 29 Education levels, Yukon & Carmacks, Census 2001Key Points:

- In 2001, the Carmacks proportion of less than high school graduation appears to be more than the Yukon as a whole, and the community has fewer university graduates than the Yukon as a whole.
- In Carmacks, the percentage of high school graduates is above the Yukon average as a whole.
- Carmacks appears to match reasonably closely with the Yukon as a whole on trades and college certificates.

Figure 30 Education levels, Yukon & Pelly Crossing, Census 2001**Key Points:**

- In 2001, Pelly Crossing proportion of less than high school graduation appears to be just below the Yukon average, but the community has fewer university degree graduate, than the Yukon as a whole.
- In Pelly Crossing, the percentage of high school graduates (10% of the population) is below the Yukon average.
- Pelly Crossing appears to match reasonably closely with the Yukon as a whole on trades but it seem that half of the population has a college certificate, compared to Yukon averages which is just over 20%.

5.2.2 Skill levels

[FORTHCOMING]

5.3 Employment

The following tables show labour force statistics (employment, unemployment, labour force and labour force participation below for the Yukon, Ross River, Faro, Carmacks, and Pelly Crossing.

Table 2 Labour Force Statistics, Yukon, Census 2001

<i>Yukon Territory</i>	<i># of people</i>
Working age population (15 years and over)	22,490
In the labour force	17,950
Employed	15,865
Employment rate	71%
Unemployed	2,090
Unemployment rate	12%
Not in the labour force	4,540
Participation rate	80%

Key Points:

- It is obvious that Yukon has very high levels of employment and correspondingly high levels of unemployment compared to Canada's employment rate are 61.5 % and unemployment is 7.4 %.
- Yukon has a labour force participation rate that is much higher than Canada's participation rate are 66.4 % however, indicating that it is a lack of jobs rather than a lack of willingness to work that plagued the territory.

Table 3 Labour Force Statistics, Ross River, Census 2001

<i>Ross River</i>	<i># of people</i>
Working age population (15 years and over)	250
In the labour force	190
Employed	120
Employment rate	47%
Unemployed	70
Unemployment rate	37%
Not in the labour force	60
Participation rate	75%

Key Points:

- It is obvious that Ross River suffers from very low levels of employment and correspondingly high levels of unemployment.
- Ross River has a labour force participation rate that is comparable to the Yukon's however, indicating that it is a lack of jobs rather than a lack of willingness to work that plagues the community.

Table 4 Labour Force Statistics, Faro, Census 2001

<i>Faro</i>	<i># of people</i>
Working age population (15 years and over)	250
In the labour force	190
Employed	155
Employment rate	62%
Unemployed	30
Unemployment rate	16%
Not in the labour force	60
Participation rate	76%

Key Points:

- It is obvious that Faro has very high unemployment rate than the Yukon.
- Faro has a labour force participation rate that is comparable to the Yukon's however, indicating that it is a lack of jobs rather than a lack of willingness to work that plagues the community.

Table 5 Labour Force Statistics, Carmacks, Census 2001

<i>Carmacks</i>	<i># of people</i>
Working age population (15 years and over)	300
In the labour force	225
Employed	165
Employment rate	55%
Unemployed	60
Unemployment rate	27%
Not in the labour force	75
Participation rate	75%

Key Points:

- It is obvious that Carmacks employment rate is half of the population and correspondingly high levels of unemployment.
- Carmacks has a labour force participation rate that is comparable to the Yukon's however, indicating that it is a lack of jobs rather than a lack of willingness to work that plagues the community.

Table 6 Labour Force Statistics, Pelly Crossing, Census 2001

<i>Pelly Crossing</i>	<i># of people</i>
Working age population (15 years and over)	245
In the labour force	200
Employed	140
Employment rate	58%
Unemployed	60
Unemployment rate	30%
Not in the labour force	45
Participation rate	83%

Key Points:

- Pelly Crossing's employment rate is half of the population and has a correspondingly high levels of unemployment.
- Pelly Crossing has a labour force participation rate that is higher than the Yukon's however, indicating that it is a lack of jobs rather than a lack of willingness to work that plagues the community.

5.3.1 Overall

5.3.2 Employment by occupation

5.4 Industrial structure

5.4.1 Employment by industry

Employment categorized by industry in Ross River, Faro, Carmacks, and Pelly Crossing is compared to the Yukon as a whole in Table 7 to Table 11 below. Note that the small numbers in communities coupled with Statistics Canada's system of random rounding in order to protect confidentiality makes it possible to draw only the broadest conclusions from the data presented.

Table 7 Employment by Industry, the Yukon and Canada, 2001

<i>Industry</i>	<i>Percentage of Employment</i>	
	<i>Yukon</i>	<i>Canada</i>
Public administration	21%	6%
Finance and insurance	2%	4%
Real estate and rental and leasing	1%	2%
Construction	8%	6%
Healthcare and social assistance	9%	10%
Retail trade	11%	11%
Mining and oil and gas extraction	2%	1%
Educational services	7%	7%
Information and cultural industries	4%	3%
Other services (except public administration)	4%	5%
Wholesale trade	2%	4%
Transportation and warehousing	4%	5%
Professional, scientific and technical services	4%	6%
All others	20%	31%

Key Points:

- It appears that the Yukon is more heavily dependent on employment in public administration — with nearly 21% of employees working in the field — than Canada as a whole (approximately 6%).
- Employment in construction also appears stronger in Yukon than the Canada average of 6%.
- Employment in “all other” industry appears to be weaker in Yukon than the Canada average of 31%.

Table 8 Employment by Industry, Ross River, 2001

<i>Industry</i>	<i>Percentage of Employment</i>
Public administration	43%
Finance and insurance	0%
Real estate and rental and leasing	0%
Construction	17%
Healthcare and social assistance	9%
Retail trade	6%
Mining and oil and gas extraction	0%
Educational services	9%
Information and cultural industries	0%
Other services (except public administration)	0%
Wholesale trade	0%
Transportation and warehousing	0%
Professional, scientific and technical services	0%
All others	11%

Key Points:

- It appears that Ross River is even more heavily dependent on employment in public administration — with nearly 40% of employees working in the field — than the Yukon as a whole (approximately 21%).
- Employment in construction also appears stronger in Ross River than the Yukon average.

Table 9 Employment by Industry, Faro, 2001

<i>Industry</i>	<i>Percentage of Employment</i>
Public administration	26%
Finance and insurance	0%
Real estate and rental and leasing	0%
Construction	8%
Healthcare and social assistance	5%
Retail trade	8%
Mining and oil and gas extraction	13%
Educational services	8%
Information and cultural industries	0%
Other services (except public administration)	0%
Wholesale trade	5%
Transportation and warehousing	5%
Professional, scientific and technical services	0%
All others	26%

Key Points:

- It appears that Faro is heavily dependent on employment in public administration — with nearly 26% of employees working in the field — than the Yukon as a whole (approximately 21%).

- Employment in mining and oil and gas extraction also appears stronger in Faro than the Yukon average.
- Employment in “all others” industry appears to be Stronger in Faro than the Yukon average.

Table 10 Employment by Industry, Carmacks, 2001

<i>Industry</i>	<i>Percentage of Employment</i>
Public administration	30%
Finance and insurance	0%
Real estate and rental and leasing	0%
Construction	9%
Healthcare and social assistance	9%
Retail trade	5%
Mining and oil and gas extraction	5%
Educational services	12%
Information and cultural industries	0%
Other services (except public administration)	0%
Wholesale trade	0%
Transportation and warehousing	7%
Professional, scientific and technical services	5%
All others	28%

Key Points:

- It appears that Carmacks is heavily dependent on employment in public administration — with nearly 30% of employees working in the field — than the Yukon as a whole (approximately 21%).
- Employment in educational services also appears stronger in Carmacks than the Yukon average.
- Employment in all other industry appears to be Stronger in Carmacks than the Yukon average.

Table 11 Employment by Industry, Pelly Crossing, 2001

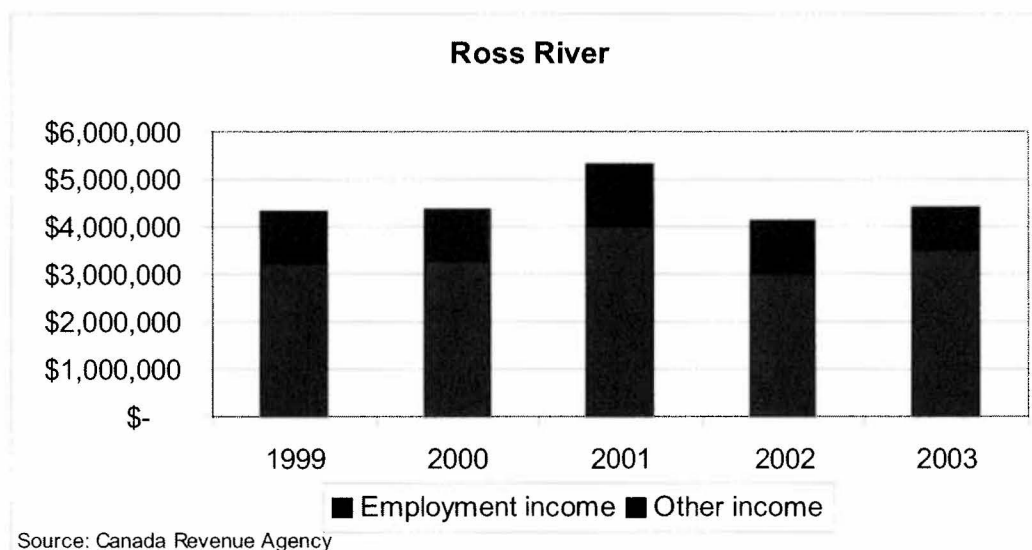
<i>Industry</i>	<i>Percentage of Employment</i>
Public administration	38%
Finance and insurance	0%
Real estate and rental and leasing	0%
Construction	13%
Healthcare and social assistance	5%
Retail trade	5%
Mining and oil and gas extraction	0%
Educational services	13%
Information and cultural industries	0%
Other services (except public administration)	0%
Wholesale trade	0%
Transportation and warehousing	0%
Professional, scientific and technical services	5%
All others	5%

Key Points:

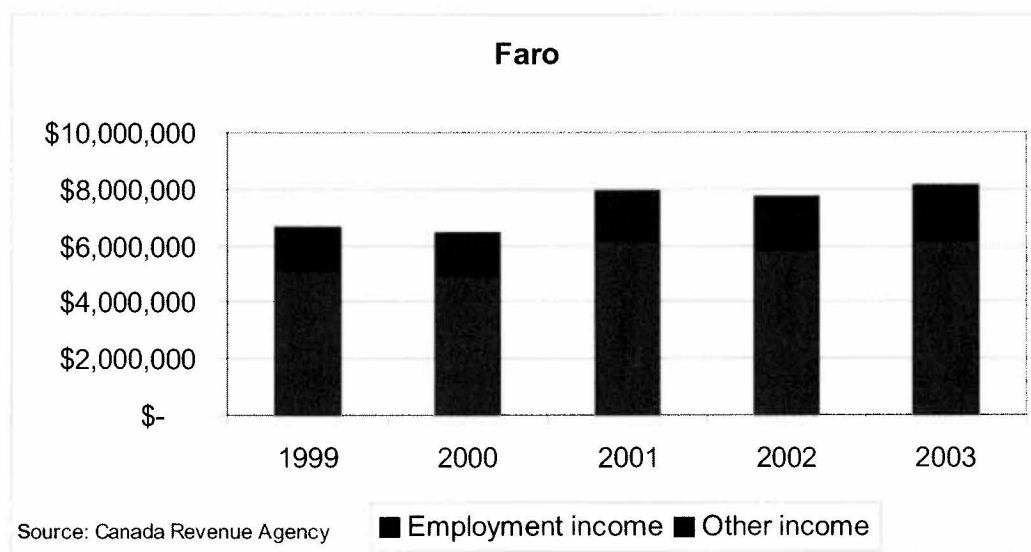
- It appears that Pelly Crossing is heavily dependent on employment in public administration — with nearly 38% of employees working in the field — than the Yukon as a whole (approximately 21%).
- Employment in educational services also appears stronger in Pelly Crossing than the Yukon average.
- Employment in construction appears to be stronger in Pelly Crossing than the Yukon average.

5.4.2 Existing businesses

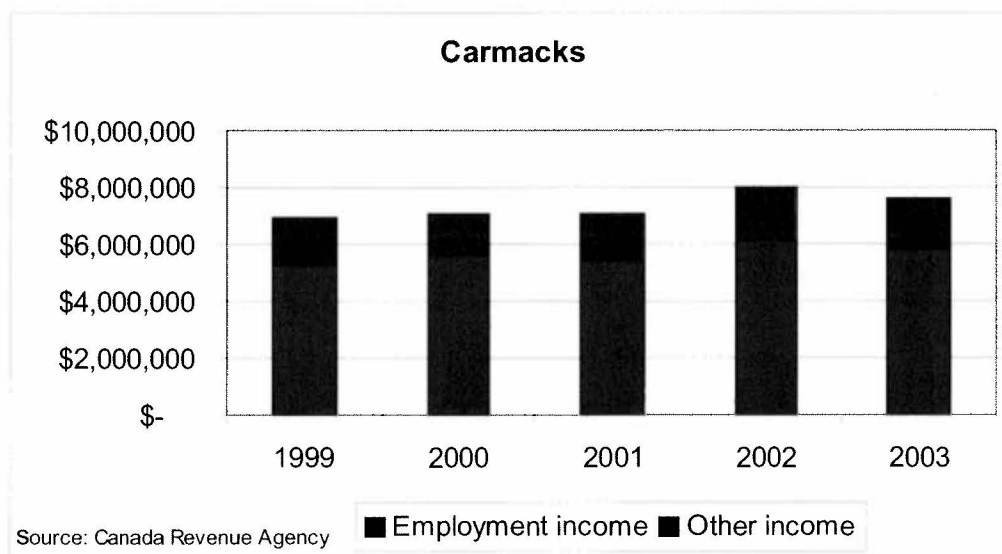
5.4.3 Boom & bust

5.5 Incomes**Figure 31 Employment & other income in Ross River, 1999-2003**Key Points:

- In Ross River for the last 5 years the employment income stayed around the 3 to 4 million range.
- In Ross River for the last 5 years the other income stayed around the 1 million range.
- In 2001 was the best's year for the Ross River citizen employment and other income combined exceeded the 5 million for the first time in 5 years.

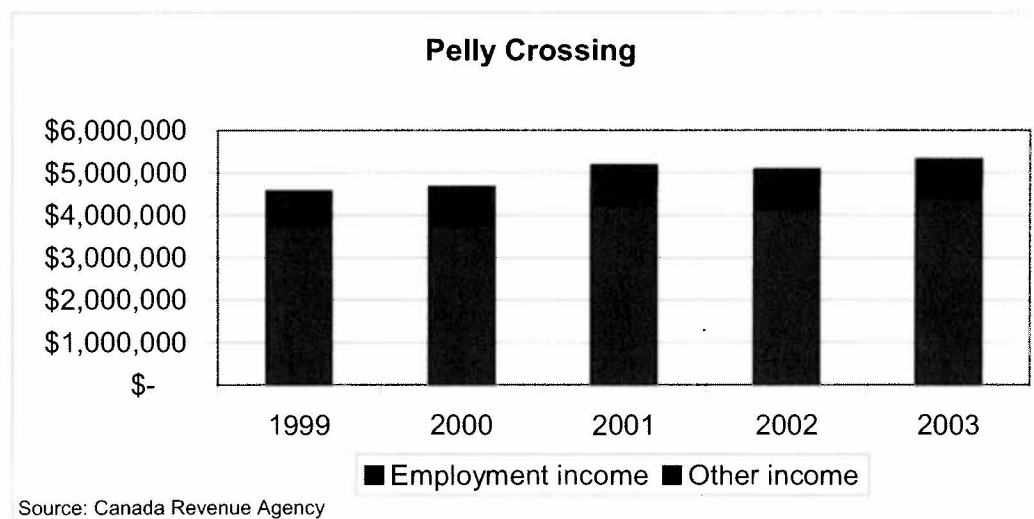
Figure 32 Employment & other income in Faro, 1999-2003**Key Points:**

- In Faro for the last 5 years the employment income stayed around the 4.5 to 5 million range.
- In Faro for the last 5 years the other income stayed around the 1 million range
- In 2001, 2003 was the best year for the Faro citizen employment and other income combined hovered around the 8 million ranges for the first time in 5 years.

Figure 33 Employment & other income in Carmacks, 1999-2003

Key Points:

- In Carmacks employment income stayed in the \$5 to \$6 million range for the last 5 years .
- In Carmacks for the last 5 years the “other income” hovered around the \$1 million range
- 2002 was the best year for the Carmacks citizen employment and other income combined reached the \$8 million mark for the first time in 5 years.

Figure 34 Employment & other income in Pelly Crossing, 1999-2003Key Points:

- In Pelly Crossing, for the last 5 years the employment income stayed around the \$3.5 to \$4.3 million range.
- In Pelly Crossing, for the last 5 years the other income stayed around the \$1 million mark.
- 2001 and 2003 were the best years for Pelly Crossing citizens; employment and other income combined hovered around the \$5 million mark.

5.5.1 Individual

5.5.2 Family/household

5.5.3 Community/GDP

5.6 Community, social and individual health

- 5.6.1 Health infrastructure
- 5.6.2 Individual health
- 5.6.3 Substance abuse
- 5.6.4 Alcohol and drug abuse

5.7 Crime

5.8 Land use

- 5.8.1 Land stewardship
- 5.8.2 Traditional land use
- 5.8.3 Heritage & sacred sites
- 5.8.4 Recreational use of site
- 5.8.5 Existing commercial uses (outfitting & tourism)

5.9 Recreational facilities

5.10 Discrimination

5.11 Archaeology & palaeontology?

6 Potential effects and mitigation

[FORTHCOMING]

7 Further work

7.1 Data collection

7.2 Consultation plan

[FORTHCOMING]