Economic Scan and Assessment of Potential for Development

Submitted to:

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LIST OF ACRONYMS

FN	First Nation(s)
KIAC	Klondike Institute of Arts and Culture
SOVA	School of Visual Arts
TH	Tr'ondëk Hwëch'in
YBS	Yukon Bureau of Statistics
YESAA	*Yukon Environmental and Socio-economic Assessment Act*
VoIP	Voice over Internet Protocol

SUMMARY OBSERVATIONS

This *Economic Scan and Assessment of Potential for Development* contains the first two parts of a multi-part effort to develop a Tr'ondëk Hwëch'in Regional Economic Development Plan. The completed plan will contain recommendations for future economic development in Tr'ondëk Hwëch'in traditional territory. The summary observations outlined below are presented as a starting point for discussion in the next stage of plan development.

Demographic & Labour Force Summary

Dawson's population is largely male, single and lives alone in rented accommodation. It has the demographic 'look' of a highly transient population but that is not the case. The number of people staying in the community between 2001 and 2006 is identical to the rate for the Yukon and is very comparable to Canada.

While the school age population is declining, the proportion of the 5 to 19 year old age group remaining in school has increased. However, without in-migration of families or a sudden increase in fertility rates, school enrolments are likely to continue to decline and with that the range of locally available educational options will also likely decline.

The 20 to 54 age group is the primary labour force working age group and current trends indicate a progressive decline in the size of the labour force. This is exacerbated by the decrease in the 0 to 19 year old population as a source for additional potential workers. Census data reveals that while Dawson males and females have a higher labour force participation rate than either their Yukon or Canadian counterparts, the level has declined since 1996. The increasing age of the population is a major factor in this decline as the 55+ population continues to increase. In order to take advantage of potential economic development opportunities, there will need to be a focus on attracting younger workers and families to the area.

The seasonal nature of Dawson's economic cycle, described by some as an annual "boom and bust" cycle, contributes to the work activity cycle and the estimate that one out of five people in the working age population rely on Employment Insurance Benefits for about five months of the year.[1] Perhaps most important in this area are the transient summer workers who provide much needed labour, primarily in the tourism related sectors.[2] There are no verifiable estimates of the size of this labour force cohort but indications are that they are primarily from Canada and less than 25 years of age, which corresponds with the premise that most of the seasonal workers are post-secondary students. Dawson employers are in competition with employers throughout Canada for this labour pool and report more jobs than people.

As a resource for economic expansion, the current population is not likely to fill the need. Both the age profile and the habitual work cycles would seem to suggest that the current population may be reluctant to take up opportunities that may arise. The type of development will be important as some types will be more attractive for those individuals who cherish their lifestyle. Simply stated, working in a mine may not attract this population, while establishing and monitoring a network of hiking trails and/or conducting hiking tours may well be attractive to them.

[1] Based on monthly EI claims compared to working age population by month average over the past 6 years using data provided by Yukon Bureau of Statistics.

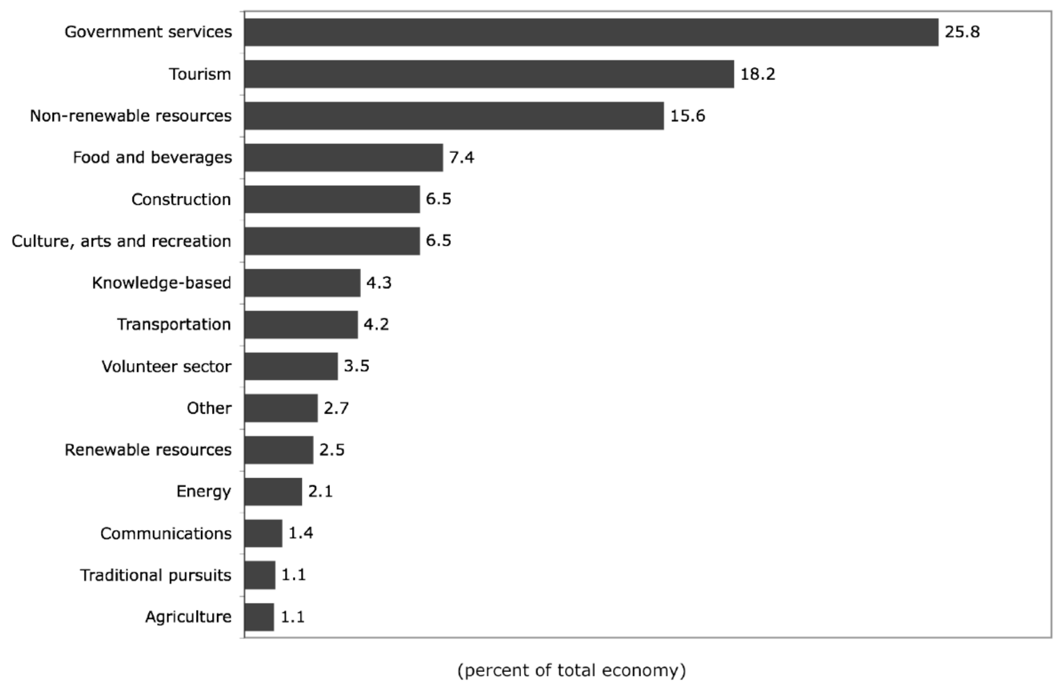
[2] *City of Dawson Seasonal Worker Housing Needs Analysis*, Michael Pealow Business and Economic Development Consulting, 2007.

Economic Circumstances

Very little economic data is available that describes economic activity in the Yukon at the sub-territorial level. For example, measures of gross domestic product are not available for the Dawson Region. In the absence of comprehensive economic data for the Dawson Region, semi-structured interviews were completed with a total of 28 representatives of Dawson Region governments and organizations as well as community participants.

As part of the interview, respondents were asked to rank the economic sectors according to their contribution to the Dawson regional economy. Respondents were prompted with a list of sectors and examples of activities in those sectors. The list included the ten sectors identified as being of interest by the Project Management Committee and four additional sectors: volunteer, traditional pursuits, food and beverages and construction. Respondents were also invited to include any other economic sectors not previously mentioned. Responses to the question asking survey participants to rank the economic sectors according to their contribution to the Dawson regional economy were compiled and are illustrated in the chart below.

Economic Sectors in Dawson Region - Current Perceptions of Scale



Interview participants' perceptions of the economic sectors in the Dawson Region match the oft-cited description of the Yukon's economy – a three-legged stool with government, tourism and mining representing each of the legs.

Structural analyses of each of the sectors identified for examination by the Project Management Committee are presented beginning on page 15 of this report. Notwithstanding the small scale (on the basis of interview participant perceptions) of some of the economic sectors, all sectors hold potential for development to some degree.

Sectoral Analysis

Using the current economic circumstances of the Dawson Region as a baseline, the selected industries were screened at a high-level to determine the attractiveness of the Dawson Region from an industry perspective. The following factors were considered within the context of each industry:

- Resource Availability;
- Market Potential;
- Political and Regulatory Environment;
- Proximity to Industry Clusters;
- Physical Infrastructure & Access to Market;
- Support Industry Availability; and,
- Workforce Availability.

The Dawson Region, though geographically distanced from world markets, is not isolated from global competition. In general, the Dawson Region is not currently an attractive investment option for most resource-based industries. This is due largely to the high cost of transporting products to market, a small and expensive labour force, and the strong Canadian dollar. In some cases, regulatory systems also have roles to play.

The sectors showing the most development potential include:

- Knowledge-based activities (specialty education and research);
- Tourism (specialty offerings and the leveraging of existing visitors);
- Mining/exploration and associated support services;
- Agriculture (depending on product and economies of scale); and,
- non-timber renewable resources (niche products).

A brief synopsis of each industry follows:

Communications
While there are demands for improved communications infrastructure and service offerings, limited market potential, existing competition, and a complex regulatory environment all conspire to limit the Dawson Region's attractiveness for investment.

Tourism & Culture
While it is currently hindered by a shortage of seasonal workers, there is growth potential for the Dawson Region's tourism and cultural industries, whether it means capitalizing on existing cruise ship tourists, or expanding into off-season and/or specialized tourism offerings.

Transportation
Most of the Dawson Region's transportation needs are already being met, with the exception of a Whitehorse-Dawson bus service. This opportunity could be explored as a public service (as a means to improve low-cost access to Dawson City for seasonal workers, local residents, and tourists) or as a private business.

Agriculture
The agricultural industry is limited by the availability, affordability, and suitability of a land base that is large enough to have the necessary economies of scale. Export opportunities are limited by transportation costs, infrastructure, and the regulatory environment.

Although the agriculture industry is unattractive from an industrial farming perspective, there are opportunities for the export of niche/specialty products. Also, there is a demand for locally grown foods as import replacements and there may be a demand for local foods for the tourism market.

Energy
Significant growth in Yukon energy demand is largely dependent on mining project development. Yukon Energy has not considered any projects in the Dawson Region in its *20-year Resource Plan*.

Forestry & Wildlife Resources
Regulatory issues and access to market are two major barriers to the establishment of a forest industry in the Dawson Region. Although the former is being addressed, the latter issue will remain for quite some time. Meanwhile, forestry opportunities will be limited to small-scale niche operations and local markets.

Non-timber forest resources hold some potential, though labour force issues (finding harvesters for the summer/fall season) will limit this potential.

Oil & Gas
The major players in the oil and gas industry are focusing their efforts on plays that have better market access, such as Northeastern BC and (if it receives regulatory approvals) the Mackenzie Valley. Labour shortages and proximity to industry clusters also reduce the attractiveness of the area. Approval of the Mackenzie Gas Project may improve the situation in the future. Until then, there may be some minor opportunities for oil and gas industry support work for the minor players that have exploration obligations in the North Yukon.

Mining
Placer mining remains an important part of the economy in the Dawson Region. Notwithstanding recent increases in gold prices, declining gold reserves and ever-increasing fuel prices do not bode well for the industry's future.

The Yukon is reported to be exploration-friendly from a regulatory perspective. A shortage of labour and distance to markets are two major disadvantages of the Dawson Region. The cost of transportation is less of an issue for high-value/low-volume materials. High metal prices will continue to drive exploration.

Knowledge-based (education, research and innovation)
The School of Visual Arts has already demonstrated that Dawson City is an attractive location for the pursuit of education. Further, there are a number of unique features in the region that can be leveraged for specialty education, research and innovation programs.

Infrastructure for education programs can be found within the downtown core. Housing quality is a limiting factor for prospective staff and students.

Government Services
During stakeholder interviews, it was suggested that Whitehorse-based government positions with a focus on the North Yukon Region should be transferred to Dawson City. It was also suggested that the transfer of these positions could improve service delivery and provide an economic benefit for the community.

It is difficult to evaluate the transfer of government services from a pure business perspective as many government decisions are based upon a combination of political, social, operational, and economic considerations. Further investigation to determine the possibility of government position transfers is required.

The table below presents a summary assessment of the attractiveness of the Dawson Region to the industries examined:

Summary: Dawson Region Attractiveness to Industry	
Communications	
Internet Service Providers	Very Low to Low
Cell Phone Service Providers	Very Low to Low
Conventional Phone Services	Very Low
Film and Video Production	Low to Medium
Audio and Music Production	Low to Medium
Tourism & Culture	
Wilderness Tourism	Medium to High
Cultural Tourism	Medium to High
Educational Tourism	Medium to High
Volunteer Tourism	Medium to High
Transportation	
Road Transportation (Freight)	Low to Medium (needs already being met)
Road Transportation (Passenger)	Low to Medium
Air Transportation (Freight/Passenger)	Low to Medium (needs already being met)
Agriculture	
Farming (various products)	Very Low to High, depending on product and mix
Energy	
Power Generation	Low
Forestry	
Commodity timber production	Very Low
Value-added production	Very Low
Pulp and paper production	Very Low
Niche products	Low to Medium
Oil &Gas	
Oil and gas exploration	Very Low to Low
Oil and gas exploration support services	Low
Oil and gas production	Very Low
Oil and gas production support services	Very Low
Pipeline construction/ownership	Very Low
Mining	
Mining exploration (ownership)	Medium to High
Mining exploration (support services)	Medium to Very High
Knowledge-Based (education, research and innovation)	
Researchers	Low to High, depending on fit
Educators	Low to High, depending on personal situation
Students	Low to High, depending on personal situation

Expanding Economic Development Potential

In order to expand and diversify the Dawson Region's economy, the Regional Economic Development Plan will need to:

- address and overcome the perceived barriers to economic development;
- build on the existing and unique strengths of the Dawson Region and focus on niche opportunities that complement those unique strengths; and,
- remain open to development activities that are affected more by global forces than by local influence (typically non-renewable resources).

Overcoming Perceived Barriers to Economic Development

Several barriers to economic development were identified in the semi-structured interviews. While in some cases a barrier may not actually exist, the belief that the barrier exists may be enough to deter local or external investment. In other cases the barriers may be legitimate deterrents that will need to be looked at from the perspective of what can be done to ameliorate the negative impact. Clearly, one cannot change where Dawson is located and the associated challenges of seasonality and remoteness. One can, however, address housing and infrastructure (e.g., enhanced airport, Yukon River bridge, etc.) albeit some over a longer period of time. Identifying what can be addressed by cooperative and coherent action amongst all levels of government is a necessary first step.

The barriers identified during the interview process include (in alphabetical order):

- Access to capital and small business support;
- Government regulation and managed growth;
- Housing and accommodation (specifically, the availability of adequate and mortgageable housing);
- Infrastructure, land, local taxes and service delivery (e.g., airport upgrade, Yukon River bridge, year-round recreational facilities);
- Labour market supply;
- Limited awareness of investment opportunities (buying and selling);
- Seasonality, geographic remoteness and cost of doing business;
- Social issues;
- Structural imbalance in an economy dominated by government; and,
- Leadership and cooperation (not enough amongst all levels of government).

The barriers listed above are from the perspective of living within the community. There are other limiting factors which, except in very narrow and limited areas, inhibit external investment in the Dawson Region. Dawson simply does not have the population size, geographic access to markets and community infrastructure to attract business interests from Outside except in the focused areas of niche tourism or mining. If economic development is to expand in the Dawson Region, the initiative for development will need to emerge out of Dawson itself rather than being led by outside investment.

Building on the Strengths of the Dawson Region

Dawson has several unique attributes including its:

- History
  - Tr'ondëk Hwëch'in
  - Klondike Gold Rush
- Geography
  - proximity to Tombstone Park
- Geology
  - mineral deposits
- Lifestyle
  - vibrant volunteer culture
  - high national profile resulting from its vibrant music and arts scene
- People
  - mature population with both training and skills
  - relatively stable population base committed to the community
  - community open to newcomers and heavily oriented to the arts and culture

Dawson evokes a number of different images in people's minds when they hear the name. Despite the number of buildings which are lifeless except for a frontal display area, Dawson is a pretty town and rustically attractive. Some of its very drawbacks, when viewed from the perspective of attracting industrial development, become advantages when looked at through a different economic development perspective which focuses on arts, culture and education.

Conceptually, the vision of an artisan community living comfortably within a college town provides the image with which many interviewees were comfortable. The remoteness of Dawson is a much-reduced factor from this perspective.

This is not to deny the importance of the goods-producing sector, mining or potential forestry and agricultural developments. They provide a welcome expansion of opportunities within Dawson but the bulk of these opportunities are dependent upon national and global factors well beyond the capacity of Dawson to influence, let alone control.

Specific Areas for Development

The focus here is on those areas which Dawson has some control and can provide leadership into the future. They require active investment by locals and will depend on the extent to which the economic development capacity of Tr'ondëk Hwëch'in and other levels of government in Dawson can work effectively together.

Expanding the Tourist Base Through Rebranding New Product Offerings
Dawson could complement its current high-volume, low-spending tourist base with high-end bigger spenders. This can be accomplished by taking advantage of a World Heritage Site status (seen by some as a high probability) and rebranding Dawson as a pristine wilderness adventure destination with a unique dual historical/cultural backdrop – both Goldrush and Tr'ondëk Hwëch'in.

The rebranding will need to be accompanied by not only a new marketing strategy but also the development of the trail and support infrastructure needed to meet this market and to target market-appropriate products. Becoming linked with existing hiking/wilderness adventure tour networks would help make Dawson a highly prized destination particularly when coupled with the World Heritage Site designation and Tombstone Park.

Dawson's remoteness and the region's low population density are positive factors for this focus. Drawbacks include the functional limitations of the airport (which affects travel connections) and the need to invest locally in the infrastructure required to exploit this opportunity.

Establishing a Knowledge Economy
Dawson could build on its arts and culture successes (e.g., KIAC and SOVA), expanding its existing offerings. It could also branch into other specialty fields and developing world-class institutions in Climate Change Research, First Nations Heritage and Cultural Studies, Paleontology Research, Northern Social Policy and Governance research institute as examples.

It will be necessary to invest in expertise to bring research and academic institutions to Dawson. There is a natural linkage between expanding the current offerings and partnering with tourism product providers to develop packages to focus on specialty course offerings or that incorporate a mix of unique experiences of local arts and culture, wilderness experiences, and educational opportunities.

Manage mining and oil & gas exploration/development
In the event that nonrenewable resource development occurs, the Regional Economic Development Plan should have the flexibility to incorporate and manage rather than attempt to control. Too many national and global factors are at play for complete control to be achieved. Instead, it will be more effective to try and maximize the benefits to Dawson through all aspects of the process from exploration to reclamation of the sites as they arise.

Whether economic development occurs through locals developing prospecting skills, investing in exploration equipment for contract work, or focusing on supply and services to exploration and mining companies, all of these opportunities will need to be recognized and exploited by the people and businesses in Dawson. Tr'ondëk Hwëch'in is well positioned to identify and manage these opportunities as they arise.

This summary observation section is intended as a starting point for discussion on the next stage of the Tr'ondëk Hwëch'in Regional Economic Development Plan. As such, not all aspects of the Economic Scan and Assessment of Potential for Development are detailed here.

Readers are invited to delve into the remainder of this report to gain an improved understanding of the demographic, social and economic circumstances of the Dawson Region and the global, national and regional context that underlies the assessment of potential for development of the Dawson Region.

INTRODUCTION

Tr'ondëk Hwëch'in became the seventh Yukon First Nation to achieve self-government when the Tr'ondëk Hwëch'in Final and Self-Government Agreements came into effect on September 15, 1998. The two Agreements form a truly comprehensive basis for self-government as they address constitutional, land and fiscal aspects in an integrated treaty. The Tr'ondëk Hwëch'in Final Agreement is constitutionally protected under section 35 of the *Constitution Act, 1867*.

As outlined in Chapter 22 of the Final Agreement, economic development measures are a key element of self-government implementation. The objectives of Chapter 22 are:

- to provide Yukon Indian People with opportunities to participate in the Yukon economy;
- to develop economic self-reliance for Yukon Indian People; and,
- to ensure that Yukon Indian People obtain economic benefits that flow directly from the Settlement Agreements.

Among the specific economic measures contained in Chapter 22 is a requirement that a Regional Economic Development Plan be prepared for Tr'ondëk Hwëch'in Traditional Territory. Preparation of the Regional Economic Development Plan is to be undertaken jointly by Tr'ondëk Hwëch'in and the governments of Canada and the Yukon. The Plan shall:

- examine the state of the economy in the Traditional Territory of the Tr'ondëk Hwëch'in;
- assess the potential for development in the areas of communication, culture, transportation, agriculture, energy, renewable and non-renewable resources and tourism in the Traditional Territory of the Tr'ondëk Hwëch'in;
- recommend appropriate types of economic development activities which are consistent with the principles of Sustainable Development;
- recommend priorities for economic development in the Traditional Territory of the Tr'ondëk Hwëch'in;
- recommend measures to integrate the Tr'ondëk Hwëch'in economic development opportunities plan required pursuant to 22.3.1 with the regional economic development plan for the Traditional Territory of the Tr'ondëk Hwëch'in;
- recommend measures to integrate the regional economic development plan with other relevant economic plans and strategies, including any economic plans and strategies prepared by or on behalf of Government;
- recommend actions which Government and the Tr'ondëk Hwëch'in should take to implement the regional economic development plan;
- recommend whether limits or other restrictions are required for commercial activities within the scope of Part II of this schedule, and if limits or other restrictions are required,
- recommend what those limits or restrictions should be;
- provide for periodic review and evaluation of the regional economic development plan; and,
- recommend a process of amendment for the regional economic development plan.

The purpose of this project is to lay the groundwork for the community-based development of a Regional Economic Development Plan for Tr'ondëk Hwëch'in Traditional Territory through the completion of two main activities:

- Preparation of a high level social, demographic and economic scan of the Yukon economy and more specifically the economy of the Tr'ondëk Hwëch'in Traditional Territory.
- An assessment of the potential for development in the sectors of communication, culture, transportation, agriculture, energy, renewable and non-renewable resources and tourism in Tr'ondëk Hwëch'in Traditional Territory.

CURRENT CIRCUMSTANCES

Population Overview[3]

The population of Dawson has gone from a recorded high of 9,142 in 1901 down to 697 in 1981. Since that time it has slowly increased to a Census-based level of 1,327 in 2006 - its highest level since 1911.

The Canadian census is conducted every 5 years (most recently in 2006) and provides the most comprehensive basis for comparing Dawson, Yukon and Canada. It does, however, undercount the population in Dawson compared to Yukon Bureau of Statistics (YBS) estimates based on health care registrations by postal code address. [4] The YBS estimates provide an annual basis for comparison between Yukon and Dawson from 1997 through 2007 but cannot be used for comparisons to Canada nor for characteristics other than age and sex.

The population of Dawson has a unique age and marital status structure compared to Yukon and Canada. On one hand the population is older than the Yukon – which would lead one to expect more married and common-law couples with children. This is not the case. Dawson's population is largely single, male and lives alone in rented accommodation. It has the demographic 'look' of a highly transient population but that is not the case either. The number of people staying in the community between 2001 and 2006 is identical to the rate for the Yukon and is very comparable to Canada.

The population proportionally has fewer university degrees but more trade certification and college certification and diplomas than either the Yukon or Canada. It is the area of certification that is somewhat interesting. In comparison to the Yukon and Canada there is the expected higher proportion in the visual and performing arts sector but it remains one of the smallest areas of certification overall in Dawson.

[3] This overview is based on the detailed profile provided in Appendix A and provides only the highlights of the data presented there.

[4] The assertion that the Census undercounts population is supported by comparing the number of tax returns in 2005 (the most recent year data is available from Revenue Canada at http://www.cra-arc.gc.ca/agency/stats/locsts-e.html) with the reported Census population for Dawson for 2006. In 2005 a total of 1,300 tax returns is reported compared to the 2006 Census population figure of 1,327. In effect, every man, woman and child in Dawson would have had to file a tax return in order to accept the Census figure as an accurate count of the population. That is highly improbable and therefore the YBS estimates are used as the basis for the detailed discussion of Yukon and Dawson population structure.

Based on census data, the First Nation population represents about one-third of the total population and almost half of the preschool and school age population groups. This declines to about a quarter of the working age, pre-retirement and 65+ age groups but in all population age groups Dawson's First Nation represents a larger proportion of the population than in Yukon. There are too few data points to do an extrapolation of current trends.

While the school age population is declining, the proportion of the 5 to 19 year old age group remaining in school has increased. However, without an in-migration of families or a sudden increase in fertility rates school enrolments are likely to continue to decline and with that the range of locally available educational options will also likely decline as well.

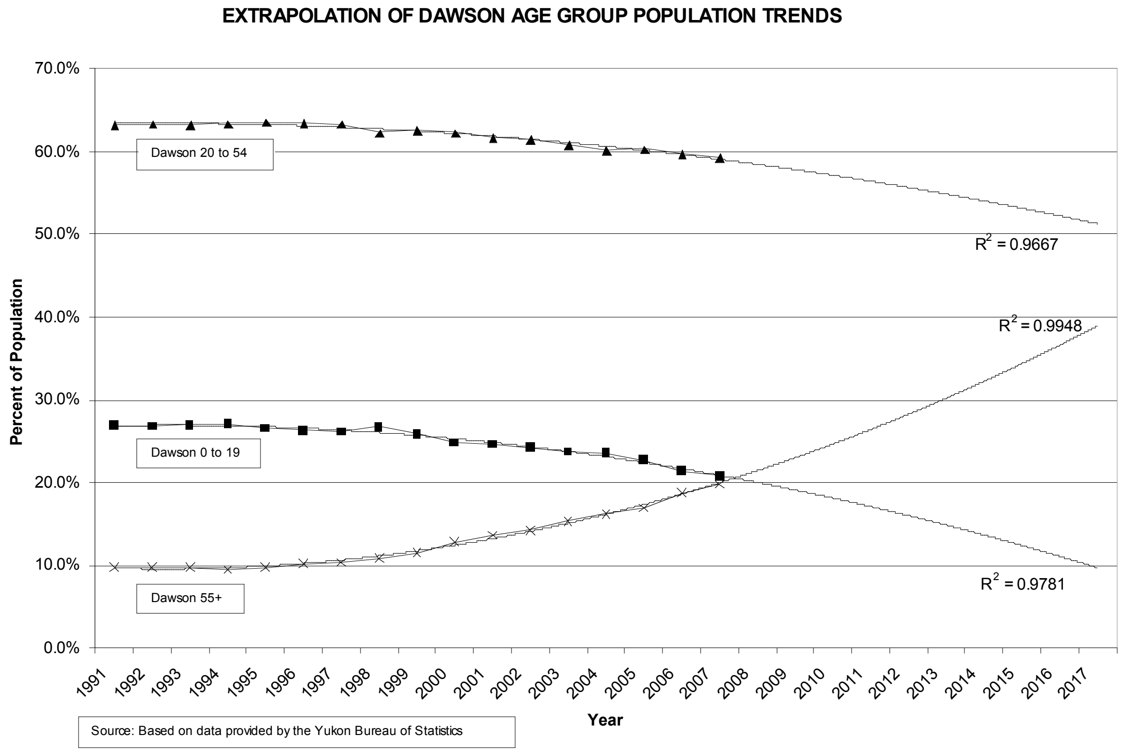
Extrapolation of Population Trends

The Yukon Bureau of Statistics population estimates for Dawson provides a basis upon which to examine what will happen if current trends continue unchanged. This is not a forecast, as it does not attempt to take into account changes due to economic development activities that may impact the level of in-migration and the structure of the population. It does present a mathematical summary of population trends from 1991 through 2017 based on what has occurred during the 1991 through 2007 time period. The R^2 values are provided to indicate the strength of the trend and in all cases are, mathematically speaking, very strong.[5]

Given current trends, the 55+ population is expected to become a larger component of the population than the 0 to 19 year old population during 2008.[6] This latter population group demonstrates the largest decline in population proportion and the sharp increase in the 55+ population is due to not only the decrease in the 0 to 19 age group but also in the 20 to 54 year old age group as well. The 20 to 54 age group is the primary labour force working age group and current trends indicate a progressive erosion of labour force capacity to be drawn on for existing employment opportunities. This is, of course, exacerbated by the decrease in the 0 to 19 year old population as a source for additional potential workers. If current trends continue, the Dawson population will become increasingly older at a much more rapid rate than the overall Yukon population.

[5] For all three series a two factor polynomial equation was used as it provided the best fit with the historical data.

[6] In the Appendix, five age groups are used to provide finer detail but for this discussion and extrapolation of trends the three age groups used capture the essential point.



It is important to emphasize that while this is not a prediction of what will occur it does present a basis against which to monitor the impact on population of economic initiatives undertaken in the future.

Labour Force[7]

Census data reveals that while Dawson males and females have a higher labour force participation rate than either their Yukon or Canadian counterparts the level has declined since 1996 – as has the Yukon. Given the increasing age of the population this decline may be expected.

However, census labour force participation rates only identifies whether a person worked during the previous year and there are marked differences between the work activity of workers in Dawson compared to the Yukon. Part-time workers in Dawson average 22 weeks of work per year compared to 30 weeks for their Yukon counterparts. In terms of full-time workers, in Dawson they average 42 weeks per year, which is comparable to the 43 weeks per year for the Yukon. Whether the residual time is available for other work activities depends upon the lifestyle choices being made by the individual worker. One simply cannot conclude that everyone wants a full-year, full-time job – or even to increase their part-time participation.

The seasonal nature of Dawson's economic cycle, described by some as an annual "boom and bust" cycle, contributes to the work activity cycle and the estimate that 1 out of 5 people in the working age population rely on Employment Insurance Benefits for about 5 months of the year.[8] Perhaps most important in this area are the transient

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[7] This presents only the highlights of the more detailed material provided in Appendix A.

[8] Based on monthly EI claims compared to working age population by month average over the past 6 years using data provided by Yukon Bureau of Statistics.

summer workers who provide much needed labour primarily in the tourism related sectors most particularly the accommodations and food sectors along with retail trade.[9] There are no verifiable estimates of the size of this labour force but indications are that they are primarily from Canada and under 25 years of age, which corresponds with the premise that most of the seasonal workers are students who are attempting to earn money during the summer season. Dawson employers are in competition with employers throughout Canada for this labour pool and report more jobs than people.

In contrast to the Yukon, the number of self-employed persons in Dawson has increased relative to the wage earners as a proportion of total labour force. This may in part be due to the aging population as there appears to be a relationship between the decrease in the 20 to 54 age group and the decline in the proportion of the wage earning labour force and an increase in the 55+ population and increase in self-employment in Dawson.

The perception that government employment dominates the labour force in both Dawson and the Yukon is accurate if the education and health areas are included along with the arts and culture areas, which are largely government funded. What is noticeable in Dawson is that the public administration area has increased from 2001 to 2006 while the next largest industrial component (accommodation and food services) has declined slightly – but it remains a much larger component of the labour force than in either Yukon or Canada.

The mining and oil and gas extraction and arts, entertainment and recreation sectors in Dawson, as might be expected, are also much larger components of the economy than in the Yukon or Canada. Construction also is slightly higher but has declined from 2001 to 2006 and over the remaining industries there is a lower proportion indicating that Dawson's economy is not of sufficient scale to support a comprehensive industrial distribution.

From 1996 to 2006, Dawson has increased in Management, Business and Trades-related occupations and declined in Sales and Primary Industry occupations as proportions of the labour force. Other areas show minor fluctuations and SOVA is too recent to have had an impact on this profile. It is expected that the occupations relating to arts and culture will increase as a proportion based on the current developments in the post-secondary arts related educational opportunities.

The structure of the economy, from the perspective of labour force employment, has gone through some changes but not unexpected or dramatic given the context and demographic realities. It is tempting to infer the 'frontier spirit' from the growth in self-employment but it is likely more a demographic than 'spirit' phenomena.

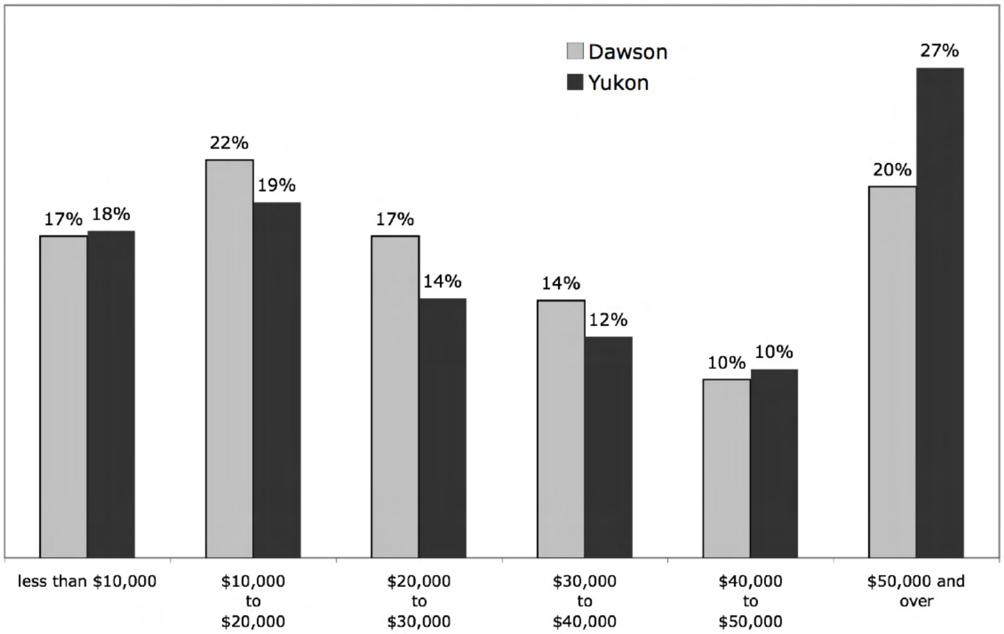
Another consideration is that looking over the past period, where there has not been dramatic change, does not mean that possibility is not there. The focus on SOVA and expansion into other post-secondary areas could impact the occupational and industrial distribution. In fact, any particular development could be modelled against the base distribution, which would provide some estimate of impact.

[9] *City of Dawson Seasonal Worker Housing Needs Analysis*, Michael Pealow Business and Economic Development Consulting, 2007.

Incomes

As shown in the chart below, the distribution of income in Dawson City is similar in its overall pattern to that of the Yukon's distribution of income; the column heights rise and fall in the same pattern. The chart also indicates that there are fewer individuals with incomes in excess of $50,000 per year resident in Dawson relative to the Yukon average.

Distribution of Personal Income Tax Returns (All Returns) by Income Level
Dawson and Yukon, 5 Year Average (2001 to 2005)



Source: Canada Revenue Agency, Locality Code Statistics, various years.

The table below presents personal income tax filing data for residents of Dawson City and the Yukon over the period 2001 to 2005.

Taxable Personal Income Tax Returns – Dawson and Yukon, 2001 to 2005

		Total Returns	Income	Federal Tax	Territorial Tax	Total Tax
		Number	($000)	($000)	($000)	($000)
Dawson	2001	1,250	38,284	3,523	1,596	5,119
	2002	1,260	39,344	3,647	1,583	5,230
	2003	1,250	39,404	3,665	1,595	5,260
	2004	1,240	42,209	3,964	1,727	5,691
	2005	1,300	45,888	4,299	1,992	6,291
Yukon	2001	20,770	704,204	68,599	31,363	99,962
	2002	21,420	741,893	73,178	32,028	105,206
	2003	21,330	756,833	75,132	32,889	108,022
	2004	21,880	813,482	81,594	35,880	117,474
	2005	22,850	895,841	89,152	41,043	130,195

Source: Canada Revenue Agency, *Locality Code Statistics,* various years.

Discussion

The population in Dawson presents an interesting analytical challenge. Based on a glance at the data it should be a transient population given the low level of home ownership and the predominantly single population. However, mobility data indicates that this is not the case and anecdotal information confirms that the quality of housing available is often the issue. It appears people are willing to rent but not buy what is available. As a consequence, the low level of home ownership may be more descriptive of the quality of available housing than on an individual's desire to put down roots.

Another factor may be, based on the Labour Force discussion, that people in Dawson work fewer weeks per year and with that goes lower income which may lead to an inability to qualify for mortgage financing. The work patterns observed coupled with the large number of singles means that the ability to qualify for a mortgage may be a larger factor than one might expect. Two income households have a much easier time qualifying for financing than single people and what programs there are to assist tend to focus on families not singles.

As a resource for economic expansion the current population is not likely to fill the need. Both the age profile and the habitual work cycles seem to dispose against the current population taking up opportunities that may arise. This is to some extent counterbalanced by the type of development, as some will be more attractive to those who cherish their lifestyle than other options. Simply stated, working in a mine may not attract this population while establishing and monitoring a network of hiking trails and/or conducting hiking tours may well be attractive to them.

The potential need for additional people involves attracting and keeping them – a subject for further discussion as part of the community values context.

ECONOMIC CIRCUMSTANCES

The ten economic sectors identified for examination by the Project Management Committee include:

- communication
- culture
- transportation
- agriculture
- energy
- renewable resources
- non-renewable resources
- tourism
- knowledge based
- government services

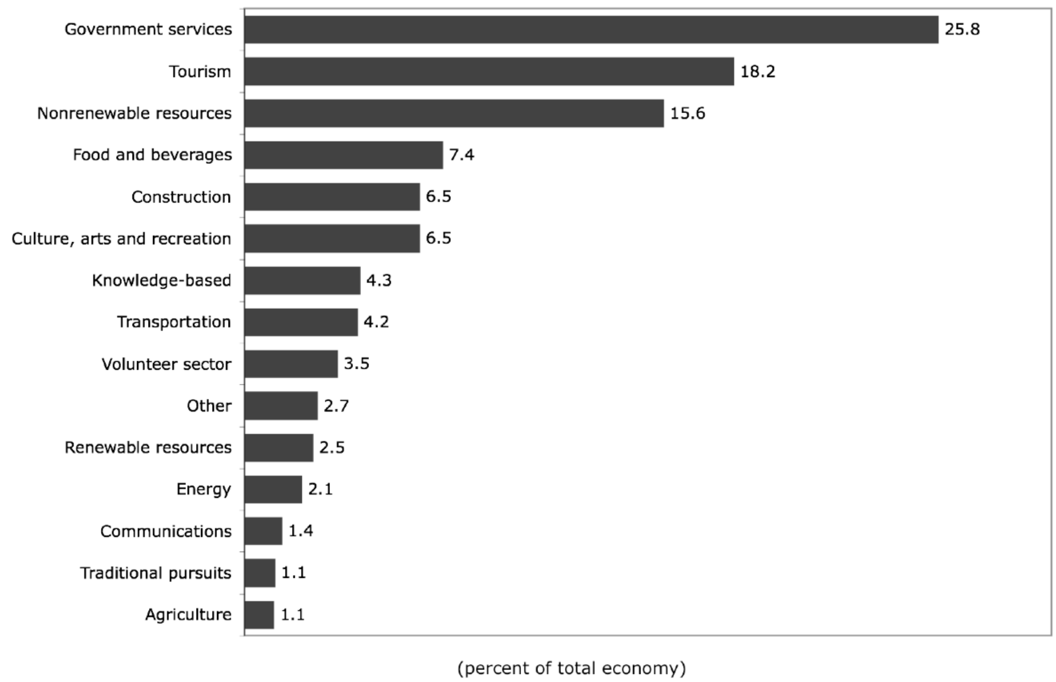
A total of 28 semi-structured interviews were conducted with representatives of Dawson governments, organizations and community participants. A total of 32 potential interview participants were identified by Tr'ondëk Hwëch'in (Gary Wilson) and the City of Dawson (Mark Wickham). Additional interview participants were identified in the course of conducting the interviews. Most of the interviews were completed face–to-face during a visit to Dawson over the period February 16 to February 21 by two members of the consulting team. Remaining interviews were conducted either face-to-face with individuals in Whitehorse or by telephone. A complete list of individuals interviewed may be found in Appendix C.

As part of the interview, respondents were asked to rank the economic sectors according to their contribution to the Dawson regional economy. Respondents were prompted with a list of sectors and examples of activities in those sectors. The list included the ten sectors identified as being of interest by the Project Management Committee and four additional sectors: volunteer, traditional pursuits, food and beverages and construction. Respondents were also invited to include any other economic sectors not previously mentioned.

Sector	Examples of activities/organizations
Communications	telephone, radio, television, cell phones, newspapers, internet
Culture, arts and recreation	Klondike Institute of Arts and Cultures (KIAC), Dawson City Arts Society, events (Dawson City Music Festival, Discovery Days, Trek over the Top, etc.), Dänòja Zho Cultural Centre, Dawson Recreation Centre, swimming pool
Knowledge-based	Robert Service School, Yukon College, information technology services
Government services	Government of Canada (incl. Parks Canada), Government of Yukon, Tr'ondëk Hwëch'in, City of Dawson, health care (e.g., nursing station, MacDonald Lodge), Canadian Rangers
Transportation	taxis, buses, river boats, cars, service stations, helicopters, air charters, trucking, George Black Ferry
Agriculture	market gardening, food manufacturing (e.g., birch syrup), wine and spirits manufacturing
Energy	electricity production, solar energy, wind energy, biomass (wood)
Renewable resources	forestry, salmon fishing, fresh water fishing, berries, mushrooms, big game outfitting
Nonrenewable resources	placer mining, hard rock mining, oil and gas exploration, mammoth ivory, jewelry manufacturing
Tourism	hotels, motels, Diamond Tooth Gerties, tour operators, RV parks, Klondike Visitors Association
Volunteer sector	Conservation Klondike Society, Dawson City Chamber of Commerce, Dawson City Museum, Dawson City Sled Dawgs, Dawson Community Library, Search and Rescue Organization of the Klondike
Traditional pursuits	trapping, berry picking, fishing
Food and beverages	restaurants, bars, pubs
Construction	home builders, commercial builders, building material suppliers
Other:	real estate (rentals)

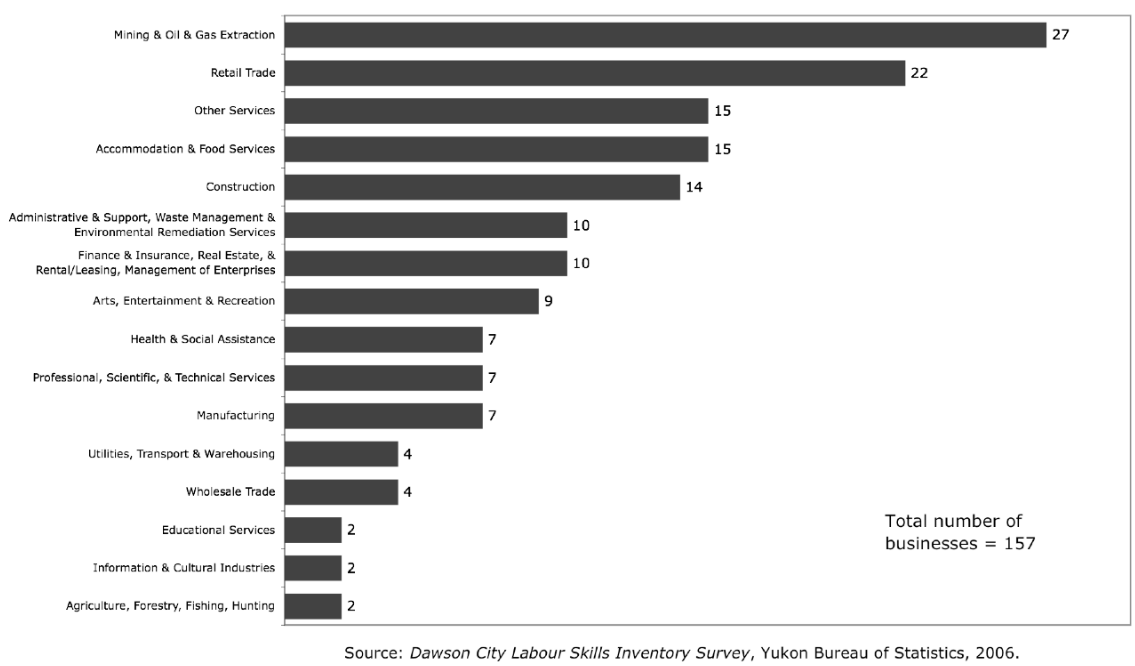
Responses to the question asking survey participants to rank the economic sectors according to their contribution to the Dawson regional economy were compiled and are illustrated in the chart below.

Economic Sectors in Dawson Region - Current Perceptions of Scale



An alternate approach to describing a regional economy is to simply count the number of business entities operating in the economy. While a count of businesses excludes the presence of public sector entities, it provides an illustration of the patterns of economic activity in the region. As can be seen from the chart below, the most numerous types of business reported in the *Dawson City Labour Skills Inventory Survey* are those involved in mining and retail trade, accounting for 17% and 14%, respectively, of the total number of businesses in Dawson.

Number and Type of Dawson-based Business Entities - 2006



Very little economic data is available that describes economic activity in the Yukon at the sub-territorial level in terms of the value of production. For example, measures of gross domestic product are not available at the regional level. Much of the data that are available derives from Statistics Canada's quinquennial Census, and have been described earlier in this report. Thus, the analysis which follows focuses on the structure of the economy of the Dawson Region.

Government Services

As illustrated by the semi-structured interviews with Dawson City community participants, government services are clearly perceived as being the largest "economic" sector in the Dawson Region. In aggregate, interview participants perceived the government services sector as accounting for approximately 26% of the region's total economy. The table below outlines which government is responsible for delivering which major programs and services in the government sector of the Dawson Region.

Dawson Government Sector "Who Does What" Matrix – Expenditure Side			
Canada	Yukon Government	Tr'ondëk Hwëch'in	City of Dawson
• Parks Canada • Policing (RCMP) • National Defense (incl. Canadian Rangers) • Justice (federal criminal code) • Housing	• Education (Robert Service School, Yukon College) • Health • Social Assistance • Transportation (airport, ferry, highways) • Environment • Natural resources (forestry, minerals, oil & gas, agriculture, habitat, trapping) • Tourism • Economic development • Justice (all except federal criminal code) • Land administration • Libraries • Emergency measures • Wildland fire management • Yukon Geological Survey • Yukon Workers' Compensation Health and Safety Board • Yukon Energy Corporation	• Lands and resources • Fish and wildlife • Health programs • Social assistance • Education • Land administration • Resource management • Heritage • Tourism • Housing • Youth Centre • Community Centre • Economic Development (Chief Isaac Inc.)	• Water, sewer and garbage • Land planning • Heritage • Local roads • Recreation centre • Swimming pool • Fire fighting • Snow removal

Tr'ondëk Hwëch'in is a self-governing Yukon First Nation. As such, the range of programs and services that it can deliver, through negotiations for the transfer of administrative responsibility, is comprehensive. Major program delivery areas that could potentially be drawn down by Tr'ondëk Hwëch'in include education, health and social services. A complete list of programs and services that could potentially be delivered by Tr'ondëk Hwëch'in can be found in section 13 of the Tr'ondëk Hwëch'in Self-government Agreement, reproduced as Appendix D to this report.

The table below outlines how the four levels of government in the Dawson fund their operations.

Dawson Government Sector “Who Does What” Matrix – Revenue Side				
	Government of Canada	Yukon Government	Tr’ondëk Hwëch’in	City of Dawson
Taxation power	direct and indirect	direct	direct	property tax only
Taxation land base	Canada	within the Yukon	within TH Settlement Land	within boundaries of City of Dawson
Occupied tax fields	• excise tax on fuel • excise tax on tobacco • excise tax on liquor • customs duties • personal income tax • corporate income tax • goods and services tax • payroll taxes • capital taxes	• personal income tax • corporate income tax • liquor tax • tobacco tax • fuel tax • insurance premium tax	• personal income tax • GST sharing • Crown royalty sharing	• property tax
Able to levy resource royalties (minerals, oil and gas)?	yes, shared with Yukon	yes, shared with Canada and Yukon First Nations	yes, on Category A settlement land	no
Able to levy user fees, service charges?	yes	yes	yes	yes
More than 2/3 of total annual revenues received in form of transfers from senior governments?	n/a	yes	yes	no

Tourism

Though highly seasonal in nature, tourism is a key economic sector in the Dawson Region. Interview participants perceived tourism as being the second-largest economic sector in the Dawson Region accounting for approximately 18% of the total economy in the Dawson Region.

The Dawson Region features several major tourism assets, including:

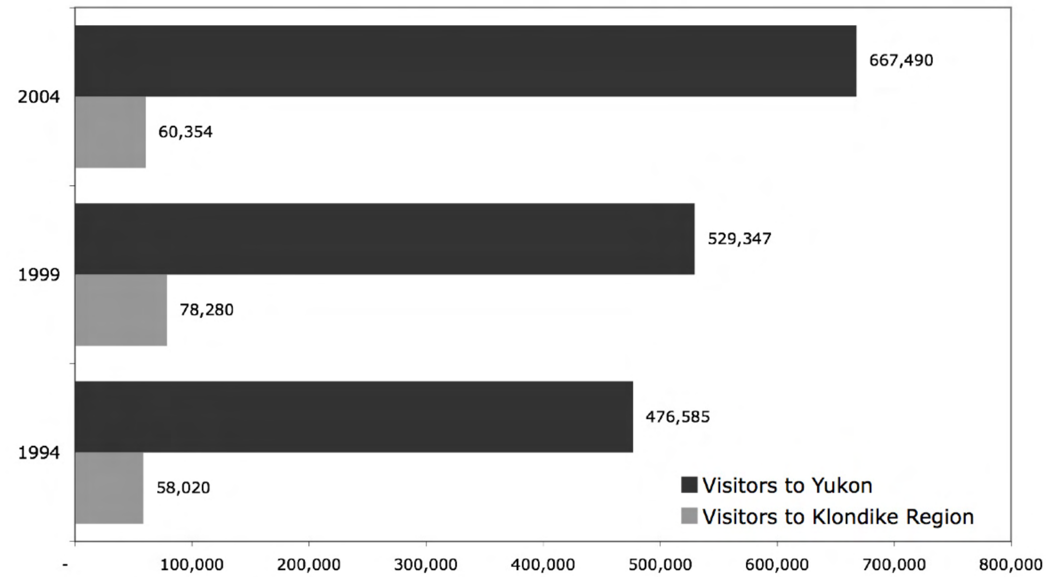
- Parks Canada Dawson Historical Complex
  - Dredge No. 4
  - Bear Creek Gold Room and Compound
  - Palace Grand Theatre
  - Old Post Office
  - Commissioner's Residence
  - Robert Service Cabin
  - Discovery Claim
- Dempster Highway
- Dänòja Zho Cultural Centre
- Diamond Tooth Gerties
- Tombstone Territorial Park
- Dawson Museum
- Yukon River

Dawson City hosts an expansive array of events each year including:

- Yukon Quest
- Trek Over the Top
- Thawdi Gras
- Dawson City International Short Film Festival
- Dawson City Gold Show
- The Commissioner's Klondike Ball
- Dust to Dawson Motorcycle Rally
- Aboriginal Day
- Midnight Sun Golf Tournament
- Yukon River Quest
- Yukon Gold Panning Championships
- Dawson City Music Festival
- International Dome Race
- Discovery Day Celebrations
- Authors' on Eighth
- Yukon Riverside Arts Festival
- Discovery Day Run
- Discovery Days Golf Tournament
- Klondike Valley Mud Bog
- Great Klondike International Outhouse Race
- White Ram Poker Tournament

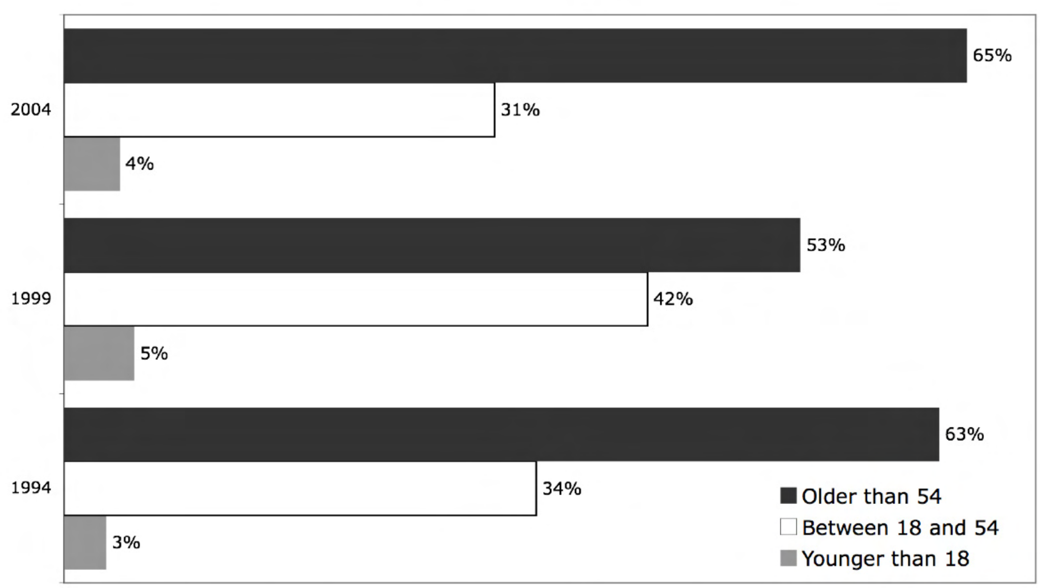
The series of five charts that follow, built using data from the most recent Yukon Visitor Exit Survey in 2004, provide a snapshot of the Dawson Region tourism sector.

Visitors to the Yukon and the Klondike
1994, 1999 and 2004

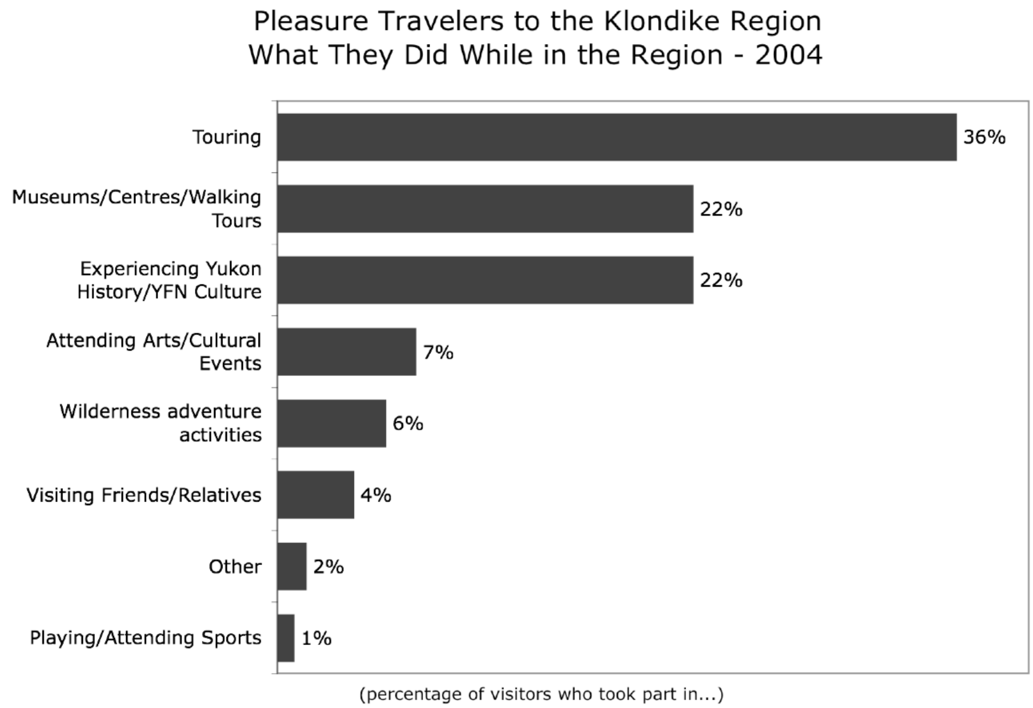


Source: *2004 Yukon Visitor Exit Survey Klondike Region*, Yukon Tourism and Culture, 2006.
Note: figures do not include visitors who passed through without stopping.

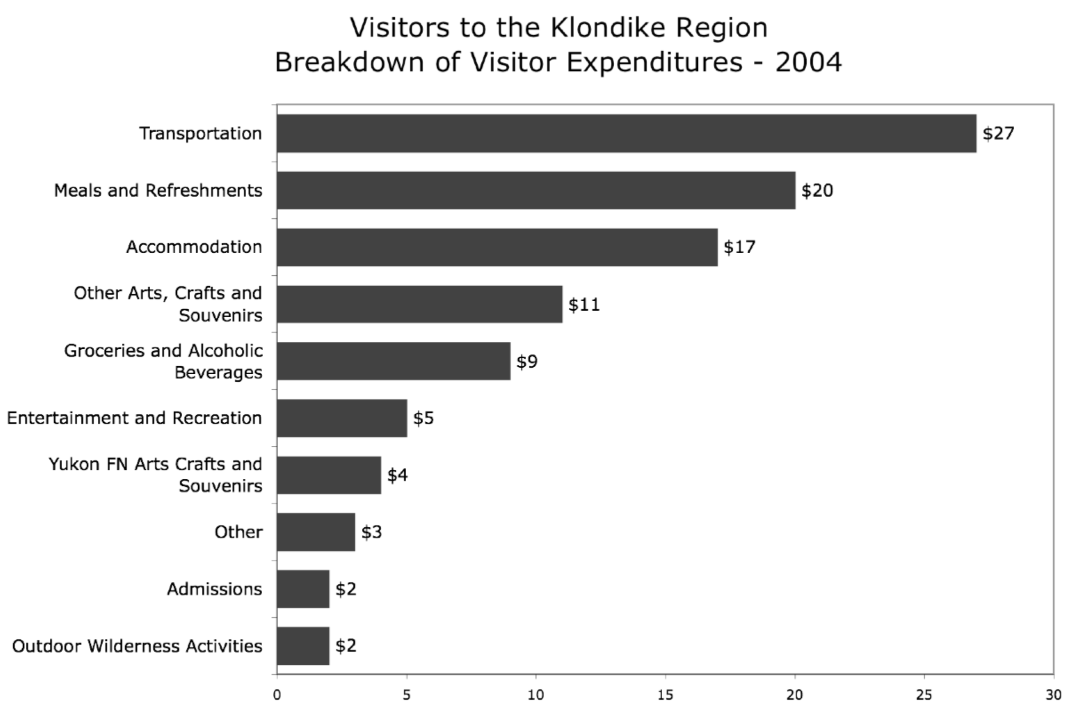
Age of Visitors to the Klondike Region
1994, 1999 and 2004



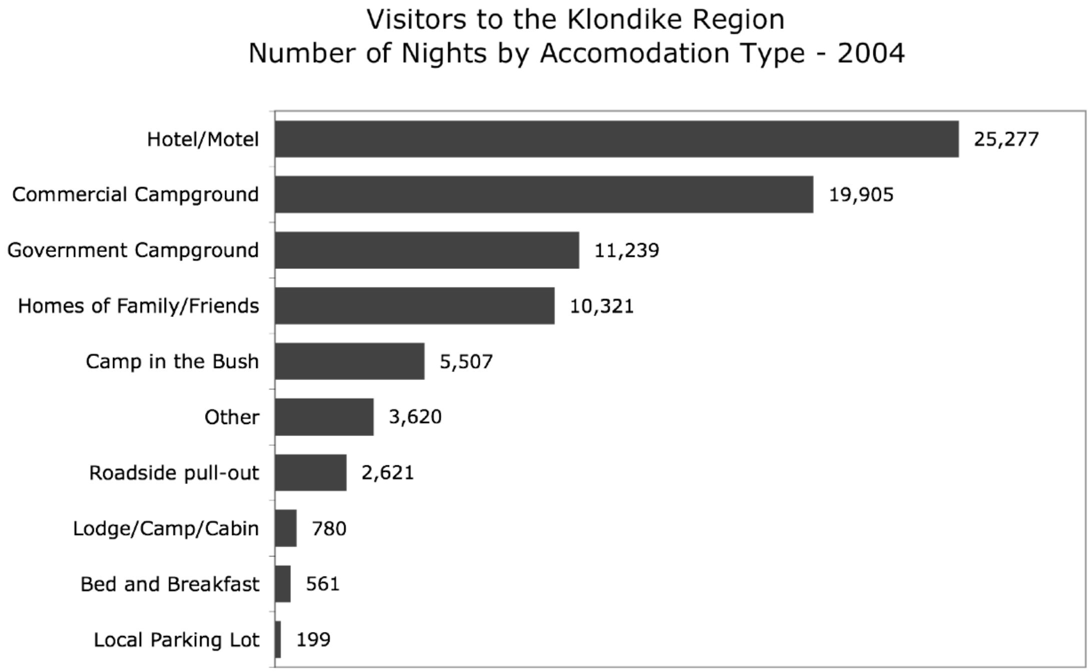
Source: *2004 Yukon Visitor Exit Survey Klondike Region,* Yukon Tourism and Culture, 2006.



Source: *2004 Yukon Visitor Exit Survey Klondike Region,* Yukon Tourism and Culture, 2006.



Source: *2004 Yukon Visitor Exit Survey Klondike Region,* Yukon Tourism and Culture, 2006.



Source: *2004 Yukon Visitor Exit Survey Klondike Region*, Yukon Tourism and Culture, 2006.

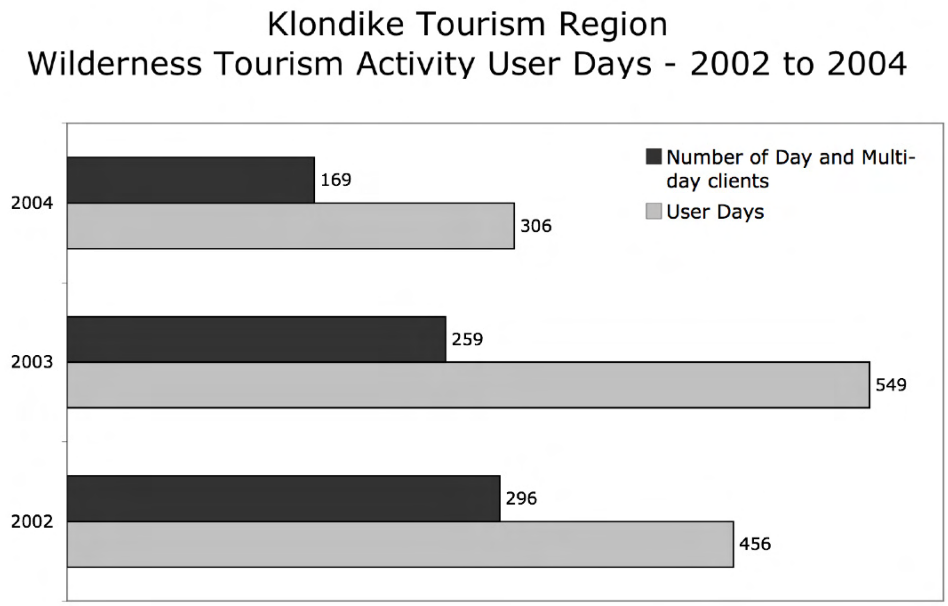
Wilderness Tourism

Due in no small part to the abundance of tourism assets in the Dawson Region, "…the Klondike is one of the Yukon's most active wilderness tourism regions."[10] Summer and winter activities offered in the Dawson Region include:

Dawson Area Wilderness Tourism Activities	
Summer	Winter
• hiking • canoeing • motorboat tours • rafting • mountain biking • flightseeing • off-road vehicle touring • First Nation cultural tours • sport fishing • horseback riding • photo safaris • mountaineering	• snowmobiling • cross-country skiing • dog mushing • northern lights viewing • off-road vehicle tours
Source: *Yukon Wilderness Tourism Status Report* (draft), 2008.	

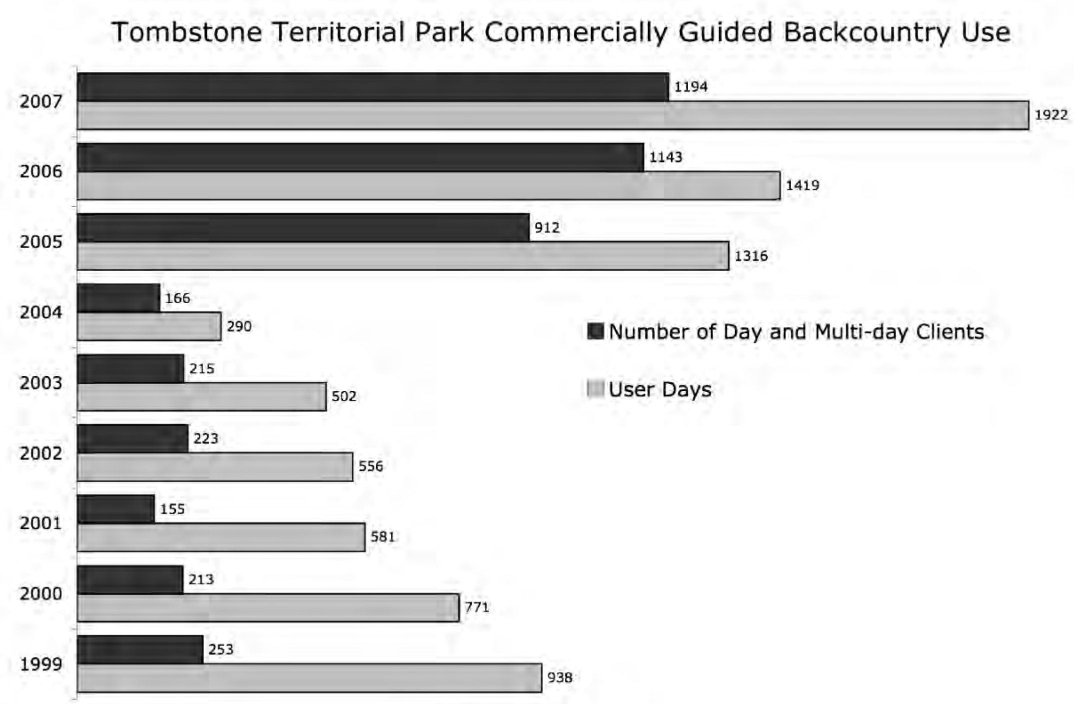
Over the three year period 2002 to 2004, an average of 11 wilderness tourism businesses have operated annually in the Klondike Tourism Region. The chart below illustrates the volume of wilderness tourism activity in the Klondike Tourism Region during that time period.

[10] *Yukon Wilderness Tourism Status Report* (draft), 2008, page 86.



Source: *Yukon Wilderness Tourism Status Report* (draft), 2008.

With regard to wilderness tourism activity in the Tombstone Territorial Park, the chart below presents backcountry use activity by commercial operators in Tombstone Territorial Park over the period 1999 to 2007. The chart clearly reflects the impact of Holland America tours in the park which began in 2005. Over the 1999 to 2007 period, the number of wilderness tourism operators making use of the park ranged from a low of 5 in 1999 to a high of 11 in 2006, with an average of nine wilderness tourism operators making use of the park each year.

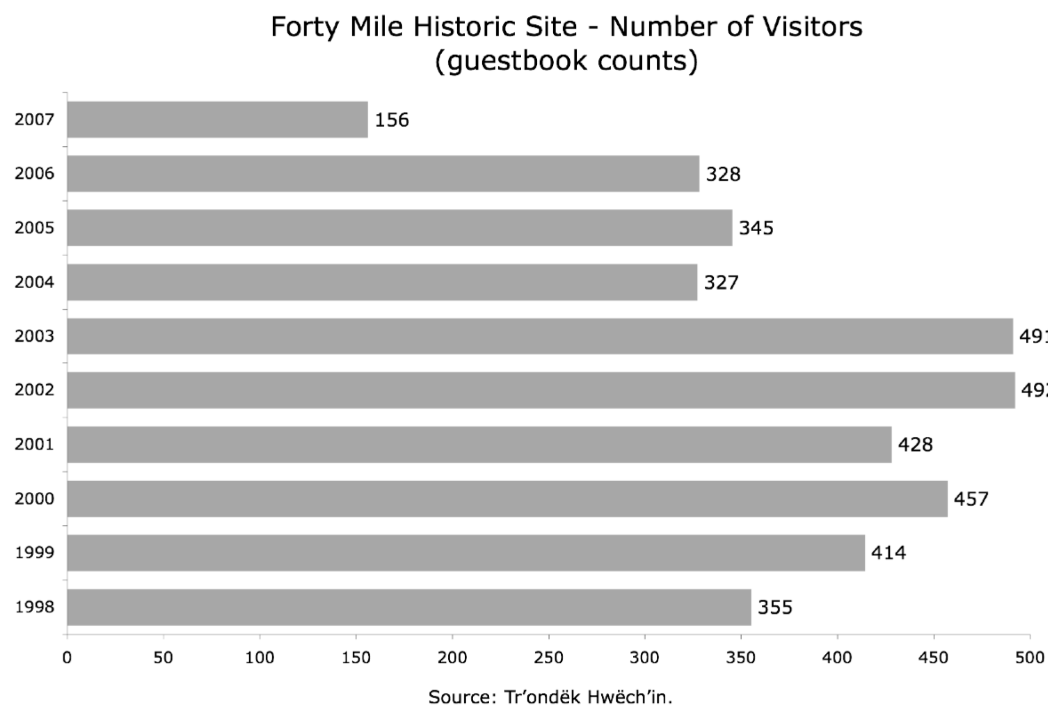


Source: Environment Yukon.

A backcountry camping permit and registration system was introduced in Tombstone Territorial Park in 2007 for visitors wishing to camp at Grizzly Lake, Divide Lake and Talus Lake. On the basis of tally sheets completed at the Tombstone Interpretive Centre, a total of 347 overnight camping permits were issued in 2007, with 245 being issued for Grizzly Lake, 133 for Divide Lake and 89 for Talus Lake.

Counts from the Tombstone Visitor Centre collected by the Yukon Government indicate that visitation to the area has averaged 7,730 per year over the past ten years.

Established in 1886 at the confluence of the Yukon River and Forty Mile River by gold prospectors, the Forty Mile historic site is the Yukon's oldest town. It is co-managed by Tr'ondëk Hwëch'in and the Yukon Government. The chart below presents visitation statistics (based on voluntary guest-book signings) for the Forty Mile Historic site.



Communications

Given its size of population and remote geographic location, Dawson City is well served by modern telecommunications technology. The table below outlines the telecommunications services currently offered in Dawson City.

Dawson Region Telecommunications Services	
	Description
Internet	Northwestel offers 3 high-speed internet packages.
Telephone	Northwestel offers residential and commercial land line services.
Television	Satellite
Radio	CFYT 106.9 FM, CBC Radio One
Cell phone	Latitude wireless offers a variety of voice and data packages for use within central Dawson City area

Non-renewable Resources

Gold Placer Mines

Placer mining is a key economic driver in Tr'ondëk Hwëch'in traditional territory. A total of 56,395 crude ounces of placer gold were produced in the unglaciated drainages located within the Dawson Mining District: Klondike River, Indian River, Fortymile River, Sixtymile River and lower Stewart River. An additional 363 crude ounces was produced in the Clear Creek drainage, bringing total production from within Tr'ondëk Hwëch'in traditional territory to 56,758 crude ounces in 2007.[11] At a 2007 average crude gold price of $596.44[12], the value of placer gold production in Tr'ondëk Hwëch'in traditional territory was CDN$33.9 million.

Total Yukon placer gold production reached 63,929 crude ounces in 2007. Production in Tr'ondëk Hwëch'in traditional territory thus accounted for 89% of total Yukon production valued at CDN$38.1 million in 2007.

Top 25 Producing Placer Gold Watercourses in the Yukon - 1978 to 2007

Watercourse (stream or river)	Gold Production 1978 to 2007 (crude ounces)	Share of Total Yukon Gold Production (%)
Dominion	393,751	14.3
Hunker	250,878	9.1
Sixtymile	245,502	8.9
Indian	244,899	8.9
Bonanza	138,685	5.0
Gold Run	136,631	5.0
Sulphur	120,051	4.4
Black Hills	94,208	3.4
Clear	76,211	2.8
Quartz	67,902	2.5
Eureka	61,737	2.2
Scroggie	58,972	2.1
Last Chance	57,586	2.1
Thistle	54,752	2.0
Miller	49,876	1.8
Henderson	47,529	1.7
Highet	40,072	1.5
Eldorado	38,993	1.4
Ten Mile	33,300	1.2
Gladstone	33,050	1.2
Duncan	32,768	1.2
Matson	27,718	1.0
Kenyon	26,632	1.0
Maisy May	25,634	0.9
Haggart	24,496	0.9
Total Yukon	2,751,440	87

Source: Yukon Energy Mines and Resources
Note: bold font indicates the watercourse is located within Tr'ondëk Hwëch'in Traditional Territory.

The table to the right presents the 25 most productive placer gold watercourses in the Yukon over the period 1978 to 2007. As shown in the table, the 25 watercourses accounted for 87% of total placer gold production in the Yukon over the 30-year period. A total of 21 of the top 25 most productive watercourses are located within Tr'ondëk Hwëch'in traditional territory. Mammoth ivory is an important by-product of placer mining ; it is used to make jewelry.

In terms of future Yukon placer gold production, the Government of Yukon's Placer Geologist has observed that "the potential for new placer discoveries in the Yukon remains high."[13] With regard to placer opportunities in the Klondike region, the

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[11] Placer production figures are from "Yukon Placer Mining Overview" in *Yukon Exploration and Geology*, Yukon Geological Survey, 2008, pp. 43 to 45.

[12] Average gold price inferred from volume and value of total Yukon placer gold production stated in "Yukon Placer Mining Overview" in *Yukon Exploration and Geology*, Yukon Geological Survey, 2008, page 43.

[13] William LaBerge in *Yukon Mineral Property Update 2007*, Yukon Geological Survey, page v.

Government of Yukon's Placer Geologist has also noted that "placer gold is getting more difficult to find as reserves in traditional mining areas decline."[14]

Hard Rock Mines

There are no hard rock mines currently operating in Tr'ondëk Hwëch'in traditional territory.

With the upswing in mineral prices experienced in recent years, mineral exploration activity in the Yukon has increased significantly. Spending on the search for base and precious metals, coal, gemstones and uranium reached another record high in 2007 of $130 million. The 2007 total represents an increase of 63% over the 2006 total for exploration spending of $80 million.

The table to the right outlines the advanced mineral projects (exploration spending in excess of $100,000) within Tr'ondëk Hwëch'in traditional territory in 2007.

Advanced[1] Mineral Projects in Tr'ondëk Hwëch'in Traditional Territory[2] - 2007

Deposit Name	Commodity Type	Drilling in 2007?
Black Fox	gold	x
Connaught	silver	✓
Deer	nickel/PGE[3]	✓
Heidi	gold	✓
Hopeful	silver	x
Kit	lead/zinc	✓
Lone Star	gold	✓
Lucky Joe	copper	✓
Michelle	lead/zinc	✓
Mike Lake	gold	✓
Moosehorn	gold	✓
OG	lead/zinc	x
Borealis	uranium	x
Rob	copper	✓
Shell Creek	copper	✓
Typhoon	gold	✓
White River	gold	x
Yukon Olympic	copper	x

Source: *Yukon Advanced Exploration Projects 2007*, Yukon Geological Survey, October 2007.
Notes: [1]Advanced exploration projects are projects that featured $100,000 or more in expenditures in 2007.
[2] Inclusion in table based on visual map inspection. Relevant quartz claim maps should be consulted for greater certainty.
[3] PGE = platinum group elements.

Coal, Oil and Gas

Significant coal resources have been documented at various locations in the Yukon. The Yukon Economic Development publication *Coal* identifies 13 coal targets for future work. None of the 13 coal targets are located within Tr'ondëk Hwëch'in Traditional territory.

Similar to the situation in most of the Yukon, oil and gas resources in Tr'ondëk Hwëch'in traditional territory remain virtually unexplored. There are no oil and gas dispositions located within Tr'ondëk Hwëch'in traditional territory.

The lifecycle of a hard rock mine includes four distinct phases: exploration/permitting, construction, operations and reclamation. In 2003 responsibility for the administration of mineral resources was transferred from the Government of Canada to the Government of Yukon. At the time of transfer, seven mine sites in the Yukon were identified as having completed the first three phases but not the fourth. The seven so-called Type-II mine sites are classified as properties with potential for unfunded environmental liabilities at the time of mine closure. Three of the Type-II mine sites are under active care and maintenance by the owner/operator and four are being managed by the federal or Yukon governments. Two Type II mine sites are located within Tr'ondëk Hwëch'in traditional territory and are described in the table below.

[14] William LaBerge in *Yukon Mineral Property Update 2007*, Yukon Geological Survey, page v.

Type II Mines Located in Tr'ondëk Hwëch'in Traditional Territory – 2007				
Deposit	Location	Commodity Type	Production History	Current Manager
Clinton Creek	100 km NW of Dawson City	asbestos	940 095 tonnes of asbestos fibre mined between 1967 and 1978	Yukon Government
Brewery Creek	58 km E of Dawson City	Gold	258,806 ounces of gold mined between 1997 and 2001	Alexco Resources
Source: *Yukon Energy Mines and Resources* and MINFILE (Yukon Geological Survey).				

Renewable Resources

Forestry

With the exception of a few short spates of localized economic development, the Yukon's forestry industry remains essentially undeveloped. Locations and timing of historical timber harvest activity include:

- in the Dawson gold fields during the 1898 gold rush and ensuing years;
- along the Yukon River and its tributaries to supply the wood-fired steamboats that operated in the first half of the 20th century;
- along the Alaska Highway during the Second World War; and,
- in the southeast Yukon in 1994.

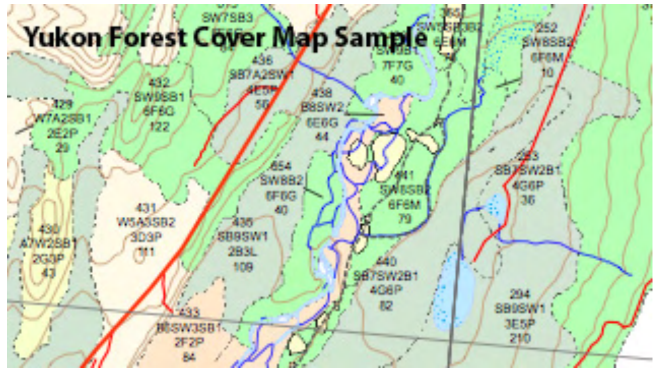
To varying degrees, the absence or incompleteness of a variety of elements fundamental to industry development have created uncertainty in the creation of Yukon wood supply forecasts (e.g., annual allowable cut estimates) and restrained industry growth. The elements include:[15]

- absence of Yukon forestry legislation;
- absence of long-term forest tenure (required to finance harvesting and processing equipment);
- absence of higher-level plans such as land use plans and forest management plans; and,
- incomplete forest inventory.

Some progress has been made in recent years in addressing the absence or incompleteness of the elements identified. Forest inventories have been completed for selected areas in the southeast, southcentral and southwest Yukon. Strategic Forest Management Plans have been completed for Teslin Tlingit traditional territory and Champagne and Aishihik traditional territory. An integrated landscape plan has also been completed for Champagne and Aishihik traditional territory. With regard to the Tr'ondëk Hwëch'in traditional territory, a forest inventory for the central Yukon has recently been completed. The inventory is contained on a series of NTS[16]-consistent forest cover maps at a scale of 1:50,000. The maps delineate the location of stands of white spruce, black spruce, lodgepole pine, alpine fir, larch, balsam poplar, trembling aspen and white birch, according to the leading tree species. Height class, crown closure, age class and site class is detailed for each stand. Roads, trails and riparian areas are also

[15] *Wood Supply in Canada 2005 Report,* Canadian Council of Forest Ministers, 2005, page 30.

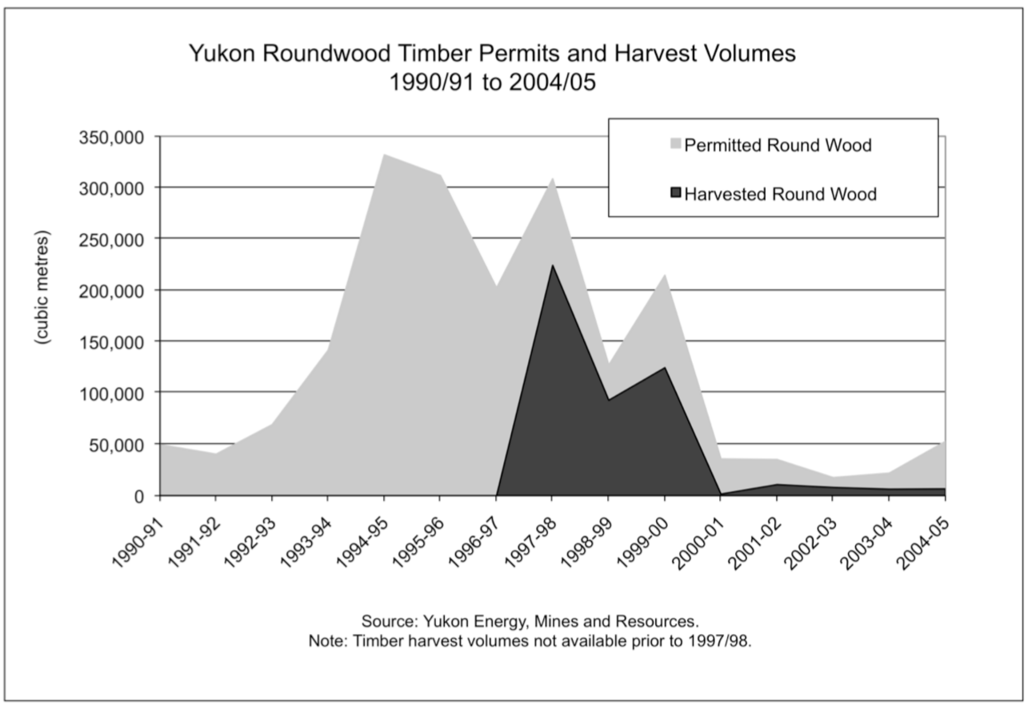
[16] NTS is an abbreviation for the national topographic system administered by Natural Resources Canada.



identified on the forest cover maps. An extract from a Dawson-area forest cover map is shown at right.[17]

While the central Yukon forest cover maps represent a good start towards the development of some form of wood goods industry in the Dawson Region, further work is required before an industry will begin to develop. Such work will likely include a land use plan and a forest management plan, as well as updated forestry legislation that contains provisions for long term tenure.[18]

Wood goods that could potentially be produced in from Dawson Region forests include products made from wood fibre and products derived from wood fibre. Products made from wood fibre could include log products (fuelwood, house log, poles, posts, etc.), primary products (dimensional lumber, boards , veneers, cants etc.) and secondary products (joinery stock, furniture components, molding blanks, strandboard, furniture, etc.). Products derived from wood fibre could include newsprint, specialty papers, tissues and toweling. The chart below illustrates the state of the Yukon forest industry over the period 1990/91 to 2004/05.



[17] Extracted from *Yukon Forest Mapsheet 116b/01* prepared by Yukon Energy, Mines and Resources. map titled *Outfitting Concessions*, Environment Yukon – Geomatics Division, 2004.

[18] A Regional Land Use Planning Commission for the Dawson planning region is expected to be struck in fall of 2008.

Yukon forests are also valuable for their non-timber content in terms of both non-wood goods and non-wood services. Examples of non-wood goods include:

- food products (e.g., berries, mushrooms, teas, "chewing tobacco", birch sap, etc.);
- materials and manufacturing products (e.g., adhesives, essential oils, resins, turpentine, etc.);
- health/personal care products (cosmetics, drugs, nutraceuticals, etc.); and,
- decorative and aesthetic products (craft items, wreaths, garlands, etc.)

Examples of non-wood services supplied by forests include environmental, social and cultural services such as:

- biodiversity (protected areas, forest vegetation, disturbance regimes, threatened species)
- global climatic effects (carbon sequestration)
- local environmental functions (windbreaks, noise adsorption, filtration and binding of air pollutants)
- protection (avalanches, floods and landslides)
- water protection (water quality)
- hunting, fishing and trapping
- tourism and leisure (eco-tourism)
- aesthetic and scenic values
- traditional/subsistence economy
- cultural and spiritual values
- scientific and historic values

<u>Fishing</u>

Chinook and chum salmon harvests are important renewable resources in the Dawson Region for both commercial and First Nation fishers. A total of 20 commercial salmon fishing licenses were issued in 2006.[19] The table below outlines the catches of Chinook, fall chum and coho salmon in the Canadian portion of the mainstream[20] Yukon River in 2006 by type of fishery. The charts on the following page illustrate long-term harvests levels for Chinook and chum salmon on the Canadian portion of the mainstream Yukon River (i.e., excludes Porcupine River catches).

Canadian Catches of Chinook, Chum and Coho Salmon in the Yukon River - 2006 Season

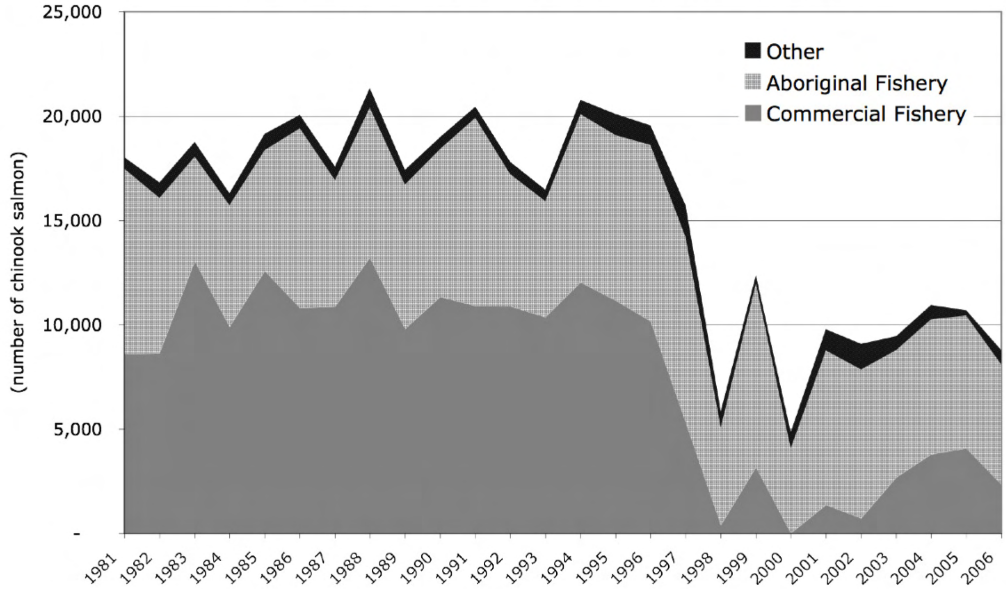
	Chinook	Chum	Coho
Aboriginal fishery	5,757	2,521	-
Dawson area commercial harvest	2,229	4,096	1
Other commercial harvest	103	-	-
Estimated recreational harvest	606	-	-
Domestic harvest	63	-	-
Test fishery	-	-	-
Total harvest	8,758	6,617	1

The United States and Canada Yukon River Joint Technical Committee, *Yukon River Salmon 2006 Season Summary and 2007 Season Outlook*, May 2007.

[19] The United States and Canada Yukon River Joint Technical Committee, *Yukon River Salmon 2006 Season Summary and 2007 Season Outlook,* May 2007, page 11.

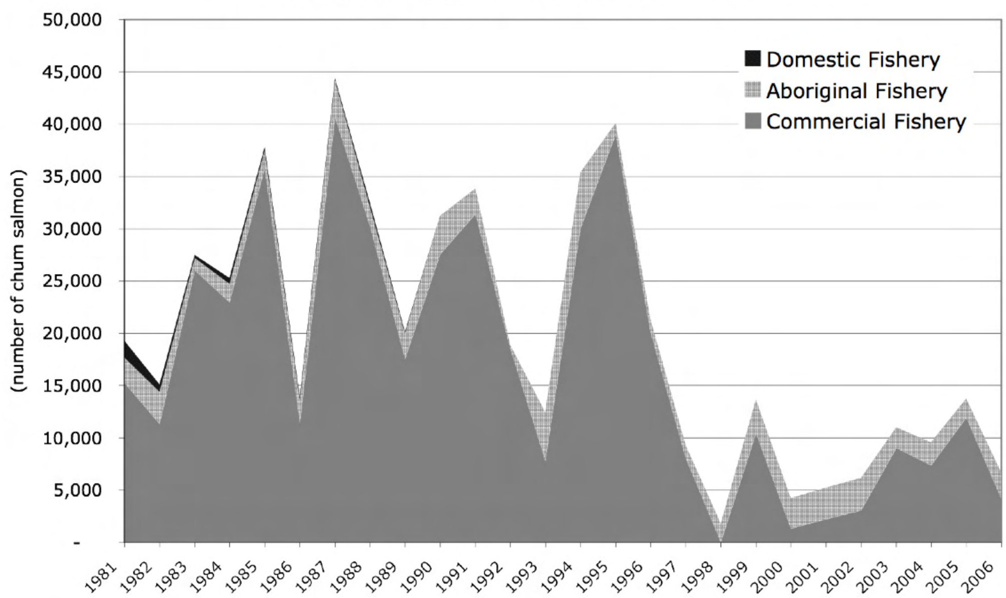
[20] Figures do not include the salmon harvest volumes on the Porcupine River (Vuntut Gwitchin Aboriginal Fishery) where in 2006 the chinook salmon catch totaled 414 and the chum salmon catch totaled 5,179.

Canadian Catch of Yukon River Chinook Salmon
Mainstream Yukon River Harvest 1981 to 2006



Source: The United States and Canada Yukon River Joint Technical Committee, *Yukon River Salmon 2006 Season Summary and 2007 Season Outlook,* May 2007.
Note: 'Other' includes the domestic, sport and test fisheries.

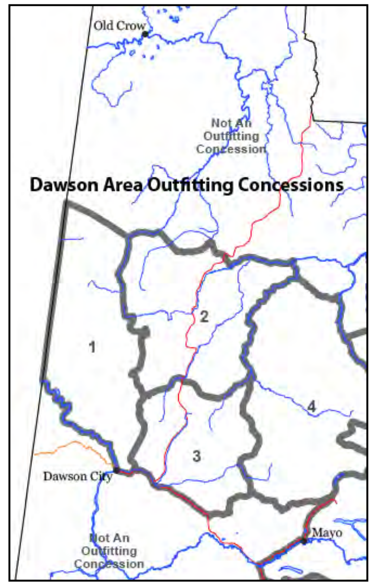
Canadian Catch of Yukon River Chum Salmon
Mainstream Yukon River Harvest 1981 to 2006



Source: The United States and Canada Yukon River Joint Technical Committee, *Yukon River Salmon 2006 Season Summary and 2007 Season Outlook,* May 2007.

<u>Outfitting</u>

A total of twenty outfitting concessions have been granted in the Yukon, covering a total geographic area of 288,000 square kilometres. Each concession is exclusive – only one outfitter may operate in a given concession. Outfitters provide guided trips for non-resident hunters who may only hunt in the Yukon with a licensed guide. Yukon outfitters provide hunts for sheep, moose, caribou and grizzly bear.



In 2005, 19 Yukon outfitters provided services to a total of 587 hunters. With an average trip length of 9.5 days, a total of 5,558 hunting days were supplied. A total of 81 non-hunting clients purchased wilderness tourism services. Total revenues earned directly by Yukon outfitters were estimated at $8.1 million in 2005, of which $7.7 million was attributable to the provision of hunting services and $190,000 was attributable to client-based wilderness tourism activities.[21]

Three outfitting concessions are located within Tr'ondëk Hwëch'in traditional territory, as indicated by the numbers 1, 2 and 3 in the map extract[22] to the right:

1. Reynolds Outfitting
2. Blackstone Outfitters
3. Pete Jensen Outfitting

<u>Trapping</u>

Fourteen different species of furbearing mammals are trapped for their fur in the Yukon: beaver, coyote, fisher, coloured fox, Arctic fox, lynx, marten, mink, muskrat, otter, squirrel, weasel, wolf and wolverine. Entry into the Yukon trapping industry is limited by the number of registered traplines which cover the Yukon land base. At present, there are 333 registered trapping concessions in the Yukon and 18 group areas. Trapping concessions, which grant exclusive rights to trap, may be issued to individuals, partnerships and groups. Where concessions are held by partnerships or groups, more than one trapper may harvest furs from the same trapping concession. There are currently more than 400 licenced trappers in the Yukon. Approximately 50% of Yukon trappers are members of a Yukon First Nation.[23]

The two charts which follow illustrate the number and value of key types of wildlife pelts harvested in the Yukon over the period 1970 to 2005.

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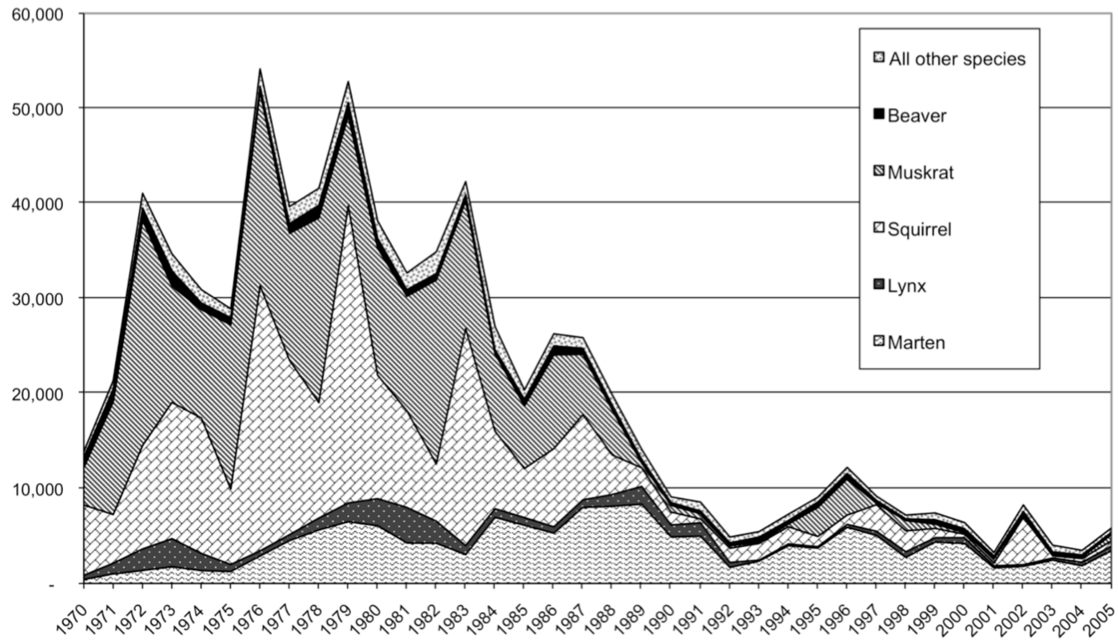
[21] Source for all figures in this paragraph is *The Yukon Outfitting Industry: An Economic Analysis of 2005,* Pacific Analytics Inc., May 2006.

[22] Extracted from map titled *Outfitting Concessions,* Environment Yukon – Geomatics Division, 2004.

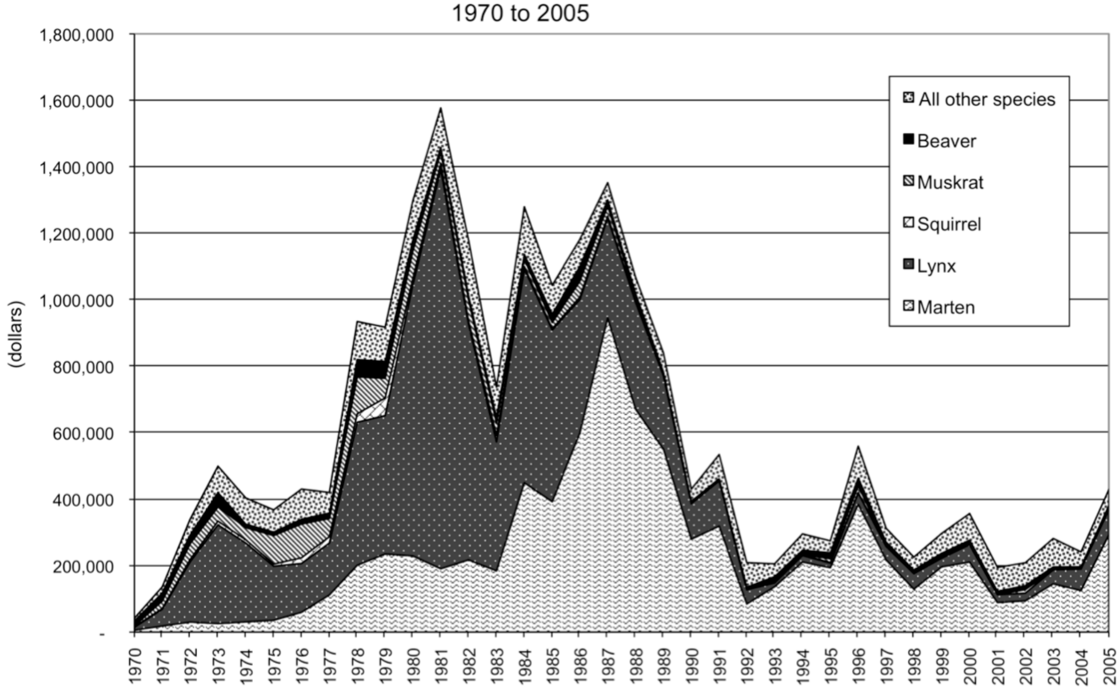
[23] Environment Yukon, *About Trapping in the Yukon,* http://environmentyukon.gov.yk.ca/huntingtrapping/abouttrapping.php.

Number of Wildlife Pelts Harvested - Yukon
1970 to 2005



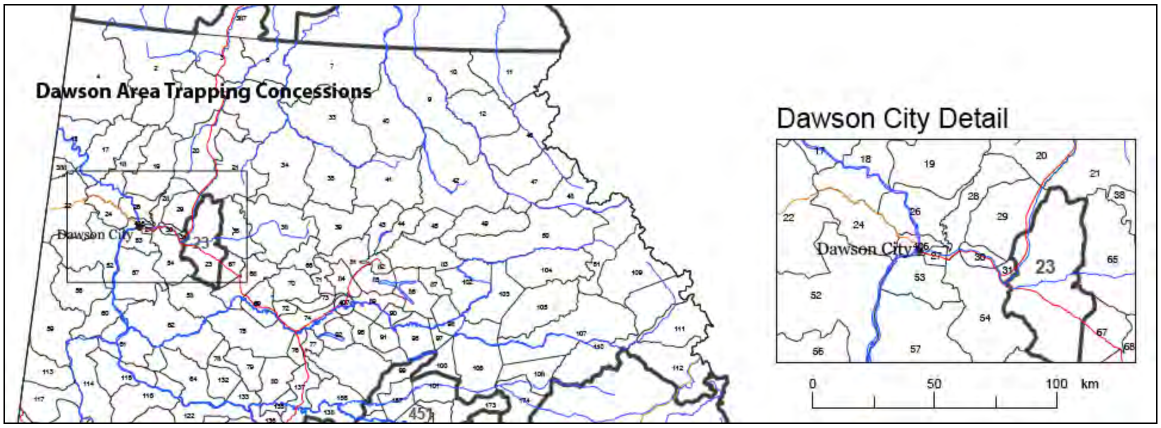
Source: Statistics Canada, *Census of Widlife Pelt Production* (Cansim Table 003-0013).

Nominal Value of Wildlife Pelts - Yukon
1970 to 2005



Source: Statistics Canada, *Census of Wildlife Production* (Cansim Table 003-0013).

With regard to wildlife trapping in the Tr'ondëk Hwëch'in traditional territory, data that describe the volume and value of the wildlife harvest are not available. The map extract[24] below delineates the trapping concessions located in the Dawson area.



Energy

In recent decades and until late 2002, all of Dawson City's electricity needs were met by five diesel-powered generators with a combined capacity of five megawatts owned by Yukon Energy. With the completion of the Mayo-Dawson high-voltage transmission line in 2002, virtually all of the electricity consumed in Dawson City has been generated at Yukon Energy's Wareham Dam hydroelectric facility located near Mayo. With the closure of United Keno Hill mining operations in Elsa in 1989, much of the hydroelectric capacity at the Wareham facility had become surplus. Construction of the Mayo-Dawson line has made use of the Wareham hydro-electric surplus and eliminated the need to burn diesel to generate electricity in Dawson except for maintenance and backup purposes.

Construction of an extension of the Whitehorse-Aishihik-Faro (WAF) high-voltage electricity transmission grid from Carmacks to Pelly Crossing (with a spur line to Sherwood Copper's Minto Mine) is currently underway. Extension of the WAF grid is to be completed in the fall of 2008. Phase II of the WAF grid extension project, which has already received approval from the Yukon Utilities Board, will connect the WAF grid with the Mayo-Dawson line at Stewart Crossing. The figure below, extracted from Yukon Energy's *20-year Resource Plan 2006-2026 (Appendix B)* illustrates the Yukon's electricity infrastructure as at January 2006.

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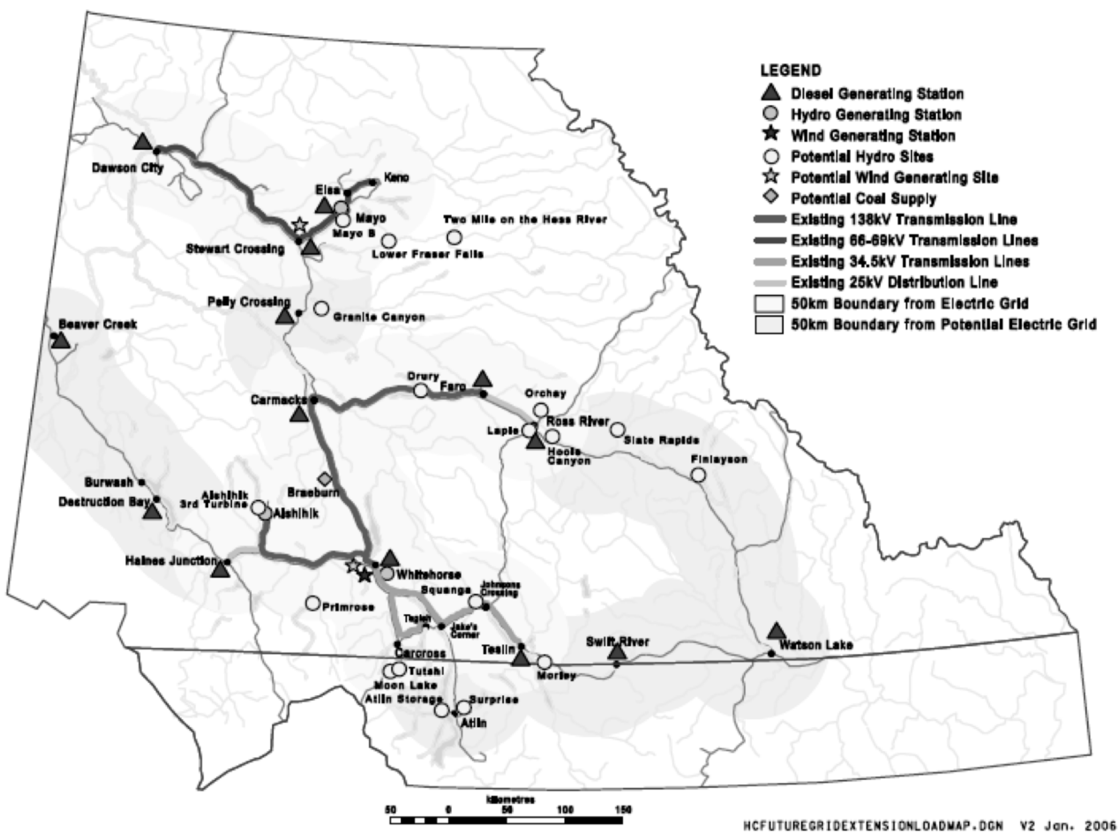
[24] Extracted from map titled *Registered Trapping Concessions,* Environment Yukon – Geomatics Division, 2004.

EXISTING TERRITORIAL POWER INFRASTRUCTURE AND POTENTIAL SUPPLY OPTIONS



Yukon Energy's *20-year Resource Plan 2006-2026* also describes a series of potential hydro-electric supply options which could potentially feed demand on an interconnected WAF/Mayo Dawson electricity grid. Potential options located in the central Yukon (with installed capacity) include:

- Granite Canyon (80+ MW)
- Mayo B (10 MW)
- Lower Fraser Falls (100+ MW)
- Two Mile Canyon on the Hess River (53 MW)

None of the potential hydro-electric supply options identified in the *20-year Resource Plan 2006-2026* are located in Tr'ondëk Hwëch'in traditional territory.

Potential hydro-electric assessment work undertaken earlier by the Northern Canada Power Commission and Yukon Energy identified five potential sites located within Tr'ondëk Hwëch'in traditional territory[25]:

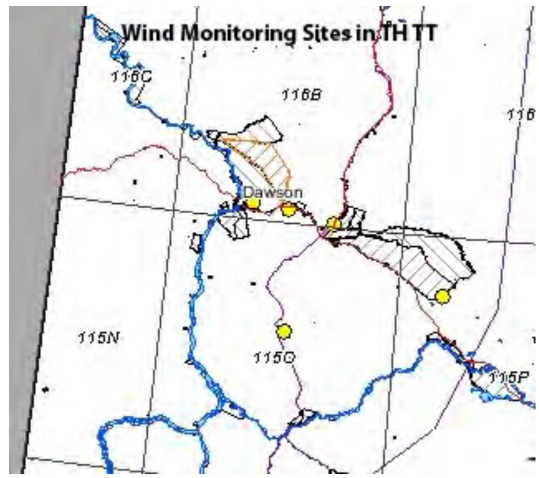
- Northfork (2 MW)
- Indian River (6 MW)
- 15 Mile Diversion (7MW)
- Forty Mile (16 MW)
- Sixty Mile Diversion (18 MW)

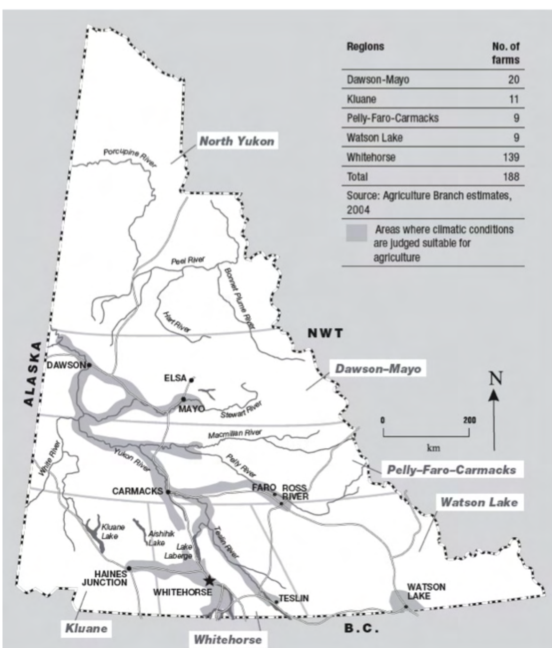
[25] *Yukon Energy Resources* – Hydro, Yukon Economic Development, 1997, page 9.

The Tr'ondëk Hwëch'in Final Agreement contains two specific provisions regarding energy development in Tr'ondëk Hwëch'in traditional territory. The first, contained in section 22.6 (Public Corporations) requires that "Yukon First Nations shall be offered an opportunity to participate in all ventures where the Yukon Development Corporation seeks public participation in the acquisition or disposal of a business venture." In addition to the Public Corporations clause, the Tr'ondëk Hwëch'in Final Agreement also contains a "specific measure" for "Strategic Investments" which relate to potential Yukon Development Corporation and Yukon Energy activities in Tr'ondëk Hwëch'in traditional territory. The specific measure provides for equity participation by the First Nation of at least 25% in new non-renewable resource or hydro-electric projects undertaken by the Yukon Development Corporation and Yukon Energy.

In terms of other potential sources of electrical energy in Tr'ondëk Hwëch'in traditional territory, wind resource assessments have been undertaken or are ongoing at five locations. As indicated on the map to the right (extracted from Energy Solutions Centre's online Wind Resource Viewer), the locations include:

- Dome
- CWRAP Site 4
- Antimony Creek
- Barlow
- Henderson





Agriculture

According to the 2001 Census of Agriculture, there were 170 farms in the Yukon covering approximately 12,500 acres, with 70% of those farms located within 100 km of Whitehorse. Agricultural areas are also located near Mayo, Watson Lake and Dawson City.

The map to the left, extracted from the Yukon Energy, Mines and Resources publication *Yukon Agriculture State of the Industry 2002 to 2004,* delineates with shading the in the Yukon where climactic conditions are judged suitable for agriculture.

While at one time a bountiful source of agricultural production, the Dawson Region now supplies only limited amounts of seasonal produce and berries to the local market. Birch syrup is also produced. The Agriculture Branch of Yukon Energy, Mines and Resources has estimated that 15 parcels of land, together covering an area of 421 hectares, are located within Tr'ondëk Hwëch'in traditional territory.[26]

The Agriculture Branch has also estimated that, at a minimum, an additional 87,691 hectares of land in the Dawson Region are classified as Class 5 or better, the cutoff for acceptability under the Yukon Agricultural Policy. Of the 87,691 hectares, 171 hectares are mapped as Class 3 (best suited for agricultural production), 429 hectares are mapped as Class 4 and the remaining 87,252 hectares are mapped as Class 5.[27]

Transportation

Dawson City is accessible from the south year-round via the all-weather North Klondike Highway. The community is accessible from the north during the summer months via the Top-of-the-World (Yukon) and Taylor (Alaska) highways. The Dempster Highway, which begins 45 km south of Dawson City and terminates in Inuvik, NWT, transects a large portion of Tr'ondëk Hwëch'in traditional territory.

Currently, there is no scheduled bus service between Dawson City and other Yukon communities. Dawson City residents do, however, make use of a web-based message board to share rides.

As there is no bridge over the Yukon River in Dawson City, vehicle and pedestrian crossings over the Yukon River are made by way of the George Black ferry in the ice-free portion of the year and by ice bridge after freeze-up. The feasibility of constructing a bridge across the Yukon River at Dawson has been investigated repeatedly over the years, most recently in 2005. Escalating construction costs have placed construction of a Dawson City Bridge on hold.

The Dawson City Airport is located 20 km from central Dawson City and consists of a single 5,000 foot gravel runway with emergency lighting and a non-directional beacon. As a consequence of the airport's proximity to the surrounding hills and seasonal weather problems, the airport is licensed only for day time use (with adequate ambient daylight). Scheduled service is provided by Air North on Hawker Siddeley 748 turboprop aircraft. Helicopter services are supplied in Dawson City by two operators.

Because of its operation limitations, relocation of the Dawson City Airport has been the subject of repeated discussion over the years. The most recent demand forecast for the facility concluded, however, that "…a new, improved airport cannot be justified…" on the basis of the market demand analysis.[28]

The Yukon River is used as a transportation route by Holland America which operates the Yukon Queen II between Dawson City and Eagle, Alaska. Canoeists also make use of the Yukon River.

The Dawson Region does not currently feature rail or port access.

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[26] Electronic mail communication with David Murray, Agriculture Branch, Yukon Energy Mines and Resources, March 26, 2008.

[27] Electronic mail communication with David Murray, Agriculture Branch, Yukon Energy Mines and Resources, March 26, 2008.

[28] Inukshuk Planning and Development et. al., *Dawson City Airport Demand Forecast,* May 1995, executive summary.

Culture

As described in detail in the draft *Tr'ondëk Hwëch'in and City of Dawson Integrated Community Sustainability Plan*, the Dawson Region possesses a unique and strong dual "brand" of culture that embodies both the history of the Tr'ondëk Hwëch'in and the 1898 Klondike Gold Rush. Through the achievement of self-government by the Tr'ondëk Hwëch'in and the well-established presence of Parks Canada in Dawson City, both aspects of Dawson's dual brand are expected to deliver dividends far into the future. While difficult to quantify, the existence of Dawson's strong cultural brands are evidenced in the profusion of cultural events presented each year, including:

- Dawson City International Short Film Festival
- The Commissioners' Klondike Ball
- Aboriginal Day
- Dawson City Music Festival
- Discovery Day Celebrations
- Authors' on Eighth
- Yukon Riverside Arts Festival

Dawson City is home to many superb cultural venues including:

- Dänòja Zho Cultural Centre
- Palace Grand Theatre
- Diamond Tooth Gerties
- Odd Fellows Hall
- Klondike Institute of Art and Culture (KIAC)
- School of Visual Arts (Yukon College)
- Dawson City Museum

Dawson's rich cultural history is also a key selling feature for both mainstream and wilderness tourism operations.

Knowledge-based Economy

In a knowledge-based economy, knowledge, education and skills (human capital) are used to produce economic benefits. Key contributors to Dawson's knowledge economy include:

- innovators and inventors;
- elders (traditional knowledge);
- artists (visual and performing); and,
- miners (applied industrial knowledge)

For a community of its population size and geographic location, Dawson is already well-served by educational institutions. Those institutions include:

- Robert Service School (K to 12);
- Dawson Campus of Yukon College;
- School of Visual Arts (SOVA); and,
- Klondike Institute of Arts and Culture.

A key feature of a knowledge-based economy is that the main input to that economy – human capital – is highly mobile. The highly mobile nature of human capital can be a double-edged sword. On one edge, the highly mobile nature of human capital means that small communities often suffer brain drain to larger population centres and economies. On the other edge, communities that can attract human capital from other places can benefit from "brain gain". The Dawson Region, on the basis of its rich culture and vibrant community, is well positioned to attract new knowledge workers to the region.

PERCEIVED BARRIERS TO ECONOMIC DEVELOPMENT

As noted earlier, a total of 28 semi-structured interviews were conducted with Dawson community participants. As part of the interview, participants were asked to identify specific barriers to development that need to be addressed before development opportunities in the Dawson Economic Region can be pursued. The responses to this question have been distilled into the 10 categories outlined below (in alphabetical order). A pair of verbatim responses thought to *be illustrative of the range of responses* recorded for each category are presented.

The verbatim responses do not derive from a random sample of Dawson residents and as such cannot be interpreted as being representative of the perceptions of the community as a whole. Each verbatim response is representative of the perceptions of a single individual only. Further, the expression of a perception by an individual does not necessarily imply that a barrier to economic development does in fact exist. However, the existence of individuals' perceptions about barriers to economic development are relevant to the effective development of a Regional Economic Development Plan for Tr'ondëk Hwëch'in traditional territory.

Access to capital and small business support

"We do not have good support for entrepreneurs and starting up businesses."

"Access to new dollars is a big barrier - that's really what's going to get you started - if you don't have the seed money, it'll stay as an idea."

Government regulation and managed growth

"YESAA is a government department making recommendations about industries they know nothing about making the process tedious and cumbersome. Contrary to progressive economic development."

"I wouldn't want to see all those things coming online all at once. The mines are potentially a source of a lot of employment (I don't mean construction), and a lot of people will come from somewhere. If we had five mines coming on board, it would be a social disaster. If it was spread out to allow for the growth, that would be a positive thing. No development is bad and too fast development is bad, so it needs to be phased in."

Housing and accommodation

"In order to have population growth there has to be jobs and employment and for that we need more mining. But we're unlikely to have big population growth - there's nowhere to live. Housing is always a problem because it's so expensive to build and because it's a seasonal town, taxes are high. Heating is high and it is expensive to live here. The impact of government programs like Yukon Housing is perceived as discouraging private activity in building of condos or apartments or duplexes because people that are here year round can live in subsidized housing - if you're a government employee."

"There are some land issues because things are tied-up between YTG and the city. There is no concentrated effort to resolve the housing issue. Nobody has been willing to take the perception that there's a lack of housing out there and do something about it. There are no spec builders. There are lots of lots around here but there is a policy stating that they need to be on municipal sewer and water (but can't get sewer and water to the lot)."

Infrastructure, land, local taxes and service delivery

"Lands dispositions are a barrier to economic development. If you're looking for a piece of residential land it is difficult, also difficult for industrial land."

"Investing in infrastructure but there is no economy of scale makes it very expensive to build and maintain."

Labour market

"People prefer to work in Whitehorse because there are many more services and facilities - and it is only two hours away from Vancouver. In addition, there are better services across the board and everything is cheaper."

"Problems now getting people to work; can't hire professional people because there's no pool to draw from and there's no workforce to draw from so if you don't have people to work who's going to open a business?"

Limited awareness of investment opportunities (buying and selling)

"Lots of businesses for sale officially and unofficially leads to no reinvestment."

"Many tired businesses and business people."

Seasonality, geographic remoteness and cost of doing business

"Boom and bust every year."

"Remoteness and lack of market. Distance and cost to market are real limiting."

Social issues

"The drug situation is very bad, kids are bored and do not have structure or direction. Too much free time, no drive to get them to be responsible for themselves, no idea what their values are or what they're capable of. Parents have to take an active role."

"Substance abuse, there is a drug issue in the community."

Structural imbalance in an economy dominated by government

"The majority of the working population works for some level of government to some degree and they really do not want change. Others are concerned about the lack of wealth creation – being dependent on government jobs and territorial government transfers is not building the independent or sustainable community they want."

"Nearly all business models start with applying to government for money."

Leadership and cooperation

"Decisions and approvals seem very personalized. Decisions based on personal opinions and it depends on who you talk to whether things go well or not. Sense that there are a lot of egos at the bureaucratic level that seem to have their own agenda and be on their own mission. Basic frustration with being told what we cannot do rather than having any help in figuring out how we can do something."

"Inefficient communication amongst governments, need to work together better and overcome historical and personal issues."

INDUSTRY ANALYSIS

To better understand the Dawson Region's potential for economic development a preliminary evaluation of attractiveness from an industry perspective was undertaken. Industry attractiveness rankings were assigned based upon *current conditions* and could improve or worsen depending on future developments. Further research and analysis will be required in cases where the Dawson Region is an attractive fit from an industry perspective.

The following industries have been screened:

1. Communications
2. Tourism & Culture
3. Transportation
4. Agriculture
5. Energy
6. Forestry & Wildlife Resources
7. Oil & Gas
8. Mining
9. Knowledge-based (education, research and innovation)
10. Government Services

Communications

International Trends

- Communications technologies blur the line between work and private life.
- Convergence technologies emerge, integrating internet, phone, music, video and file storage.
- Convergence technologies are expected to drive company consolidations.
- "Web 2.0" enables the proliferation of user-generated and user-ranked content.
- Intellectual property rights problems related to information sharing continue, particularly in the international community.
- Call centres that have been outsourced to developing nations are outsourced again to even less developed nations.
- Consumers turn to VoIP phones as alternatives for conventional phone systems.
- Developing nations "leapfrog" over conventional wire-based phone systems.
- More than 80% of the world's cellphone providers use Global System (or Standard) for Mobile GSM, with Code Division Multiple Access (CDMA) popular primarily among North American carriers.
- 13% of North American wireless providers have a subscription base of less than one million. Fewer than 7% of European, Middle Eastern and Asian wireless providers have a subscription base of less than one million.[29]
- Customers in Europe and Asia thus pay up front for their phones and are free to frequently switch providers, which has led to more competition and lower prices on service plans.
- Communication companies worldwide are heavily regulated[30], but changes are predicted, particularly with respect to interconnection pricing strategies and disputes, pricing restrictions, Service Level Agreements and regulatory frameworks.

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[29] 2006 Wireless Industry Survey, Price Waterhouse Coopers.

[30] PriceWaterhouseCoopers - http://www.pwc.com/extweb/industry.nsf/docid/72ea0ae65dab1dde8525701300761efe

National Trends[31]

- 60% of Canadians have cell phones.
- An auction for wireless airwaves is being held where new entrants are being given preference by the federal government, with 40% of the spectrum sale reserved for them and unavailable to the nation's big three providers, Rogers, Telus and Bell Canada Inc. When he unveiled the auction plan in November 2007, Minister of Industry Jim Prentice cited a lack of competition between existing operators that has resulted in high prices, lagging services and low usage.
- Both Bell and Telus, which use CDMA for their telephone networks, are under pressure to convert to GSM, or at least build an "overlay" that would allow for the offering of both technologies. Rogers dominates the GSM market in Canada.
- Utility companies and municipalities move to offer wireless Internet access as a key component of city infrastructure.
- Rogers offers internet-based telephone, Internet and television services as bundled package.
- Bandwidth "shaping" is commonly practiced by Internet service providers.

Potential Opportunities

There are few identifiable opportunities related to the communications industry in the Dawson Region, although there may be some small-scale opportunities to provide satellite-based telephone and Internet services. There may be some media production opportunities (such as documentaries, films, television programs, audio recordings and music, etc.).

Enabling/Limiting Factors

Resource Availability

Conventional phone services, cellular phone service and Internet services are already provided by Northwestel. Northwestel controls 98% of the community's Internet bandwidth and, although there are no GSM providers in Dawson City, the small customer base in the Dawson Region is not likely support two cellular service providers.

Market Potential

Although cellular phone uptake appears to have been high, the local market for cellular phones is limited. International tourists hold some potential, though minor, for interconnection charges on a GSM network.

Specialty television channels may be interested in documentaries, films and television programs based on the Dawson Region. Topics could include:

- History and Culture
- Outdoor Sports and Adventure
- Wildlife and Natural History

Political and Regulatory Environment

The communications industry is highly regulated and will be slow to change in remote areas, including northern Canada.

Proximity to Industry Clusters

While satellite-based options are available, Northwestel (and its subsidiaries and partnerships) effectively hold a monopoly over telephone and Internet services in the Yukon.

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[31] http://www.cbc.ca/technology/story/2008/03/07/tech-telus-fido.html.

Physical Infrastructure & Access to Market
For the size of its customer base, the Dawson Region is well-served. A fibre-optic line runs as far north as Carmacks, but does not continue to Dawson City. A fibre-optic line runs throughout Dawson City. Northwestel is currently installing a new fibre-optic connection through northern BC that will expand the Yukon's bandwidth. Dawson City will continue to be limited by the microwave-based system.

There is no cellular service at the airport and there are complaints of poor coverage in the downtown core.

There are no commercial film or recording studios in Dawson City.

Support Industry Availability
Northwestel is self-contained in its service offerings, although some services are delivered through its subsidiaries and partnerships.

Assistance for film and sound production is available through the Film and Sound Commission. Some community members have had exposure to the film and sound industry.

Workforce Availability
Skilled workers are required to maintain and upgrade Northwestel's infrastructure. Often, these workers are brought in from outside of the Dawson Region to perform specific maintenance and upgrades.

Overall Attractiveness to Industry

Internet Service Providers	Very Low to Low
Cell Phone Service Providers	Very Low to Low
Conventional Phone Services	Very Low
Film and Video Production	Low to Medium
Audio and Music Production	Low to Medium

Tourism & Culture

International Trends[32]

- U.S. vacation intentions are soft: The latest Consumer Confidence Survey report by the U.S. Conference Board, Inc. suggests that U.S. travel intentions slipped in December and remain softer than they were a year ago. Consumer confidence picked up slightly in December, but consumers still have a largely negative overall view of the economy.
- Higher airfares and gasoline prices were expected to curb U.S. travel volumes over the holiday season, according to the American Automobile Association. Trips by automobile were expected to rise only slightly, while trips by air declined, keeping overall travel volumes on par with the previous year.
- Online bookings surpass off-line bookings in U.S.: In 2007, more travel bookings were made online in the United States than off-line, according to a consumer trends survey by PhoCusWright Inc.
- Online bookings accounted for 51% of the travel purchases made last year, and are forecast to account for 56% in 2008.
- Korean travel agencies are reporting robust demand for travel packages during

[32] Tourism Intelligence Bulletin, Issue 43: January 2008 Travel Trends Tempered by Mounting Economic Concerns, Canadian Tourism Commission, January 2008.

Korea's Lunar New Year holiday in February, with many popular destinations sold out months in advance. Media reports suggest that many Koreans traveling abroad are visiting children studying in the United States and in Europe. Overseas study tours to learn and practice English are also very popular.

- The Chinese government will revert back to its previous national holiday system of one-day national holidays scattered throughout the year, rather than continuing with three designated "golden week" holidays. The government wants Chinese workers to stagger their holidays instead of taking them at set times, in an effort to ease passenger congestion on the country's overtaxed transportation systems.
- Many Australian travelers are interested in visiting Canada, although other destinations tend to be top of mind. More than a third of Australian long-haul travelers polled said they were interested in visiting Canada over the next two years, but Canada ranked 10th as a travel destination priority. Australians' ideal trip to Canada would include staying at a mid-priced resort or lodge, by a lake, or in the mountains. Preferred activities included sightseeing in the mountains, visiting historical sites, and enjoying "untouched nature."
- A record-high number of U.K. residents were expected to travel abroad during the holiday season, according to the Association of British Travel Agents. Good early snow conditions in France, Austria, and Italy have driven an increase in trip sales to those ski destinations, but ski trips to Canada and the United States were also selling well, spurred by favourable exchange rates.
- UK tour operators and travel agents have a positive outlook for UK outbound travel in 2008. Cruises were cited as one of the fastest-growing outbound markets in the U.K.
- Passengers on routes between France and North America climbed 7.1%.
- German tour operators expect sales and bookings to increase 5% and 4.5%, respectively, this year. Early booking discounts have helped boost winter bookings, although the pace of growth is expected to slow once the discounts expire. Long-haul holidays, cruises, and city trips are expected to be key drivers of growth.
- Japan Airlines reported solid growth in passenger numbers on transpacific routes over the holiday travel season. Overall, domestic and international travel volumes over the holidays were expected to edge up slightly over last year, and travel package sales were expected to increase 1.9%. Although economic conditions in Japan are becoming more uncertain, media reports suggest that this is not having a significant effect on outbound travel volumes, since many overseas leisure trips are taken by retiring baby boomers who are less affected by fluctuations in the economy.
- The US House of Representatives passed a bill on December 19, 2007, delaying the requirement for passports (or other approved documents) at land border crossings until June 1, 2009. Currently, all travelers to the US require proof of citizenship plus a piece of government-issued identification when entering the United States at land and sea ports of entry. Oral declarations of citizenship will no longer be accepted.

National Trends[33]

- Domestic travel is expected to grow modestly, but the strong Canadian dollar continues to fuel outbound travel demand and reduce the price competitiveness of domestic travel destinations. Rising fuel prices are expected to curtail domestic automobile travel during the winter and early spring.
- Solid demand for domestic air travel continued to boost growth in air passenger traffic for Canada's two largest airlines. The strong Canadian dollar has helped shield the airlines from the financial impact of rising oil prices, thereby keeping a lid on potential airfare increases.
- A forecast by American Express Business Travel suggests that growing business

[33] Tourism Intelligence Bulletin, Issue 43: January 2008 Travel Trends Tempered by Mounting Economic Concerns, Canadian Tourism Commission, January 2008.

travel demand, rising fuel costs, and limited capacity increases will continue to push up air, hotel, and car rental rates this year. Fares for domestic flights are expected to rise 2 to 5%, while international airfares jump by 7 to 10%. Hotel rates are expected to rise 5 to 7% for mid-range rooms and 6 to 8% for upper-range rooms. Increases in hotel room supply have not kept pace with the growth in corporate hotel demand.
- Air Canada's system-wide passenger traffic, including mainline and regional operations, grew 2.4% overall in December 2007 compared with the same month in 2006.
- Air traffic on domestic routes grew 2.4%, while traffic on transborder U.S. routes fell 1.9%. International traffic rose 4%, driven by solid growth on transatlantic routes (4.8%) and on "Latin American and other" routes (8.5%).
- WestJet reported a 17.1% rise in passenger traffic and a 15.2% expansion in capacity in December 2007, compared with a year earlier. Looking ahead, the carrier expects to increase its overall seat capacity (measured by available seat miles) by 16% in 2008.
- Canada launched negotiations with the European Union in November 2007 for an open skies agreement that would open up competition on transatlantic routes. According to Transport Canada, the negotiations may lead to a framework allowing European airlines to fly to Canada from any airport in the European Union, potentially increasing air travel volumes and lowering airfares between the two regions. Transport Canada also announced amendments to its bilateral air services agreement with Mexico. The amendments provide Canadian and Mexican airlines with greater market access and pricing flexibility for air services between the two countries.

Potential Opportunities

There may be potential to tap into:

- high-end wilderness tourism (summer and winter)
- cultural tourism (performing and visual arts and First Nations culture)
- educational tourism
- volunteer tourism

There are opportunities to take advantage of existing tourist volumes, possibly in collaboration with Holland America. There may be some potential for existing tourism businesses to expand operations into the shoulder seasons.

Enabling/Limiting Factors

Resource Availability

Although changing economic conditions will have a negative impact on Canada’s tourism industry, it is still possible to attract and expand tourist volumes from different travel segments (wilderness, cultural, educational and volunteer tourism, for example). There are also opportunities to attract tourists from overseas markets.

Market Potential

Tourism industry competition is fierce and tourist volumes fluctuate according to political and market conditions. In general, tourism travel has been increasing, as has the demand for tourism packages.

Wilderness tourism is dependent on having the necessary economies of scale to operate and requires a strong emphasis on marketing. Wilderness activities can be conducted in the winter or summer.

Cultural tourism can be “piggy-backed” on existing tourist volumes. Dawson already has a national reputation as a centre for art and culture. Cultural offerings can be exported in winter months.

Dawson has unique historical and cultural attributes that lend well to educational tourism packages. First Nations culture and history, on the land trapping experiences, and gold rush history are examples.

Volunteer tourism is already practiced in the Yukon, particularly on organic farms, through Willing Workers on Organic Farms (WWOOF).

Political and Regulatory Environment
Some wilderness operations may require land-use permits and YESAA approvals. Tourism is generally regarded in a positive light.

Proximity to Industry Clusters
A strong tourism industry already exists in the Dawson Region. The Klondike Visitor's Association, Tourism Industry Association of the Yukon and tourism operators actively support the tourism industry.

Physical Infrastructure & Access to Market
Transportation from Whitehorse to Dawson is a significant limiting factor, driving up travel costs, particularly for international tourists. Airport reliability is also an issue. Traveler volumes and runways conditions likely do not warrant it, but direct international flights (or stopovers) could significantly reduce travel costs and travel times for international travelers. Access to international flights would also reduce direct marketing costs.

The City of Dawson is an attractive community with a lot of built heritage.

Depending on product offerings, some infrastructure development may be required for wilderness tourism. Trail clearing and trail map and guide development may be necessary for some product offerings.

Support Industry Availability
There is an established tourism industry in the Dawson Region, serving most tourism industry needs. The absence of a low-cost transportation method from Whitehorse is an ongoing concern.

Workforce Availability
Workers during the summer months and shoulder seasons are in short supply. In 2007, an estimated 9% of tourism-related positions went unfilled.

Overall Attractiveness to Industry

Wilderness Tourism	Medium to High
Cultural Tourism	Medium to High
Educational Tourism	Medium to High
Volunteer Tourism	Medium to High

Transportation

International Trends

- Mass customization and Just-in-time and On-Demand inventory systems require close proximity and/or fast transportation times.
- Global sourcing/shipping is becoming increasingly common.
- International travel is becoming increasingly common.
- Airlines are doing a better job of filling their planes. From 2001-2006, US domestic passenger counts have expanded by nearly 20% yet available seat miles have only increased by 9.5%. The improved load ratios have risen to match those of international flights, improving the profitability of the domestic industry.
- Using their lower operating costs to advantage, low-cost, discount, and specialty airlines will continue to enter the passenger transportation market and compete against legacy airlines, particularly in China and India.
- Legacy airlines will continue to take advantage of their extended flight networks but will struggle with high operating costs and ongoing challenges with employee unions. If legacy airlines cannot convince airports to reduce their fees, the "hub and spoke" system will likely be re-evaluated as an operational model, with some movement towards a direct-network system.
- Poor performers in both the legacy and low-cost market will be consolidated into existing airlines. Though the bankruptcy rate is expected to decline, bankruptcies and consolidations will continue, particularly in Europe.
- Airlines will continue their movement towards passenger self-check-in. Legacy carriers will also continue the trend to offering passengers "options" for their tickets. This allows the carriers to remove unpopular services, reduce airport turn-around times and reduce airport costs.
- American legacy air carriers will likely follow Air Canada's lead and spin-off their affiliate programs as separate companies as a means of improving profitability. In 2007, Aeroplan had an estimated market value of greater than $4 billion, while Air Canada's market value estimate was $1 billion.

National Trends

- Air Canada is the largest full service domestic airline in Canada with a fleet of 200 aircraft. Air Canada's subsidiary, Jazz has an additional 129 aircraft and is Canada's largest regional airline and the second largest airline in Canada after Air Canada.
- WestJet offers scheduled service throughout its 33-city North American Network. Between 2006-2007, the available seat miles offered by WestJet has grown by 14.4%. WestJet has over 60 aircraft in its fleet. With an average age of 2.1 years, WestJet's fleet of next generation Boeing 737 aircraft is the youngest in North America.
- Notwithstanding higher fuel prices, it appears that the Canadian air carrier sector will remain relatively stable and profitable in the near term. The competition between WestJet and Air Canada results in lower fares and better air service than would otherwise be the case.[34]
- In contrast to the rest of Canada, air services in the North are provided by a relatively large number of small air carriers. The four largest northern operators, as measured by scheduled seat departures, include First Air, Canadian North, Air North and Calm Air International. In the Yukon, the largest carriers are Air North and Air Canada Jazz. With its latest share offering, Air North continues to expand its fleet.

[34] Transport Canada – Business Plan – 2006-2007.

- Northern aviation will continue to be affected by the increase in mining activity. For example, an Mi-26T Halo, the world's largest helicopter, was flown from Russia to resupply and service the diamond mining industry north of Yellowknife, an area traditionally serviced by winter roads.
- The flight training industry is undergoing a significant change with a trend toward a reduction in the number of small schools and a few larger schools in major centres. The closing of training organizations could lead to a shortage of pilots over the next several years.
- Rising fuel prices will continue to affect airlines and ticket prices, but will entrench air travel as the preferred method for long-distance travel over road travel.
- Canada has one of the largest rail networks in the world with 48,000 kilometers of track and almost 50,000 railway crossings. Railways directly employ more than 35,000 people in Canada.
- To improve margins, train lengths have been expanded by the major carriers. A subsequent increase in rail accidents has followed.
- While Canadian National Railway (CN) and Canada Pacific Railway (CPR) are still the dominant carriers, they now operate only 75 per cent of the domestic rail network compared to the 90 per cent they operated in 1995. Many low-density lines have been transferred to short line operators, which provide feeder service to the CN and CPR networks. Both CN and CPR have significant infrastructure and operations in the United States, and north-south traffic has grown considerably over the last twenty years.
- In preparation for the Mackenzie Gas Project, CN purchased the Mackenzie Northern Railway from Smith, Alberta to Hay River, NWT.
- More recently, rapid economic expansion in Asia Pacific countries has resulted in the Asia Pacific Gateway and Corridor Initiative (APGCI). The initiative seeks to establish Prince Rupert and the BC Lower Mainland and its port, rail, road and air infrastructure connections to the rest of Canada and the United States as the primary access point for imports and exports to Asian Pacific countries. The APGCI includes a $1 billion transportation infrastructure fund for improving transportation infrastructure to the Gateway[35] at Prince Rupert.
- Prince Rupert is billed as "the shortest existing land/sea route to key Asian markets". The port is 436 miles/36 hours sailing time closer to Shanghai than Vancouver and over 1,000 miles/68 hours closer than Los Angeles. The port connects with CN Rail's transcontinental network through the lowest rail grade in the Canadian Rockies. Prince Rupert is reputed to be one of the safest ports on the West Coast and is ice-free year round.
- Churchill, Manitoba, Canada's only deep-water Arctic seaport, is investing in port and rail infrastructure to reduce its dependence on wheat exports and to improve its position as a general-purpose northern port and rail access point. In October 2007, the port accepted its first shipment from Russia. Russia is also trying to position itself as an international port destination and views Churchill as a natural outlet for its northern port in Murmansk.
- Russia is proposing a rail, pipeline, and fibre optic connection under the Bering Straight to connect with the rest of North America (through Alaska, Yukon and BC).[36]
- The Government of Yukon, in conjunction with the State of Alaska, commissioned a feasibility study to analyze a Yukon/Alaska rail link with the North American rail system. According to the feasibility study, the closest point

[35] Transport Canada – Prairie & Northern Region Business Plan – 2007-2008.

[36] Russia Wants a Rail Link to North America, http://www.spiegel.de/international/world/0,1518,478448,00.html.

of the rail system to Dawson would be Carmacks. The feasibility study concluded that, with a 5% discount rate, net commercial revenues from shippers would recover only 74% percent of the project's capital and operating costs but that the net economic benefit to the public would exceed 100% of the total investment, allowing for a combined business case value of almost $20 billion for a public-private partnership[37]. Critics of the project have pointed out that the business case for the project is "frail"[38]. To date, neither the federal government nor private interests have come forward to invest in the rail project.

Potential Opportunities

- Passenger transport (road, air, river)
- Expediting and hotshotting
- Pilot cars
- Helicopter services
- Freight hauling

Enabling/Limiting Factors

Resource Availability

Because there are no high-volume exports, there are minimal freight movements into and out of Dawson City. The existing freight movements are seasonal in nature.

Passenger transportation is high during the summer months, but is considerably quieter in the winter. Holland America brings tourists into the community on its luxury busses, but road-based services are not available for others who may need rides into the community. Many Dawsonites catch rides with each other into and out of the community.

Market Potential

Air North provides air passenger transport and freight hauling year-round, depending on weather conditions. Road-based freight services are provided by Kluane Trucking. Helicopter services are available in the region.

A seasonal passenger transportation and light cargo service between Whitehorse and Dawson City warrants further investigation. There is already a bus that travels from Inuvik to Whitehorse.

Political and Regulatory Environment

Transportation services, especially air transportation, are highly regulated.

Proximity to Industry Clusters

Dawson City is removed from higher-volume transportation centres, which typically results in few transportation options and less competition. Unfortunately, its distance from Whitehorse and Dawson's small population base also results in lower freight and passenger volumes, less frequency, and higher transportation costs – which is unattractive to transportation businesses and customers alike.

[37] Alaska Canada Rail Link – Roads to Resources to Ports – Phase 1 Feasibility Study – Summary and Conclusions.

[38] Transport Canada – Issues Identification Report on the Alaska-Canada Rail Link – Final Report.

Physical Infrastructure & Access to Market
Dawson City is connected by a well-maintained highway to Whitehorse.

The airport is not suitable for most large aircraft and its location is not conducive for further expansion.

Support Industry Availability
Some mechanical and parts services are available in Dawson City for road-based vehicles. Whitehorse is commonly used as a repair-centre.

Workforce Availability
With limited freight and passenger volumes, only a limited number of drivers – with appropriate licenses – are needed.

Overall Attractiveness to Industry

Road Transportation (Freight)	Low to Medium (needs already being met)
Road Transportation (Passenger)	Low to Medium
Air Transportation (Freight/Passenger)	Low to Medium (needs already being met)

Agriculture

International Trends

- Even in the absence of an enforced national or international standard, demand for "organic" produce is quickly increasing.
- Due largely to consumer pressures, Walmart now sells only "organic" produce.
- Mid-sized farms continue to disappear, giving way to smaller multi-product family/hobby farms or, more commonly, to "factory farms".
- Small farms move to niche farming (experimental crops, unusual crops, mixed and organic farming)
- Food production exceeds market demands for some food commodities (such as pork in Canada), prompting government intervention to restrict production, often following the European lead of offering incentives for production caps.
- The use of genetically modified crops and livestock increases, in spite of consumer concerns.
- Corn and wheat prices dramatically rise as the demand for biofuel inputs rises.
- Methods continue to develop that extend the shelf life of fresh produce.
- Animal diseases prompt massive culls in Europe, Asia and Canada. Industry groups use the presence of infected animals as leverage to erect import trade barriers.

National Trends

- The 100-Mile Diet, Slow Food movement, and environment concerns cause a growing number of consumers to take an interest in their food sources.
- Canadian consumers, as they are exposed to world foods, continue to seek new flavours.
- The demand for organic food continues to grow and supermarkets stop viewing organic produce as a "specialty" product but rather as an important part of their core product offering.
- The Conservative government actively attempts to end the monopoly held by the Canadian Wheat Board, so far without success.
- Strong marketing and lobbying associations, many of which determine price structures for the local and export markets, support most agricultural industries.
- Tree-fruit producers are replacing their orchards with higher-yield and higher-value grape crops.

- Small-scale farmers pursue vertical integration using value-added strategies.

Potential Opportunities
There may be opportunities for export or, more likely, import replacement in the following areas, either as a specialized or mixed farming operation:

- Market gardening (vegetables)
- Potatoes
- Hay
- Dairy
- Honey
- Wool
- Sod
- Berries
- Poultry
- Eggs
- Bovine meat
- Feed grain, silage/greenfeed
- Elk, bison and other farmed "wild" game
- Hogs
- Nursery and bedding plants
- Seed production (reclamation)

There has been some discussion about making the Yukon a genetically modified food-free jurisdiction. This approach would give Yukon-grown produce a competitive advantage, but could also significantly hinder the industry's productivity.

Local wild foods, such as mushrooms and berries can be investigated for their cultivation potential. These plants are climate hearty and may have some niche potential as export products.

Enabling/Limiting Factors
Resource Availability
The summer growing season is brief but intense and early frosts can have a destructive effect on some crops. Greenhouses can extend the growing season for market garden crops. Year-round greenhouses can be used, but would be dependant on finding an affordable heat source for economic viability.

Poultry and livestock farming can take place year-round, but harvesting is normally conducted on a seasonal basis.

Small farm sizes do not produce the necessary economies of scale for full-time agriculture. As a result, many of the Yukon's farms are part-time or hobby farms.

There is a shortage of available, useable land, though history indicates that there is agricultural potential for market gardens in the Dawson area. Yukon soils are generally deficient in nitrogen and phosphorus. Potassium and sulphur abundance is often dependent on local geology and is difficult to predict. Since 1984 more than half of the soils tested by the Yukon Agriculture Branch have been deficient in potassium. The most common micro-nutrient deficiencies are boron and magnesium. Soils throughout the Yukon are low in organic matter, and salinity has been identified as a problem in some localized areas. Permafrost is found throughout the Yukon varying from sporadic discontinuous in southern agriculture areas and increasing to extensive discontinuous at the northern extreme of agriculture activity in the Yukon.[39]

The cost of land in the Yukon is a major constraint to agricultural development. This cost can limit an individual to high-value crops, leaving a producer without the necessary cash to invest in other required building and equipment and, ultimately, never allowing them to recover their investment. The small sizes of agriculture plots, often under 70 acres (78 of the Yukon's 148 producers farm less than 70 acres) also seems to

[39] http://www.emr.gov.yk.ca/agriculture/soils_geography.html.

leave producers with an inefficient scale of production for many crops like hay, feed, and large animal livestock.

Market Potential

The agricultural industry is driven largely by consumer tastes. Weather, disease and trade policies affect market supply, which play a large role in affecting product values.

Although some Yukon producers are profitable, on average, operational and capital costs exceed sales, indicating that economies of scale are generally not sufficient for profitable operations.

High operational costs and domestic and international trade rules mean that Yukon-based agricultural producers are mostly restricted to local markets. Fortunately, there appears to be a strong demand for Yukon-grown products – especially organic products, as documented in the Government of Yukon's Multi-Year Development Plan.

Within the Yukon, there is significant potential for import substitution. There may be some synergies with the tourism industry for the supply of northern-grown foods.

Yukon Balance of Trade with All Countries

Live animals and animal products, vegetable products, food products, beverages, spirits, vinegar and tobacco products, fats, oils, their cleavage products and wages.

	2003	2004	2005	2006	2007
Total Exports	$431,069	$178,811	$540,512	$535,183	$379,027
Total Imports	50,812,429	52,773,280	45,803,768	38,418,313	54,082,285
Trade Balance	-$50,381,360	-$52,594,469	-$45,263,256	-$37,883,130	-$53,703,25

Source: Statistics Canada

Political and Regulatory Environment

Meat exports are highly regulated, both within and outside of Canada.

It remains unclear if the Territory's new agricultural policies will ensure that agriculture in the Yukon can achieve the economies of scale required to operate profitably.

In other parts of the Yukon, land issuance for agricultural purposes has resulted in lengthy disputes between the territorial government and First Nations. The potential for a similar situation in the Dawson Region could be considered high because the land base needed for agriculture is usually found in prime wildlife habitats.

The agricultural land acquisition process is thought to take a long time and involves a great deal of regulatory screening.

The land application process for agricultural land includes a Farm Development Plan. Provided the application conforms to Government of Yukon policy, the application then undergoes a YESAA assessment. The review and assessment includes:

- In season assessment of the soil and site location
- Review by numerous Government of Yukon departments including the Department of the Environment and also Federal agencies such as the Department of Fisheries and Oceans.
- Review and commentary by First Nations who hold the traditional territory where the application occurs; mandated bodies such as Renewable Resource Councils, Local Advisory Councils and the general public.
- Neighbours within one kilometre are contacted directly by the Agriculture Branch and directed to make input to the YESAA process if they wish.

The YESAA assessment process culminates in a recommendation made to the Government of Yukon and the Director of Agriculture issues a decision document that accepts, rejects or varies the recommendation from YESAB.

If the decision is for the project to proceed, the successful applicant will then have seven years to complete the Farm Development Plan. The parcel may be titled at any time within the seven years as long as the Farm Development Plan is completed.

The environmental and socioeconomic assessment takes a minimum of 65 days. Land disposition after the assessment includes subdivision authorization, execution of the survey followed by registration and the drawing up of the agreement, which takes four to six months. If rezoning is required, a further year may elapse.

Producers can also acquire land by purchasing land that has already been titled and developed. These sales are private and not controlled by the Agriculture Branch.

Producers who want to irrigate with more than 300 cubic metres of water per day will need to apply to the Yukon Water Board for approval. This application also goes through the YESAA process, and the application will only be granted with a positive recommendation from YESAA. The successful applicant is granted a license for a specific term with subject conditions. Water licenses must be renewed with the board when the term is finished.

For every one dollar of approved development expenditure the purchaser can be forgiven one dollar from the purchase price.

The regulatory process for agricultural land acquisition is complex and, while it ensures that only serious, thought-out applications are received, it does little to encourage entry into the industry.

Proximity to Industry Clusters

In spite of the high degree of industry coordination at the national level, the agricultural industry is highly susceptible to factors beyond its control (world markets, international trade policies, weather, and disease).

In the Yukon, the agricultural community has managed to organize itself through the Yukon Agricultural Association (YAA), the Growers of Organic Foods Yukon (GOOFY) and other specialty associations. These associations are communicating the industry's needs to the Agriculture Branch of Energy, Mines and Resources, which has been generally responsive and supportive.

The majority of agriculture (and agricultural support) in the Yukon occurs in the Whitehorse-area, which can result in "professional isolation" for farmers outside of the Whitehorse region. The farming community in the Dawson-area is small, which also limits mentoring and knowledge-transfer opportunities for experienced and beginning farmers alike.

Physical Infrastructure & Access to Market

Yukon's modern agricultural industry is generally underdeveloped and much of the necessary meat processing, storage and federal inspection infrastructure are not available. Some products, like hay and certain vegetables, have fewer infrastructure needs.

Transportation costs are high for all products, which means that sales are restricted to local markets. Backhauls can be used to access the comparatively large Whitehorse market.

Live imports and exports can face lengthy transportation delays, resulting in spoilage.

Support Industry Availability
Many of the support businesses required by the agriculture industry are already available in the Yukon, sometimes through creative arrangements organized by farmers in the territory (fertilizer supplies, for example). Some key services, such as veterinary care (for poultry and livestock), cold storage, meat processing, and agricultural equipment parts supply are missing.

Support businesses for agriculture can include:

- Trucking
- Farm equipment/harvesting equipment
- Equipment repairs/parts supply
- Irrigation supply
- Chemical/fertilizer supply
- Grain/seed/bedding plant supply
- Feedstock supply
- Veterinary services (poultry and livestock)
- Value-added processing (including abattoir services)
- Packaging supply
- Retail sales
- Labour supply services
- Soil testing/analysis
- Warehousing/cold storage

Workforce Availability
Labour requirements are product dependant. Summer seasonal workers are in high demand for market garden crops and workforce availability is already a challenge for agriculture in the Yukon. Some farms use migrant or volunteer labourers (particularly WWOOFers – Willing Workers on Organic Farms).

Worker availability for labour-intensive farms will continue to be a constraint.

Overall Attractiveness to Industry
It is unlikely that large-scale producers will invest in agriculture in the Yukon. Private or co-operative farms that can secure enough productive land and achieve sufficient economies of scale may choose to take advantage of the Yukon's local market potential, though the overall number of farmers is in decline across the country. The attractiveness of the agricultural industry ranges from low to high, depending on the product and product mix.

	Economic Fit (score 1-10)	Agronomic Fit (score 1-10)	Industry Size (Value in expansion)
Hay Production	9	9	465,000.00
Potatoes	9	9	300,000.00
Carrots	8	9	100,000.00
Cabbage	7	9	50,000.00
Beef Production	5	8	206,250.00
White Meat Production	5	8	180,000.00
Egg Production	5	8	100,000.00
Elk Production	5	8	83,750.00
Bison Production	5	8	68,750.00
Cheese Production	5	8	50,000.00
Seed Production: Reclamation	5	6	75,000.00
Seed Production: Turf Grass (Sod)	5	6	12,500.00
Greenhouse Vegetables	5	5	500,000.00
Nutraceuticals (Rhodiola, Stevia)	5	5	100,000.00
Seed Production: Grain	5	3	45,000.00
Other in season field vegetables	4	7	50,000.00
Hog Production	4	6	112,500.00
Milk Production	2	3	180,000.00

Source: Government of Yukon, Energy Mines & Resources, Agriculture Branch – Multi-Year Development Plan.

Energy

International Trends[40]

- Political pressures regarding climate change are spurring the development of emissions trading and carbon capture and storage. In spite of these measures, greenhouse gas emissions are expected to escalate.
- Concerns about peak oil and geo-political instability cause some developed and developing nations to adopt energy security policies.
- Nuclear power generation is increasingly viewed as an acceptable alternative to fossil fuels for power generation.
- Biofuel, fuel cells, tidal and in-river hydro, and other alternative power sources continue to be explored.
- Energy consumption growth exceeds energy supply growth. Growth is experienced in all energy sectors:
    - Between 1995 and 2005, the world's total output of primary energy – petroleum, natural gas, coal, and electric power (hydro, nuclear, geothermal, solar, wind, and wood and waste)—increased at an average

[40] World Energy Overview: 1995-2005, Energy Information Administration, US Department of Energy, October 2007.

annual rate of 2.4%. World production increased from 364 quadrillion Btu in 1995 to 460 quadrillion Btu in 2005.

- In 2005, petroleum (crude oil and natural gas plant liquids) continued to be the world's most important primary energy source, accounting for 36.8%, or 169 quadrillion Btu, of world primary energy production. Between 1995 and 2005, petroleum production increased by 13.4 million barrels per day, or 19.7%, rising from 68.0 to 81.4 million barrels per day. The Middle East had the largest production gain, followed by Eurasia, and Africa. Their combined gains over the period from 1995 to 2005 were 12.6 million barrels per day.
- Coal ranked second as a primary energy source in 2005, accounting for 26.6% of world primary energy production. World coal production totaled 6.5 billion short tons, or 122 quadrillion Btu, in 2005, and it increased by 27.1% from the 1995 level of 5.1 billion short tons.
- Dry natural gas ranked third as a primary energy source, accounting for 22.9% of world primary energy production in 2005. Production of dry natural gas was 101.5 trillion cubic feet, or 105 quadrillion Btu, in 2005. Production increased by 23.6 trillion cubic feet from 78.0 trillion cubic feet in 1995, a gain of 30.2%.
- Hydro, nuclear, and other (geothermal, solar, wind, and wood and waste) electric power generation ranked fourth, fifth, and sixth, respectively, as primary energy sources in 2005, accounting for 6.3, 6.0, and 0.9%, respectively, of world primary energy production. Together they accounted for a combined total of 5.9 trillion KWh, or 61 quadrillion Btu, in 2005.
- Nuclear electric power generation increased significantly between 1995 and 2005, rising from 2.2 trillion KWh to 2.6 trillion KWh, an 18.8% increase.
- Hydroelectric power contributed 2.9 trillion KWh in 2005, up 18.0% from 2.5 trillion KWh in 1995. Geothermal, solar, wind, and wood and waste electric power generation also increased significantly over the same period, rising from 172 billion KWh to 370 billion KWh, a 114.6% increase.

- The United States, China, Russia, Saudi Arabia and Canada were the world's five largest producers of energy in 2005, supplying 50.0% of the world's total energy. The next five leading producers of primary energy were Iran, India, Australia, Norway, and Mexico, and together they supplied an additional 12.4% of the world's total energy. The United States supplied 69.6 quadrillion Btu of primary energy, just 10% more than the 63.2 quadrillion Btu produced by China, while Russia produced 52.7 quadrillion Btu.
- The United States, China, Russia, Japan and India were the world's five largest consumers of primary energy in 2005, accounting for 51.2% of world energy consumption. They were followed by Germany, Canada, France, the United Kingdom, and Brazil, which together accounted for an additional 12.9% of world energy consumption. The United States consumed 100.7 quadrillion Btu, one and one-half times as much as the 67.1 quadrillion Btu consumed by China, while Russia consumed 30.3 quadrillion Btu.
- China is set to become the world's largest consumer of energy by about 2010 according to a study by the International Energy Agency. The World Energy Outlook report predicts that China will overtake the US in its energy use. China's crude oil imports rose 12.4% in 2007 to a new record. Crude oil imports for 2006 increased 16.9% from the previous year. China is facing widespread, temporary electric power shortages. The distribution system is having trouble keeping up with the country's rising demand for electricity. Regulators state that 13 provinces and major regions, including the industrial-and-export hub of Guangdong in the south, will experience a total shortfall of about 70 gigawatts of

electricity – one-tenth of China's total. Coal stockpiles have fallen to less than half of their typical levels.[41]

National Trends

- Canadian electricity exports continue to grow.[42]
- The movement to alternative energy mirrors global trends.
- Canada is increasingly viewed as a resource for energy supply (hydro-electric, biomass and other renewables, fossil fuels, and uranium)
- Some provinces adopt legislation to provide private power producers with a revenue stream through "reverse metering".

Potential Opportunities

Selecting from a variety of energy sources (particularly micro or large hydro or wind turbine), there may be potential to provide electricity to the Yukon market, in conjunction with Yukon Energy or, possibly, as a private producer.

A biomass heating utility may be an option for the downtown core.

Because it has extreme variations in weather conditions, Dawson holds some potential as a test site for small-scale alternative energy projects.

Enabling/Limiting Factors

Resource Availability

Potential hydroelectric assessment work undertaken earlier by the Northern Canada Power Commission and Yukon Energy identified five potential sites located within Tr'ondëk Hwëch'in traditional territory, although none of these are identified in Yukon Energy's 20-year Resource Plan 2006-2026.

There are a variety of alternative options for electricity generation in the Dawson Region and each energy source would require further assessment to determine viability.

Currently, low-cost biomass supply (waste from other industrial activities) is insufficient for a biomass utility operation and field harvesting would be required, which would significantly increase operational costs.

Market Potential

Both of the Yukon's major electrical grids will soon be connected. At present, the Yukon is a captive market, which means that neither electricity imports nor exports are possible. Transmission lines to southern Canada (likely through Fort St. John, BC) or Alaska would be required and are highly unlikely.

The Yukon's current electricity demand is being met but, as more mines enter production, additional non-diesel-generated electrical capacity will needed. Yukon Energy's 20-year Resource Plan 2006-2026 outlines its future supply and production considerations. Future production may include hydroelectric and coal. In that document, the Dawson Region is not considered as an electricity supply centre.

Political and Regulatory Environment

Electricity generation and transmission is highly regulated. Reforms are required if

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[41] *Energy Sector Trends*, Joseph Dancy, Adjunct Professor of Energy Law, SMU School of Law, stockhouse.ca, February, 2008.

[42] National Energy Board, *Energy Reports*.

private commercial production is to be allowed.

Proximity to Industry Clusters
Although transmission lines enable the transfer of electricity, shorter transmission lines reduce the risk of power outage and locations closer to the major electricity consumption market (Whitehorse or mines entering production) are likely to receive priority.

Physical Infrastructure & Access to Market
Dawson will soon be connected to the Territory's major transmission system, allowing for easy transport of electricity. Electricity distribution is controlled by the Yukon Electrical Company Ltd.

Overall Attractiveness to Industry

Power Generation	Low

Forestry & Wildlife Resources

International Trends

- Over the past seven years, China has become the number one importer of timber products in the world and Russia has become its number one supplier. However, unsustainable harvesting methods, illegal logging, and limited value-added processing within Russia threaten the long-term trade relationship between the two countries.
- South American and emerging Pacific-rim nations are experiencing rapid deforestation.
- Tariff rates are being progressively reduced as a result of World Trade Organization negotiations.
- Importing nations are increasingly demanding products made by wood that has been approved by a recognised third-party certification program.
- Forests around the globe are facing an increase in outbreaks of non-native insects, mostly due to an increase in international trade. International regulations are being tightened on the movement of untreated wood packaging and shipping material to prevent the spread of non-native insects and diseases.
- "Payments for Ecosystem Services" develop in response to greenhouse gas emission concerns and carbon offset trading.
- Eucalyptus stands in South America, which regenerate within a few years as opposed to a few decades for coniferous trees, become a preferred source of pulp.
- Technological advances extend the useful life of recycled paper products.
- Mill waste is used to produce heat and electricity.
- Non-timber forest products gain increasing attention as economic opportunities, some for their nutraceutical properties.
- Small sawmills become automated and can be operated with only one or two people.

National Trends

- Canada is the world's largest exporter of forest products, but is losing market share.
- Canada is dependant on the United States for forest product exports. In 2006, the US accounted for $29.9 billion of Canada's forest exports, followed by the European Union ($1.9 billion), Japan ($1.9 billion) and China ($1.3 billion).
- The Softwood Lumber Agreement between Canada and the United States took effect on October 12, 2006. Under the agreement, Canadian exports of softwood lumber are no longer subject to U.S. countervailing and anti-dumping duties, and more than $5 billion in duties collected by the United States since 2002 have been returned to Canadian exporters. The agreement, which has a 7-year term with an option to renew for 2 additional years, imposes export taxes and quota limits on shipments of softwood lumber to the United States that become more restrictive as the market price of lumber falls. The Atlantic provinces and the territories, as well as 32 companies in Quebec and Ontario, are exempt from the border measures.
- The BC Government's attempts to deregulate logging are impeded by its duty to consult with First Nations.
- BC Government increases forest safety certification standards.
- Canada has the world's largest area of certified forests, and produces more fibre originating from certified woodlands than any other forested country. As of June 2007, Canada has 134 million hectares certified to one of three programs in common use – the Canadian Standards Association's Sustainable Forest Management Standard (CSA), the Forest Stewardship Council Standard (FSC), and the Sustainable Forestry Initiative (SFI).
- As a result of climate change, it is expected that forests across the country will experience warmer conditions and changes in precipitation, affecting the growth rate of trees. Forecasts suggest there will be more frequent and severe forest fires. The changing environment will make trees more susceptible to disease and insect infestations. A warmer climate is one of the factors that has contributed to the exploding mountain pine beetle populations in British Columbia and Alberta.
- Beetle epidemics result in record harvesting in BC and Alberta. At the current rate of spread, 50% of mature pine will be dead by 2008 and 80% by 2013. The consequences of the epidemic will be felt for decades in British Columbia. The beetle also threatens Alberta's lodgepole pine forests and the jackpine stands of Canada's northern boreal forest.
- The appreciation of the Canadian dollar and the troubled US housing market will negatively affect commodity timber exports.
- Pulp and paper mills continue to close in spite of government subsidies.
- Highly automated "Super-mills" render many Canadian mills obsolete due to their high production volumes and cutting efficiency.
- In 2006, 323 600 people were directly employed in the forest industry—16 300 fewer (4.8%) than in 2005 (Labour Force Survey, Statistics Canada) and the lowest since 1993. The decline since the most recent employment peak in 2003 has been particularly sharp. Much of the decline since 2003 has been due to mill closures across the country.
- Consolidation of major forestry companies occurs as a result of efforts to reduce costs, improve productivity and enhance competitive positions.
- Value-added producers cluster around larger mills, resulting in economic efficiencies.

Potential Opportunities

- Commodity timber production
- Value-added production
- Pulp and paper production
- Niche products
- Non-timber forest products

Enabling/Limiting Factors

Resource Availability

A 1:50,000 base inventory has been completed. Additional inventory work is required to further define the resource.

Commercial timber harvesting is sporadic due to inconsistent annual allowable harvest volumes and a lack of tenure.

Wildlife resources are available for trapping. Trapping concessions are all claimed, prohibiting entry into the industry unless an existing concession can be leased or acquired.

Yukon River salmon are in decline, possibly due to the Alaska pollock fishery by-catch.[43]

Market Potential

Forest products are by and large commodity products and competition for market space is fierce, price sensitive and global in scope. Forest products are subject to global supply and demand, exchange rates, trade disputes and other macroeconomic influences.[44] Even value-added processors are impacted by commodity price fluctuations, since they often take advantage of "waste" from commodity mills and are ultimately supplying the same global market. The strengthening of the Canadian dollar, American housing crisis, and increased availability of round logs will drive down the value of Canadian commodity timber. Overall, the global market is becoming increasingly difficult for commodity and value-added producers.

While there are certain, local niche markets that can be served in the Yukon and Alaska, growth and development of these markets will be limited due to a lack of scale. One local firm has already emerged to take advantage of a niche opportunity.

Non-timber forest products may hold some potential as both local and exportable products. Mushrooms, berries, essential oils, and birch syrup (as examples), may be used for cosmetic, nutraceutical, and local and gourmet food markets. Willows and mosses hold some potential as decorative and craft items. Cold-resistant plants and cones/seeds hold potential as export items for silvicultural and landscaping purposes.

Demand for fur is resulting in subsequent prices increases, improving the viability of trapping as a full-time occupation.

Political and Regulatory Environment

The Government of Yukon is in the process of developing a new *Yukon Forest Resources Act*. Consultations are currently underway. The Tr'ondëk Hwëch'in are in the process of developing a Strategic Forest Management Plan with the Forest Management Branch.

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[43] http://www.cbc.ca/canada/north/story/2007/12/10/yk-salmon.html.

[44] Watson Lake Chamber of Commerce, *Economic Assessment of Forest Industry in Southeast Yukon, PriceWaterhouseCoopers LLP*, August 2005.

Commercial timber harvest permits can take between two to six months. The lack of regulatory certainty acts as a deterrent for commodity producers. The introduction of a competitive regulatory framework will help improve Yukon's attractiveness to industry.

Proximity to Industry Clusters
Forestry operations in the Yukon operate on a small-scale basis with little to no communication with the broader industry. There is no association that represents the majority of the territory's producers.

Physical Infrastructure & Access to Market
High transportation costs to access global markets are a major deterrent to commodity and value-added producers. As a result, forestry operations are limited to serving local markets with niche products. Local markets may include the communities along the Dempster and parts of Alaska.

In partnership with the Government of Yukon, The Yukon Trapper's Association collects furs and transports them to auction.

Support Industry Availability
A number of forestry services, such as scaling, are provided by the Government of Yukon's Forest Management Branch.

Workforce Availability
Small-scale operations producing niche products will only require small pools of labour. In some cases, mechanized equipment requires only one or two operators.

The harvesting of non-timber forest products is labour-intensive and seasonal, requiring labourers during the summer and fall seasons. These workers may be difficult to find, as they will be required to work in bush camp environments for low pay.

Overall Attractiveness to Industry

Commodity timber production	Very Low
Value-added production	Very Low
Pulp and paper production	Very Low
Niche products	Low to Medium
Non-timber forest products	Low to Medium
Trapping	Low to Medium
Commercial Fishing	Very Low to Low

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Oil & Gas

International Trends

- Concerns surrounding global warming are driving research and development of alternative technologies.
- Non-conventional fuel sources continue to be investigated and developed (tar sands, coal bed methane, methane hydrates, bio fuels, etc.).
- Demand for natural gas in North America has been forecasted to increase by approximately 16% between 2002 and 2010, representing 11.1 billion cubic feet per day. The Gulf of Mexico, Eastern Canada offshore, new fields in the Western Canada Sedimentary Basin, and the Mackenzie Delta are being targeted to meet future demand.
- The Middle East contains 70% of the world's known oil reserves[45].
- Russia, through Gazprom, its state-owned monopoly (owning 80% of known reserves), continues to strengthen its position as a major supplier to Europe and Asia's natural gas market. A major liquefied natural gas facility is being developed in the Sakhalin Islands, north of Japan to access Asian markets.
- China is the second largest oil importer behind the US. China's need for energy is projected to increase by 150% by 2020. Its oil consumption grows by 7.5% per year, seven times faster than the US. Although China was a net oil exporter during the 1970s and 1980s, it became a net oil importer in 1993. China currently imports 32% of its oil and is expected to double its need for imported oil between now and 2010. China continues to acquire interests in oil and gas fields around the globe including Kazakhstan, Russia, Venezuela, Sudan, West Africa, Iran, Saudi Arabia and Canada. Despite its efforts to diversify its sources, China has become increasingly dependent on Middle East oil. Today, 58% of China's oil imports come from the region.[46]

National Trends

- Canada is a net oil and gas exporter.
- Oil and natural gas reserves are being consolidated into a small number of large companies.
- To mitigate risk, exploration and production companies continue to acquire interests in their competitor's projects.
- Companies specializing in oil and gas extraction from declining reserves have emerged to profit from wells that are no longer considered economically viable by larger players.
- Depleted natural gas wells are viewed by some as a location for CO_2 storage.
- Currently awaiting regulatory decisions, the Mackenzie Gas Project is anticipated to open significant natural gas reserves in the Mackenzie Delta.
- The State of Alaska is actively working to develop an Alaska Highway pipeline, which will connect Alaskan natural gas reserves with the North American market.
- Kitimat, BC has been permitted to construct and operate a liquefied natural gas import, regasification and send-out terminal. The terminal is expected to have a capacity of 1 billion cubic feet per day and four to five shipments per month. The estimated date of operation is 2010. A pipeline from the oil sands in Alberta is being developed.
- Amidst environmental concerns, the oil sands in Alberta (and Saskatchewan) are thought by some to be capable of satisfying the world's demand for petroleum

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[45] http://www.iags.org/la020204.htm

[46] http://www.iags.org/china.htm

for the next century. In 2006, Alberta's oil sands were the source of about 62% of the province's total crude oil and equivalent production and about 47% of all crude oil and equivalent produced in Canada. Output of marketable oil sands production increased to 1.126 million barrels per day (bbl/d) in 2006. With anticipated growth, this level of production could reach 3 million barrels per day by 2020 and possibly even 5 million barrels per day by 2030.[47]

- Partially driven by court decisions regarding consultation and accommodation requirements, petroleum exploration companies continue to develop close relationships with First Nations, focusing on business relationships through joint venture partnerships.
- Seventy-three wells have been drilled in the Yukon. Most of these are located in the Liard Plateau, Peel Plateau, and Eagle Plain basins. The remaining 5 basins - Bonnet Plume, Kandik, Old Crow, Whitehorse Trough and Coastal Plain - are virtually unexplored.

Potential Opportunities

- Oil and gas exploration
- Oil and gas exploration support services
- Oil and gas production
- Oil and gas production support services
- Pipeline construction/ownership

Support services include:

- Drilling Rigs
- Rig supplies (muds, drill rods, drill bits)
- Seismic surveys
- Surveying
- Environmental engineering
- Slashing/Lease clearing
- Road/Ice Bridge construction
- Bridge supply
- Heavy Equipment supplies and service (including operators)
- Vehicle rental (including ATVs and snow machines)
- Trucking
- Air services (helicopters/small aircraft)
- Camps and catering service and supply
- Mobile First Aid
- First Aid and Safety Training
- Community relations
- Water and waste hauling
- Food and beverage supply services
- Fuel supply

Enabling/Limiting Factors

Resource Availability

While there are rough estimates, the extent of the North Yukon's oil and gas reserves are largely unknown. If small-scale exploration shows promise, interest in the region should increase.

The Government of Yukon Oil and Gas Resources Branch operates on a land disposition system. Unlike some jurisdictions where getting land for exploration is a constraint, the key challenge in the North Yukon involves getting the oil and gas to market.

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[47] http://www.energy.gov.ab.ca/OurBusiness/oilsands.asp

Market Potential
The industry will continue to focus on oil resources with better market access and on proven reserves (the oil sands and offshore oil). Natural gas supply will increase substantially with the construction of the Mackenzie Valley Gas Pipeline. Exploration along the Mackenzie Valley will continue to be the main focus for natural gas exploration.

Northern Cross continues to assess the long-term productive capability of the existing wells and the cost structure of remote operations, which would be required for full development of its Significant Discovery Licenses. It has undertaken a refinery feasibility study for these oil reserves in accordance with the company's objective "to develop Yukon resources for Yukoners".[48]

It is unlikely that the Yukon's population base will justify the cost of a natural gas pipeline serving local markets.

Political and Regulatory Environment[49]
On February 8, 2008 the Oil and Gas Royalty Regulations were passed by the Yukon Government. At the same time, the Oil and Gas Transfer Regulations were repealed and the Oil and Gas Disposition Regulations were amended.

The current regime provides the industry with a regularly scheduled disposition process, which provides the industry with certainty that land for exploration can and will be made available for exploration. The work bid system in the North Yukon is particularly attractive because lands for exploration purposes can be acquired at no cost (other than the cost of exploration).

Although the land disposition process results in the granting of rights, industry activities are likely to trigger a YESAA assessment. The assessment process can be a major deterrent for companies that wish to enter production, particularly since the North Yukon – and the Peel watershed especially – has a high profile amongst conservation groups.

The oil and gas industry is generally unfamiliar with the Yukon's new environmental assessment regime.

Proximity to Industry Clusters
With the exception of the Kotaneelee field, which is close to existing pipelines in Northeastern BC, there are no major oil and gas players in the Yukon.

To date, rights issuances in the North Yukon are held by two junior players. Little interest has been shown by major players in the latest rights issuances.

Dawson City is two flights away from Edmonton, a major oil and gas centre. Its distance by road will prove to be more of a challenge, particularly with respect to the transportation of rigs, pipe for pipelines, and other specialized equipment.

Physical Infrastructure & Access to Market
There is no oil and gas infrastructure in the North Yukon. When completed, the closest pipeline will be the Mackenzie Gas Project in the Northwest Territories. The proximity of

[48] http://www.northerncrossyukon.ca/

[49] http://www.emr.gov.yk.ca/oilandgas/rights_royalties.html

the Mackenzie Valley Gas Pipeline to the Peel watershed is part of the AustroCan Petroleum strategy[50].

The absence of road access (winter or all-season) to the North Yukon gas fields limits exploration activity, especially drilling.

It is likely that the oil and gas industry will continue to pursue oil and gas plays closer to existing and anticipated pipeline infrastructure. When construction on the Mackenzie Gas Project begins, it is likely that renewed emphasis will be placed on exploration along the Mackenzie Valley.

Support Industry Availability
The majority of support business opportunities associated with the oil and gas industry are during the exploration phase of development. Exploration work is usually contracted to an experienced 3rd party manager who coordinates the project. The managers tend to prefer using a large number of small players for services, even for the same project, thereby increasing competition and reducing exploration costs.

Businesses dedicated to oil and gas exploration must move with the industry, depending on the areas being targeted for exploration. The North Yukon's distance from oil and gas centres will give local services a competitive advantage, but that same distance will increase exploration costs for support services that are not locally available.

There will be a moderate amount of exploration activity related to Northern Cross' and AustroCan Petroleum's exploration work in the North Yukon. This activity will provide some degree of activity for oil and gas support businesses (listed above).

Workforce Availability
A large number of workers are required during the intense exploration and construction phases. Exploration is usually conducted in the winter months when the ground is frozen and snow cover prevents soil disturbances. Only a handful of plant and compression facility operators are typically required during the production phase.

Typical oil and gas-related positions include:

- Qualified/certified trades persons
    - Welders/Pipefitters
    - Carpenters
    - Heavy equipment mechanics
    - Slashers
    - Heavy equipment operators
    - Cooks
- General labourers
- Rig staff
- Camp staff
- Expediters
- Truck drivers (all classes)
- Hot Shot services
- Environmental technicians and wildlife monitors

Nationally, the oil and gas industry is facing a general shortage in qualified labour, and would likely attempt to access a local labour pool, if available (i.e. not already employed in the mining industry). The majority of workers would likely be imported

[50] http://www.cbc.ca/canada/north/story/2007/12/18/austrocan-peel.html

from outside of the territory, regardless of the size of the exploration project. The Yukon's small labour pool and the requirement to import labour, particularly specialized labour, adds significantly to exploration costs.

Overall Attractiveness to Industry

Oil and gas exploration	Very Low to Low
Oil and gas exploration support services	Low
Oil and gas production	Very Low
Oil and gas production support services	Very Low
Pipeline construction/ownership	Very Low

Mining

International Trends[51]

- Increased market prices in 2007 resulted in a further increase for most mineral and metal commodities, extending the strong performance that began in 2002. Although 2007 price increases, based on a yearly average, were more modest than in 2006, lead and uranium increased significantly by 100% and 83%, while molybdenum and iron ore rose by 22% and 5%, respectively. Decreases were recorded for zinc and coal.
- Robust economies, such as China's and, to a lesser degree, India's, accounted for a significant growth in the consumption of mineral and metal commodities.
- Reduced liquidity and higher material, energy, and labour costs are expected to continue in 2008. These cost pressures are likely to have a significant impact on new projects under development. Although softness in certain mineral and metal commodity prices is expected, it is generally thought that prices will generally remain strong in 2008.
- Over two thirds of the gold consumed in the world is used to produce jewellery. Asia accounts for 73% of the jewellery sales.[52]
- China is the world's primary consumer of zinc, accounting for 33% of global consumption. China's consumption of zinc is three times that of the United States – the world's second largest consumer. In 2007, the global consumption of zinc rose by 3.5% to 11.38 Mt.
- The opening of new mines in Bolivia, Peru, Australia, and Canada is expected to boost the primary production of zinc by 6.8% to 11.2 Mt in 2007 and by 9.5% to 12.2 Mt in 2008. China is a significant producer of mined and refined zinc, accounting for one third of global production.
- Until 2004, China was a significant net exporter of refined zinc. In 2004, the Chinese government began altering its tariff regime to discourage exports and encourage imports of refined zinc. As a result, China became a net importer of zinc and the price of zinc soared. In 2006, China recorded a modest net export balance and prices stabilized. In the foreseeable future, China is expected to remain a net exporter of zinc, placing downward pressure on the price of zinc.
- China is the world's largest consumer of copper, accounting for 22% of global consumption, followed by the United States, which accounts for 12%. In 2007, the world consumed 18.0 million tonnes (Mt) of refined copper, an increase of 0.89 Mt, or 5.2% over the previous year.
- Strong growth in China, India, and Russia offset declining growth in the United States, Europe, and Japan. In 2008, global consumption of refined copper is

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[51] *Canadian Mineral and Exploration Deposit Appraisal*, Information Bulletin, Natural Resources Canada, March 2008.

[52] *Overview of Trends in Canadian Mineral Exploration*, Canadian Intergovernmental Group on the Mining Industry, Natural Resources Canada, 2008.

forecast to total 18.70 Mt, an increase of 0.69 Mt, or 3.8%.
- Over the period 2004-06, copper producers struggled to keep pace with demand as output was stagnant. In 2007, the production of copper from mines jumped by 0.77 Mt, or 5.1%, year-on-year to 15.79 Mt. In 2008, the production of copper from mines is expected to rise by a further 1.2 Mt, or 7.5%, to 16.99 Mt due to the development of greenfield operations (i.e., new mines) and brownfield expansions (i.e., expansion of existing mines and processing capacity).
- In 2008, the world's output of refined copper is expected to rise due to increases in electrolytic refinery production in China, India, and Japan, and in solvent extraction/electrowinning production in Chile, Africa, and the United States.
- In 2008, the market for copper is forecast to continue to be tight due to limited new supply and robust demand in China, India, and Russia.
- China is the world's largest consumer of nickel (accounting for 22% of global consumption), followed by the United States (11%).
- In 2007, the demand for nickel fell to 1.35 Mt (a decrease of 3.6% year-on-year) due to the extraordinarily high price of nickel. In 2008, the consumption of nickel is forecast to rise due to the continued growth in the capacity of China's stainless steel mills. The global market for stainless steel is expanding rapidly, by approximately 5-6% per year.
- In 2007, the primary production of refined nickel rose to 1.47 Mt (an increase of 7.9% over the previous year). In 2008, production is forecast to rise as new projects enter production.
- In 2008, the market for nickel will continue to be volatile. The production of primary nickel will exceed demand, placing pressure on the price of nickel to return to historical levels. The price of nickel is expected to range between US$11.75/lb and US$13.75/lb this year.
- China has limited domestic sources of nickel and, as a result, is heavily reliant on imports of nickel to meet its booming need for stainless steel. In response, China is producing nickel pig iron from low-grade laterite nickel ores.

National Trends[53]

- In 2007, total mining-related expenditures reached $2.6 billion, up 34% from $1.9 billion in 2006. An even higher level of spending is indicated for 2008, which would then become the eighth straight year of the current upward trend.
- Total expenditures have now surpassed $1 billion for five consecutive years and the 2007 level broke the previous expenditure record of $2.4 billion established in 1987.
- A favourable investment climate sustained by high commodity prices contributed to the robustness in the exploration industry. Close to half of all expenditures reported in 2007 were related to drilling activities. About 6.6 million metres (underground, surface, diamond, and other types of drilling) were drilled, surpassing the record high in 1987.
- Rock work represented 9% ($235 million) of all expenditures, followed closely by geophysics, geology, and the combined total of engineering, economic, and pre-production feasibility studies at about 8% each.
- In 2007, expenditure increases were realized in all provinces and territories across Canada except Alberta, with the largest gains in Ontario, Quebec, Nunavut, and British Columbia. These four jurisdictions accounted for 75% of the $649 million increase. The highest percentage increases for the year, 154% and 106%, occurred in New Brunswick and Nova Scotia, respectively. All jurisdictions except for the Northwest Territories, Newfoundland and Labrador,

[53] *Canadian Mineral and Exploration Deposit Appraisal*, Information Bulletin, Natural Resources Canada, March 2008.

Nova Scotia, Nunavut, and Yukon are indicating higher expenditures for 2008.

- Junior companies are now funding a greater proportion of Canada's exploration effort. Total expenditures by junior project operators have increased from $175 million in 1999 to $1.7 billion in 2007 and are expected to reach $1.8 billion in 2008. In each year since 2006, juniors have surpassed the previous all-time high recorded in 1987 and, since 2004, have topped the expenditure levels reported by seniors. Only once before, in 1987, did spending by juniors surpass senior spending (51%).
- Juniors are now responsible for about 65% of total exploration and deposit appraisal expenditures. In 2008, seniors expect to spend close to $1 billion in total expenditures, almost twice that of 2005.
- Since 2005, the number of junior project operators has not fluctuated much, but the number of these companies spending more than $1 million has increased sharply from 179 in 2005 to 258 in 2006 and 335 in 2007, with 347 indicated for 2008.
- Expenditures for each commodity group except diamonds and coal increased from 2006 levels. Among the leading commodity groups, precious metals led with total expenditures of $933 million in 2007. Base metals were second at $613 million, followed by uranium at $354 million and diamonds at $308 million. Diamonds continued to show significant levels of expenditures, having averaged 16% of total expenditures in recent years.
- Uranium has re-emerged as a star mineral commodity with expenditures rising from $48 million in 2004 to $354 million in 2007. In 2008, however, no major increase is expected. In 2007, activity at roughly 500 uranium properties represented close to 14% of total expenditures. Saskatchewan remained the leading jurisdiction for uranium expenditure in 2007, followed by Quebec (Otish Mountains), Newfoundland and Labrador (Central Mineral Belt), and Nunavut (Thelon and Hornby Bay basins). In 2008, however, Nunavut should move into third place ahead of Newfoundland and Labrador. Base-metal expenditures in 2007 passed the previous record high of $582 million achieved in 1981. Close to $762 million in spending on base metals is expected in 2008.

Potential Opportunities

Opportunities in the hardrock mining industry vary during the mining cycle, but include:

- Prospecting
- Mine/claim ownership
- Drilling and drill supply
- Transportation (aircraft and road transport)
- Camps and Catering (including food supply)
- Core box construction and supply
- Heavy equipment supply and repair
- Heavy equipment operation
- Waste management (including hazardous waste management, depending on processes used)
- Administrative services
- Transportation (ore)
- Detergent and reagent supply (depending on processes used)
- Environmental engineering and analysis
- Mine engineering
- Mine contracting
- Fuel supply
- Environmental engineering and analysis (including water quality testing)
- Wildlife monitoring
- Construction
- All trades
- Assay services
- Surveying services
- Public relations
- Hotshotting and expediting

Enabling/Limiting Factors

Resource Availability

Placer gold is getting more difficult to find as reserves in traditional mining areas decline.

While there are no active mines, there are eighteen advanced mineral and metal exploration projects in the Dawson Region, indicating that there is resource potential.

Market Potential

The price of gold has climbed rapidly and many industry watchers predict that gold has still not reached its true market value. Concerns of an economic downturn will likely continue to push gold prices higher. Higher gold prices may mean that some hard-rock gold mines that were previously uneconomic to operate may enter production.

As a result of strong economic activity and depleted reserves, base metal, rare metal, and uranium prices have also climbed steadily. The effects of the current economic downturn on base metal prices have yet to be seen. Some analysts predict that the emerging Chinese and Indian economies will continue to drive demand for base metals, while others predict that weaknesses in the US economy will stifle Asian economic growth. While these factors will affect mineral prices positively or negatively, exploration in the region remains strong and provides some support business opportunities.

Yukon-based mining companies are in competition with mining companies in other parts of the world, some of which will have competitive advantages due to market access, large pools of inexpensive labour, and relaxed regulatory and royalty regimes.

Political and Regulatory Environment

The achievement of self-government by the Tr'ondëk Hwëch'in may add a degree of certainty for project developers, but concerns about inter-governmental conflicts will act as a deterrent until it has been demonstrated that all governments can work cooperatively in to facilitate project developments.

Proximity to Industry Clusters

The mining and exploration community has a strong presence in the Yukon. The Klondike Placer Miners' Association has developed a strong collective voice, as has the Chamber of Mines.

Physical Infrastructure & Access to Market

Road access, the cost of transportation and access to ports will be an ongoing challenge for the Yukon's mining industry. The cost of transportation will be a particularly big issue for mines operating in the North Yukon.

Depending on availability and project economics, hydro-electric power may be used for some producing mines. Others may require the use of diesel for electrical power generation.

Support Industry Availability

While they exist, support services for mining are already in short supply in the Yukon, due to a tight labour market and strong industry demand in other parts of the world. Yukon-based drilling companies, for example, have a shortage of skilled drillers but are facing strong demand for their services in Asia and South America.

Workforce Availability

In the mining industry, there is a shortage of workers throughout the Yukon. Training and education programs are being developed in an attempt to address this shortage, but the problem is expected to get worse as other projects move into construction and production.

Overall Attractiveness to Industry

Mining exploration (ownership)	Medium to High
Mining exploration (support services)	Medium to Very High

Knowledge-based (education, research and innovation)

International Trends[54]

- The Organization for Economic Co-operation and Development (OECD) has persistently documented and reported that increased state investments in human capital by its member countries through post-secondary education has yielded high returns in terms of increased labour market participation, productivity and economic development. This is particularly true in emerging nations.
- School performance comparisons are increasingly used as an accountability tool.
- Third-party and student reviews are used by international students when selecting a post-secondary institution.
- International research and education networks develop as institutions form partnerships.
- Japanese and US post-secondary institutions see declines in domestic student populations and question their own study-abroad programs.
- Australia has built a higher education industry worth $7.5 billion.
- The Bologna process has 45 signature countries and aims to create a higher education area by 2010 that will offer common degrees through shared credits, co-operation and quality assurance systems. The European Union also has the Lisbon Strategy for education and training to improve effectiveness, quality, and access. These programs seek to set standards globally and make Europe the most competitive knowledge-based economy in the world.
- International study terms are becoming a core part of many post-secondary programs.
- With approximately 2.4% of gross domestic product (GDP) devoted to post-secondary education, Canada has the third highest expenditure on educational institutions relative to GDP amongst OECD countries, after the United States (2.9%) and South Korea (2.6%).
- With the advent of a 'knowledge-based' economy, education is increasingly viewed as an agency capable of fostering economic prosperity by facilitating innovation and providing sufficient human capital (i.e., educated workers) to meet the changing demands of industry.
- Accredited online post-graduate programs grow in popularity. The University of Phoenix, a distance learning university, has an enrolment of over 200,000 students across the world. A for-profit corporation, it is listed on the New York Stock Exchange. Currently there are more than 1000 corporate universities competing for educational markets in the US and abroad.
- In the US, there are approximately 3000 institutions offering online education and training. By the end of 2004, at least 1.9 million students were taking at least one course online.[55]
- Science parks have lately emerged in the education sector, based upon public-private partnerships for research activities.

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[54] *Education and Open Society: International Trends in Education,* Barry McGaw, Director for Education, Organisation for Economic Co-operation and Development (OECD), February 2006.

[55] *International Trends in Higher Education and the Indian Scenario*, Asha Gupta, Center for Studies in Higher Education, University of California, Berkeley, 2005.

- In Asia Pacific countries, up to 80% of students attend private institutions.

National Trends[56]

- Alberta, BC, Ontario and Newfoundland commission post-secondary system reviews (ranging from 2004 to 2007). The reviews determine that post-secondary education programs are becoming increasingly utilitarian and market-oriented.
- The Canadian post-secondary sector continues to adopt "privatization" policies that require individuals to pay a larger portion of the costs for their own education and training.
- In 1990-91, government grants accounted for 69% of the total revenue of Canadian universities compared to 55% in 2000-01. From 1990-91 to 2000-01, average undergraduate tuition fees rose by over 135%, more than six times the rate of inflation, and at the end of the decade student fees accounted for 19% of the average total revenue of Canadian universities compared to 12% ten years earlier . The increases in private costs have coincided with significant increases in the number of student loan borrowers, average student loan debts and incidence of student loan repayment difficulties.
- Over 43% of post-secondary education revenues come from private contributions. Canada is well above the OECD average of 23% in terms of private funding for national systems of post-secondary education.
- Universities are "selling" the naming rights of their faculties to large donors (>$10M).
- Universities are generally moving away from being full-service institutions to becoming "centres of excellence" in specific fields.
- Provinces begin to extend degree-granting authority to community colleges and a small, but growing number of secular private universities.
- Over time, participation in post-secondary education has been growing strongly across the country. For instance, the post-secondary participation of young people aged 20 to 24 rose from 28% in 1990 to 41% in 2005.
- In 2006, total full-time enrolment at Canadian universities reached an all time high of 815,000 students.
- Amongst the 30 member countries of the Organization for Economic Co-operation and Development, Canada has the highest percentage of overall post-secondary educational attainment with almost half of the population aged 25 to 64 having completed either college or university.
- In 1997, the Government of Canada founded the Canada Foundation for Innovation (CFI) as an independent corporation with a mandate to strengthen the capacity of Canadian universities, colleges, research hospitals, and non-profit research institutions to carry out world-class research and technology development that benefits Canadians. It does so by funding research infrastructure. The CFI has committed $3.8 billion in support of 5,585 projects at 128 research institutions in 64 municipalities across Canada.[57]
- Provinces and universities are targeting international students as a method for meeting immigration needs and as a method for improving international visibility.
- Communities develop science parks and research clusters as drivers for economic development.

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[56] *Reviewing Canadian Post-Secondary Education: Post-Secondary Education Policy in Post-Industrial Canada*, Dr. Dale Kirby, Canadian Journal of Educational Administration and Policy, Issue #65, November 3, 2007.

[57] http://www.innovation.ca/about/index.cfm?websiteid=5

Potential Opportunities

Knowledge Industries can include:

- Universities, colleges, and other specialized education centers
- Research & innovation centers

Topics for education and research could include:

- Climate change
- Cold climate technologies
- Paleontology
- First Nations heritage and cultural studies
- Geology
- Alternative energy
- Northern studies
- Northern policy, management and leadership
- Metallurgy
- Goldsmithing, lapidary work, and jewelry design

Dawson can leverage its unique attributes to attract specialist researchers and educators who are looking for new experiences and a chance to help develop a world-class specialty facility/institution.

Some have suggested that Dawson City is a better location than Whitehorse for a Yukon Cold Climate Innovation Research Centre. Other have suggested that the Beringia Centre should be relocated and turned into a palaeontology education and research centre.

While many knowledge-based organizations are government funded (initially, at least), their innovations and discoveries can lead to spin-off businesses and other economic development benefits. "Centres of Innovation" result in increased exposure for the communities in which they reside.

Enabling/Limiting Factors

Resource Availability

As emerging nations invest in education, there is a growing pool of international students, particularly from China and India. Many students (domestic and international) are looking for a unique educational experience.

The growing number of retiring baby boomers may result in easier access to philanthropic donations. Although it might be difficult to tap into donors for institutions without a proven track record, some donors may welcome the opportunity to help found such organizations.

Any research centre or specialty school is likely to be dependant on territorial and federal funding. A portion of infrastructure funding may be available from the Canada Foundation for Innovation.

As a requirement for attracting educators and researchers, sufficient financial and communications resources will need to be in place for the development of specialty educational and/or research centers.

Market Potential
Dawson City has a growing reputation as a hotspot for culture and lifestyle. Using this reputation as leverage, it may be possible to promote research and educational opportunities to students, researchers and instructors who are looking for something different.

Like SOVA, research or educational centers are likely to start small and be dependant on partnerships with larger institutions. Partner institutions can be a potential source of students, researchers, and instructors.

Political and Regulatory Environment
Provinces have authority over accreditation programs. Any new educational venture will require accreditation, whether that accreditation is on the program's own merit or whether it's offered in partnership with a previously accredited college or university.

Proximity to Industry Clusters
As educational institutions become increasingly networked, physical proximity is not as important as relationships.

At present, Yukon College and the School of Visual Arts have a presence in Dawson City and some economies of scale can be developed around an increased student population (dormitories, food services, entertainment, etc.). Dawson City has a number of summer jobs available for students who choose to stay in the community.

Some industrial partners may find Dawson City too remote for private research interests, while others may welcome the unique features the region has to offer.

Physical Infrastructure & Access to Market
There is a lack of adequate housing. Increased student volumes may prompt further (likely private) investment in rental accommodations or dormitory-style accommodations.

Transportation costs to Dawson City, particularly for international students from African and Asian countries, are high. European students can take advantage of flights from Frankfurt to Whitehorse in the spring and fall. North American students may choose schools in closer proximity to their families.

Some unoccupied buildings in downtown Dawson could be converted to learning and research space. The federal government has a crown corporation dedicated to funding research and post-secondary infrastructure.

Support Industry Availability
While some research sectors will need specialty equipment and supplies, many of the necessary support services are already available in Dawson City. Since most full-time education programs occur during the winter months, students' spending may supplement revenues for existing Dawson City-based businesses during the quiet season.

Workforce Availability
Specialist researchers and instructors will need to be recruited, likely away from other research and education institutions. Sessional and guest instructors may be invited to Dawson City for special course offerings.

Students provide a ready supply of labour (although work visas may be required for international students), some of which might stay in the community during the summer tourist season.

In cases where specialty education programs and research centres are combined, qualified workers are available as a function of the program.

Overall Attractiveness to Industry

Researchers	Low to High, depending on fit
Educators	Low to High, depending on personal situation
Students	Low to High, depending on personal situation

Government Services

During stakeholder interviews, it was suggested that Whitehorse-based government positions with a focus on the North Yukon Region should be transferred to Dawson City. It was also suggested that the transfer of these positions could improve service delivery and provide an economic benefit for the community (essentially creating new full-time positions in the community and attracting individuals and families to Dawson).

It is difficult to evaluate the transfer of government services from a pure business perspective as many government decisions are based upon a combination of political, social, operational, and economic considerations.

Further investigation to determine the possibility of government position transfers is required.

COMMUNITY VALUES

What people value about living in Dawson

When describing what they like about Dawson, several initial themes come through which can be described as people, place and environment. These dimensions seem to capture the essence of what people liked about living in Dawson but also, and perhaps more importantly, what they want to preserve. While each individual had unique descriptions, these three areas were thematically coherent across all.[58]

However, as tempting as it is to categorize into themes the overwhelming conclusion is that they are not discrete. It is not possible to celebrate the cultural and artistic diversity of the community environment without celebrating the talented and hard working people that make up that diversity. It is in that spirit that the following composite statement is prepared.

> *I like the people here, they come together and show up to volunteer and pull together to put on events and activities because they care about the community and the people with whom they share the community.*
>
> *I'm a name and not a number; I am accepted and exposed to different types of people in an egalitarian society – not distinguished by clothes or other status symbols. Everyone is welcome and the community is open to new ideas and people become part of community in matter of months.*

[58] The draft Tr'ondëk Hwëch'in and City of Dawson Integrated Community Sustainability Plan has a different focus and approach.

> *People are very creative at creating their own economy and finding their own niche in a strong community with a feel about getting things accomplished and a creative community with an inherent belief the culture and art is an important part of a viable and sensible place to live.*
>
> *Dawson attracts good people who want to live in a northern community - educated and hard-working with a spirit of entrepreneurship with lots of women run businesses and a cooperative spirit.*
>
> *I like the diversity and cosmopolitan nature of community and the kind of people Dawson attracts – tolerant, strong, imaginative, and adaptable – the best of the frontier mentality.*
>
> *I like the feeling of safety; I can leave my house and not lock my door. There is no 'us' and 'them', we are an integrated safe community.*
>
> *I can have a say in what goes on and if you're reasonably innovative and hard working, you can make things happen here that you can't make happen other places.*
>
> *I like the lifestyle it is safe, outdoors, easy to access health care, run by nature which keeps me humble, not too busy and not too quiet, and isolated if I want to be alone to fish and hike, with lots of community events and activities if I want to be involved – which I usually do.*
>
> *It is a gorgeous place in an environmental sense with history at every turn and it just is a good looking town. We value the gold rush history but not a basis for the future and we want mining but not to dominate the economy.*
>
> *I like the fact it is small but not small town for it is cosmopolitan with lots of cultural stimulation on pretty much any given month of the year whether it is at the art gallery or musicians in town and be exposed to international artists.*
>
> *I like that I deal with people, people who know me and I know whether it is at the store or the market gardener who is a friend and gives me gardening advice I know the people I am buying stuff from.*

This is, of course, idealized but it does represent the best of what Dawson is and what it is that people really want to maintain.

What is missing?

While extolling the advantages and benefits of living in Dawson people were not reluctant to identify elements they believed were missing – and need to be available.

The single most common elements were related to recreational activities – particularly year round activities and in particular a swimming pool and the ice arena – perhaps expanded to include a bowling alley and movie theater. The lack of year round recreational facilities is a major concern and drawback both in terms of keeping the youth active but also as a basis for attracting the kind of people Dawson wants to see move into its community. While there are many other services identified as being needed none has the focus that the year round recreational facilities brings to bear.

Associated with this was a trail system for walking and hiking – with maps and guidebooks for both locals and wilderness tourism year round. This could be linked to facilitating wilderness photography and other 'cache' courses as part of expanding the post-secondary options to take advantage of the natural beauty and history of the Dawson Region.

Transportation was another area of concern ranging from:

- the frequently mentioned and supported bridge
- expansion of the airport (ranging from simply paving to moving and enlarging to accommodate larger jets and upgrading to IFR)
- increased transportation services
    - a bus service - on a regular basis in the summer and rolled back in the winter
    - hovercraft - for the tourism market but also for servicing exploration and mining activities
    - fixed wing charter aircraft
    - rental vehicles
    - river front development (float plane dock, a better dock) with places for recreational water vehicles to moor

Enhanced health related services were also frequently identified ranging from:

- a multi-level care facility as senior services are not as good as they could be
- a new or upgraded medical centre or hospital environment (storing blood, for example) and the capacity for women to give birth in town could make Dawson a medical centre for the whole northern Yukon
- dentist
- scheduled services, like physiotherapy, as it is not easy for many community members to get to Whitehorse because of the transportation issue and it would be cheaper to have someone scheduled to Dawson City.

Improved communications, both improved internet bandwidth and cellular coverage, were identified as areas of concern. The services are available but better communications infrastructure, including the use of the city's fire optic network, and linking to the fiber optic network that exists to Carmacks, would reduce the current limitations for the internet. The current limitations on both internet and cellular coverage are irritations and some felt that public ownership of the communications infrastructure, particularly around internet coverage, was a viable option to improving service.

Some services were identified as needing a critical mass of population to make them viable. They include:

- year-round Laundromat
- accounting firm (there are bookkeepers)
- general practitioner lawyer
- Insurance/real estate agents
- ATV dealership/small engine repairs and sales - lots of people have those things in town and at the mining camps
- computer repair services
- tire shop
- machine shop
- capacity to buy more locally grown food year round
- community greenhouses and cold storage facility
- year round food services beyond fast food, more variety
- bakery
- a new college with classes at the college that make sense locally with a strong technology piece within the college
- fur dealers (retail outlet - selling the tanned hides directly to the tourists)

In addition to these specific services larger topics were also mentioned as being important to Dawson's future:

- more of an education based economy
    - Beringia Centre should be in Dawson
    - establish a college of paleontology
    - research based work – more to build international research network
- city infrastructure upgraded to reflect 21st Century needs
- pay more attention to historic sites that are not covered by the Federal Government (Bear Creek, for example) because it has a direct impact on the tourism industry
- improved renewable resource economy and planning in terms of climate change
- increased awareness of Tr'ondëk Hwëch'in heritage and culture leading to increased tourism opportunities
- fishing co-op to tie into local resource and resource management
- cultural tourism – e.g. film festival, arts festival, etc
- 'artisan' economy including traditional crafts leading to cottage industries using renewable resources
- focus on niche market –e.g. vodka and perhaps link with berry picking

Preferred Community Size

When asked about the ideal size for Dawson (one that would preserve the characteristics that are important), the most common population size mentioned was around 3,500 year round residents. This level of population was seen as building enough of a 'critical mass' to make the desired services viable.

The summary observations developed in the course of project research are presented in the first section of this paper.

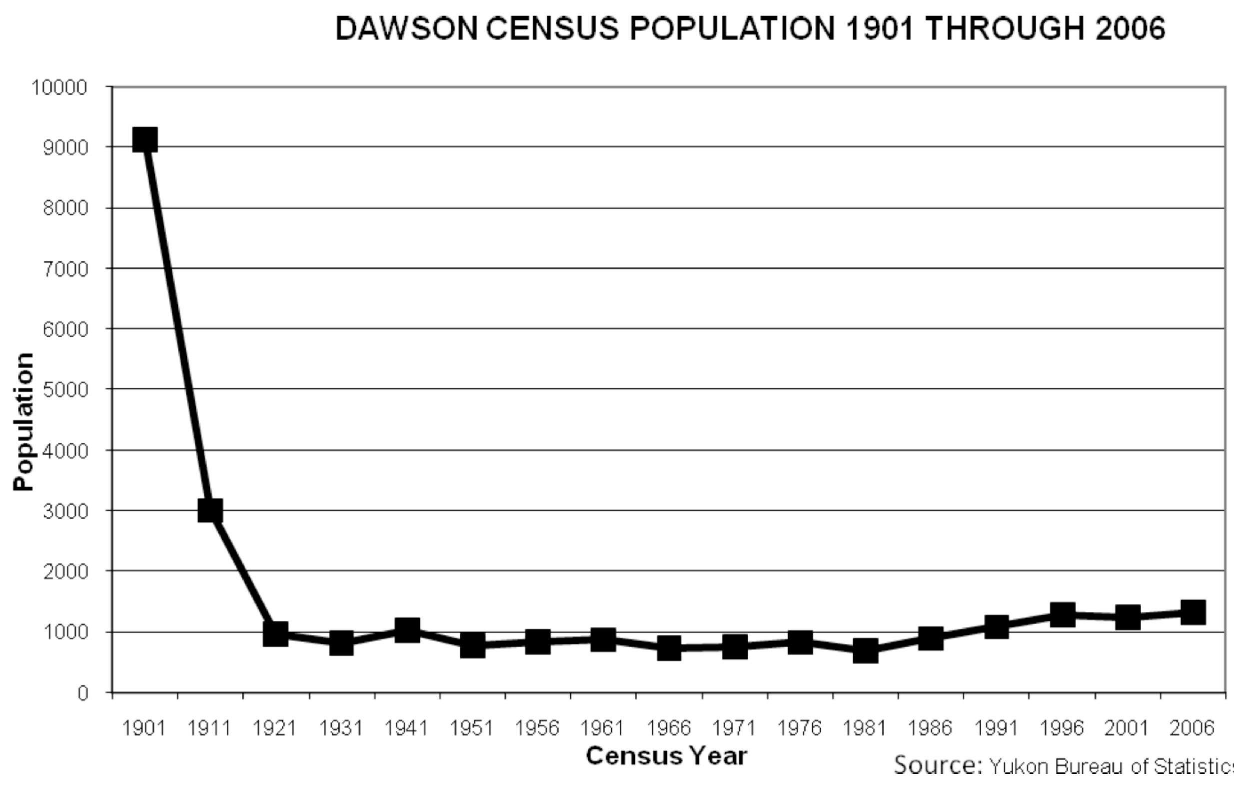
APPENDIX A – Demographic and Social Circumstances

Demographic and Social Circumstances

There are two authoritative sources of population estimates for Dawson: 1. Canada Census conducted every 5 years; and 2. Yukon Bureau of Statistics (YBS) estimates based on health care registrations. The Census is the only record extending back to 1901 and will be used to provide an historical perspective as well as a basis of comparison with the Yukon and Canada levels. However, Census counts typically undercount and therefore for planning purposes the YBS estimates will be used as a base for recent history and looking at the population in detail.[59]

Census Based

It is both useful and interesting to look at the Dawson population through the perspective of history. The graph below presents the Census population counts from 1901 through the most recent Census in 2006. It should be noted that up to 1951 the Census reports are for every 10 years. From 1951 on it is reported every 5 years.



After experiencing the rapid population increase driven by the rush for gold Dawson also experienced a very rapid decline in population between 1901 and 1911 with a further large decline from 1911 to 1921. From 1921 on to the early 80's Dawson's

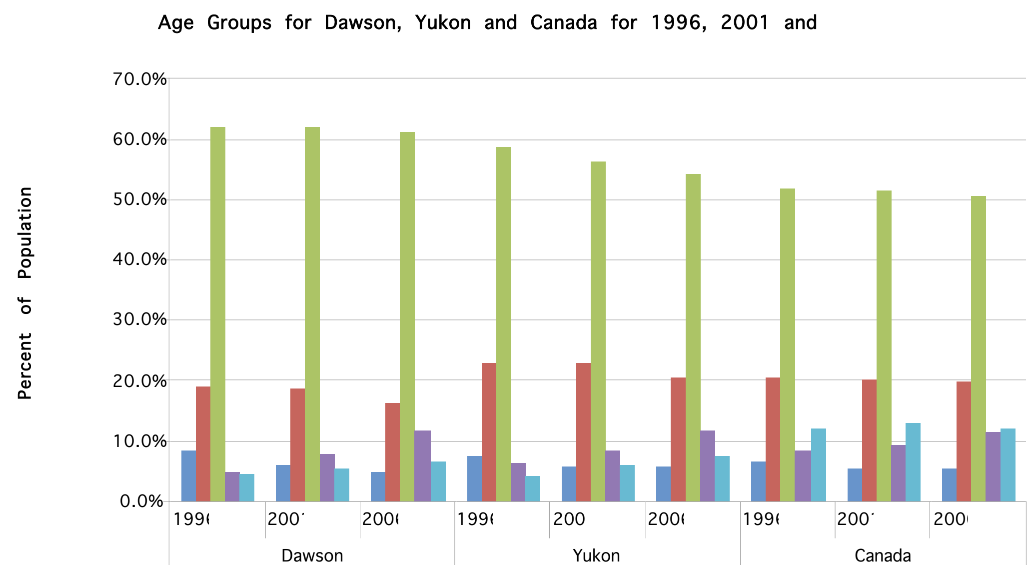
[59] The assertion that the Census undercounts population is supported by comparing the number of tax returns in 2005 (the most recent year data is available from Revenue Canada at http://www.cra-arc.gc.ca/agency/stats/locsts-e.html) with the reported Census population for Dawson for 2006. In 2005 a total of 1,300 tax returns is reported compared to the 2006 Census population figure of 1,327. In effect, every man, woman and child in Dawson would have had to file a tax return in order to accept the Census figure as an accurate count of the population. That is highly improbable and therefore the YBS estimates are used as the basis for the majority of the discussion.

population wobbled from census to census with a peak in 1941 of 1,043 and a low of 697 in 1981. Since 1981, Dawson's population has had its 'ups and downs' during the 90's but increased to 1327 in 2006. Granted the Census undercounts the population the direction of the changes remains valid as the methodology has been consistent over time.

Comparison to Canada and Yukon

Three points in time will be used for the population comparison and two for the educational attainment because of data comparability concerns.

As a proportion of population starting with Dawson has consistently had a larger proportion of its population in the working age group (20 to 54 years of age) than either Yukon or Canada. It also has had a smaller proportion in the school age group (5 to 19 years of age) than has either the Yukon or Canada.



	199(	200'	200(	199(	200	200(	199(	200'	200
	Dawson			Yukon			Canada		
Pre-School 0 to 4 years	8.6%	6.0%	4.9%	7.6%	5.9%	5.7%	6.6%	5.7%	5.6%
School Age (5 - 19)	19.1%	18.8%	16.2%	23.0%	23.1%	20.6%	20.6%	20.3%	20.0%
Working Age (20 - 54)	62.3%	62.0%	61.1%	58.7%	56.4%	54.2%	51.9%	51.6%	50.6%
Pre-Retirement (55 -	5.1%	8.0%	11.7%	6.3%	8.6%	12.0%	8.6%	9.6%	11.7%
65+	4.7%	5.6%	6.8%	4.4%	6.0%	7.5%	12.2%	13.0%	12.2%

Source: Statistics Canada 2006 Census, Statistics Canada 2001 Census, Statistics Cana

Consistent with the trends in the Yukon and Canada the proportion of the population in the 55+ age groups is increasing and in both Dawson and the Yukon at a rate well above the national rate of increase. All age groups below 55 years of age are declining as a proportion of the total population for Canada, Yukon and Dawson but at different rates.

Dawson shows the greatest decline in the proportion of preschool (0 to 4 years of age) population from being the highest in 1996 to being to lowest of the three levels by 2006. Dawson also experienced the greatest decline in school age population (5 to 19 years of age) but had, marginally, the smallest overall decline in the working age population (20 to 54 years of age) and that age group remains dominant demographically.

The declines noted come as the result of increases and in particular in the pre-retirement age group (55 to 64). This is an interesting age group as it encompasses: some who have retired but remain active in other areas whether self-employment or volunteer activities; some who are thinking about retirement and actively planning for it; some who have not thought about retirement; and others who would like to reduce time dedicated to work and increase flexibility in how work is done and where and how their skills are used. This encompasses both institutional workers in government but also business owners and operators who are, in many ways, 'tired' but not ready yet to be classically retired. This group represents a 'wisdom' and experience resource that, if effectively exploited, provides a mentoring capacity as well as short term human resource stop-gap capacity within the community.

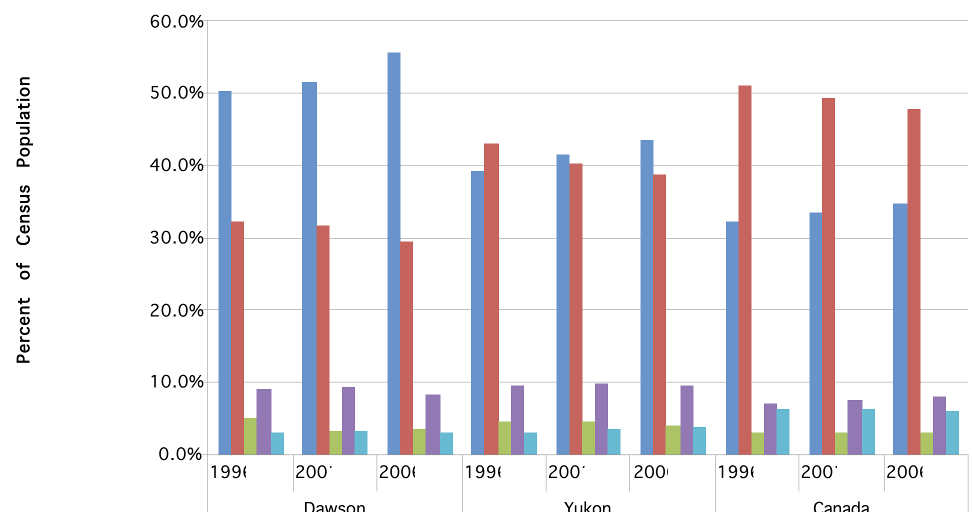
This is not to say that the 65+ population is not a wisdom and experiential resource, it clearly is that and is also a mentorship source pool but this group is not transitional in the same manner as the pre-retirement group. Dawson is growing in the 65+ population as well and is a bit behind the rate of growth in the Yukon but both Dawson and Yukon are well below the overall proportion of Canada's population in this age group. However, in 1996 the Yukon was 7.8% lower than Canada in the proportion of the 65+ age group but by 2006 this had declined to a 4.7% difference.

If current patterns continue relative to Canada we will see an increasing proportion of Yukon population and Dawson's as well being found in the older age groups. Anecdotal evidence indicates that both life style and access to health care and services are two of the major factors behind the increasing retention of the 55+ population.

Marital Status and Families

Dawson's population while older than the Yukon or Canada has the distinction of also having the largest proportion being Single as in never married. While that is a legal status it does not mean they are not living in a couple relationships but it the majority of the population being single is more common in a younger population. The low percentage of the population legally married in Dawson compared to the Yukon and Canada reflects this pattern as well and gives the impression of a unique population in terms of lifestyle and relationships.

Population 15 Years of Age and Over by Mar

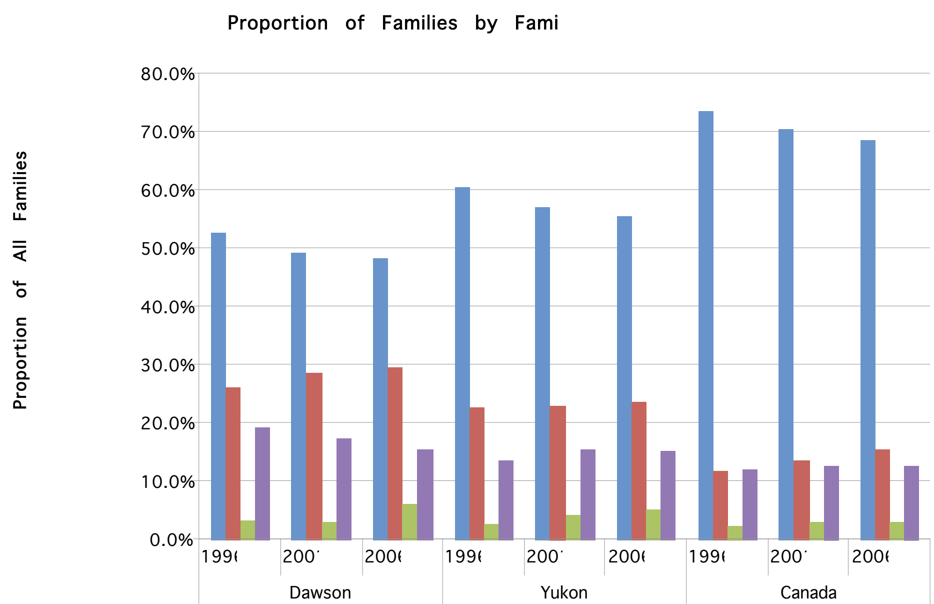


	Dawson 199	Dawson 200	Dawson 200	Yukon 199	Yukon 200	Yukon 200	Canada 199	Canada 200	Canada 200
Never married (single)	50.5%	51.7%	55.8%	39.4%	41.7%	43.7%	32.2%	33.5%	34.9%
Legally married (and not separatec	32.3%	31.7%	29.5%	43.2%	40.5%	38.9%	51.2%	49.5%	47.9%
Separated, but still legally marriec	5.1%	3.4%	3.6%	4.7%	4.5%	4.0%	3.0%	3.0%	3.0%
Divorced	9.1%	9.3%	8.5%	9.6%	9.9%	9.6%	7.2%	7.6%	8.0%
Widowed	3.0%	3.4%	3.1%	3.1%	3.5%	3.9%	6.4%	6.4%	6.2%

Source: Statistics Canada 2006 Census, Statistics Canada 2001 Census, Statistics Canada 1996 Census

Consistent with the unique population observation reflected in the legal marital status seems is also reflected in the distribution by family type in Dawson as well. The proportion of married couples is the lowest in Dawson and the proportion of common-law couples the highest compared to the Yukon and Canada. Only in Dawson has the proportion of married couples dropped below 50% of all families although the Yukon is trending in that direction as well it still has a way to go. The proportion of common-law families has risen and is the highest of the geographical areas compared but the Yukon also has, within Canada, a high proportion of common-law families.

Both the Yukon and Dawson have more lone parent families than Canada but the interesting trend in Dawson is the downward trend of female lone-parent families. In part, as the population ages the children in lone parent families leave which leads to a decline in the proportion of lone parent families – assuming there is not continuous replacement. The increase in male lone parent families in Dawson is too short term to see if there is a trend developing but it is of interest to note that in the Yukon the proportion of male lone parent families has increase at a rate higher than common-law couples. Regardless of the increase female lone parent families are the dominant lone parent family type.



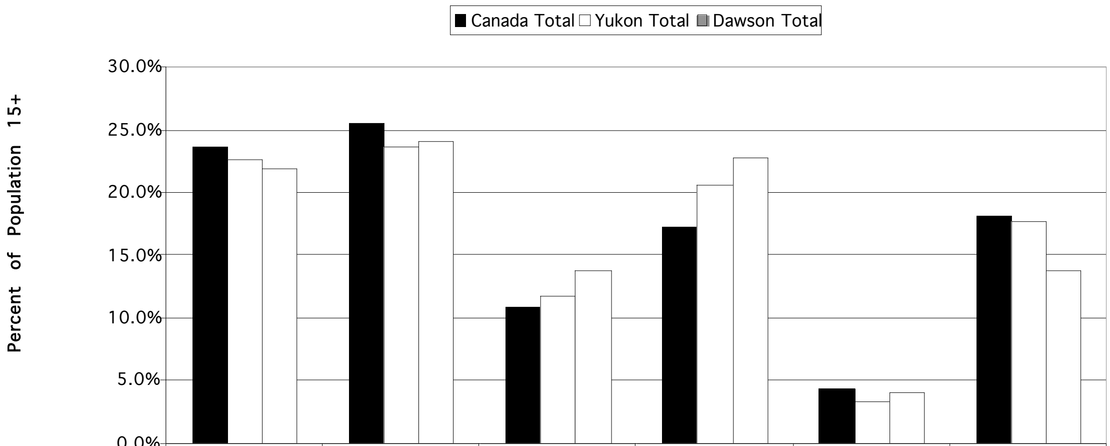
	Dawson			Yukon			Canada		
Number of married-couple families	52.6%	49.2%	48.4%	60.7%	57.2%	55.7%	73.7%	70.5%	68.6%
Number of common-law couple familie	26.3%	28.6%	29.7%	22.8%	23.0%	23.6%	11.7%	13.8%	15.5%
Number of male lone-parent families	3.5%	3.2%	6.3%	2.8%	4.2%	5.3%	2.5%	2.9%	3.2%
Number of female lone-parent familie:	19.3%	17.5%	15.6%	13.7%	15.7%	15.4%	12.1%	12.7%	12.7%

Source: Statistics Canada 2006 Census, Statistics Canada 2001 Census, Statistics Canada 1996 Census

Educational Attainment

Dawson has more of its population with Apprenticeship and Trades training and certification than the Yukon or Canada. A similar pattern is seen for college level diplomas and certificates but it is below the proportions for the Yukon and Canada for the number of university level degrees.

Percent of Total Population 15 years and over Educational Attainment Level for (
Dawson 2006



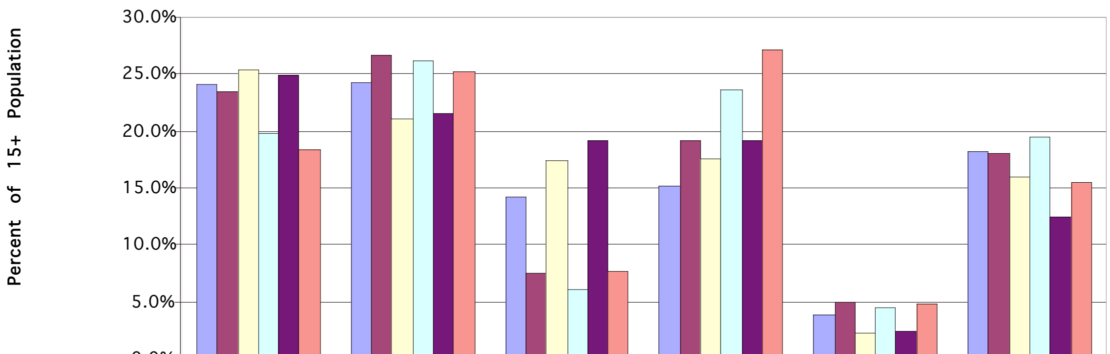
	No certificate; diploma or degree	High school certificate or equivalent	Apprenticeship o trades certificate diploma	College; CEGEP or other non-university	University certificate or diploma below the	University certificate; diplom or degree
Canada Total	23.8%	25.5%	10.9%	17.3%	4.4%	18.1%
Yukon Total	22.7%	23.7%	11.8%	20.7%	3.4%	17.8%
Dawson Total	21.9%	24.1%	13.8%	22.8%	4.0%	13.8%

Educational Attain

Source: Statistics Canada; 2006 Census of Popu

This pattern is consistent across sexes as both males and females in Dawson report higher levels of apprenticeship and trade certification and college certificates/diplomas than either Yukon or Canada. Both males and females in Dawson reflect the lower level of university degrees but this may very well change with the opening of the School of Visual Arts and associated programs and activities.

EDUCATIONAL ATTAINMENT BY SEX FOR DAWSON, YUKON AND CANADA 1996 CEN

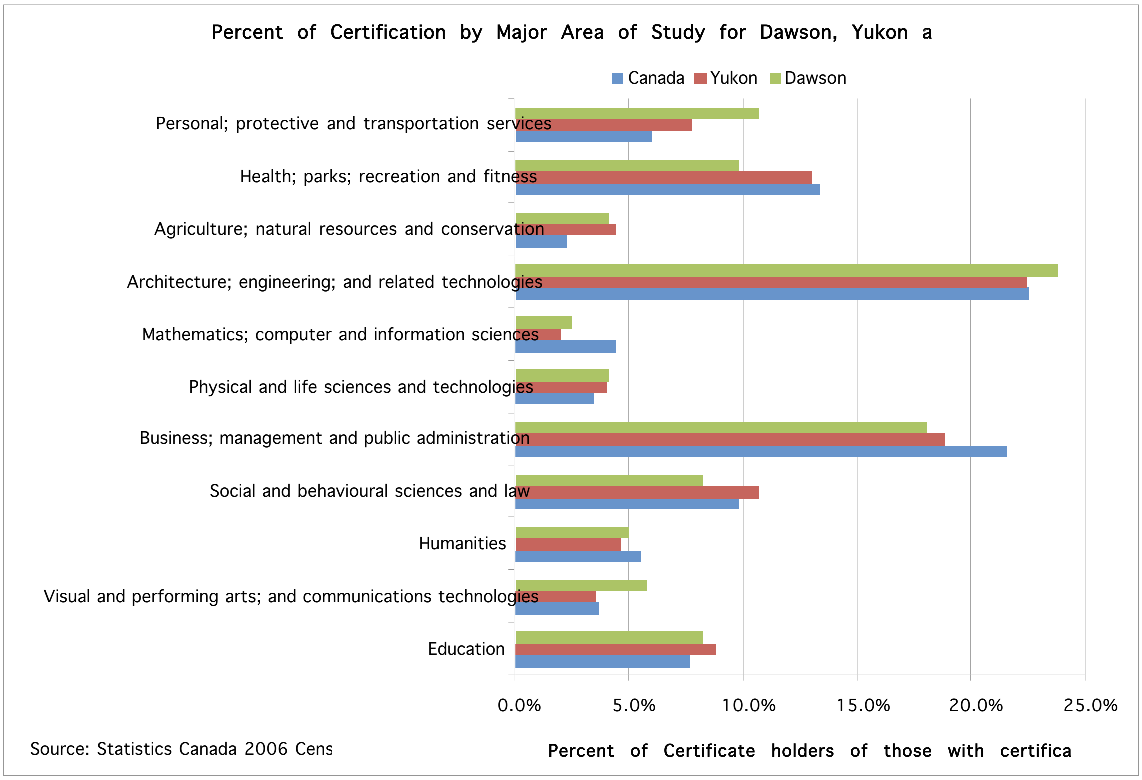


	No certificate; diploma or degree	High school certificate or equivalent	Apprenticeship o trades certificate diploma	College; CEGEP or other non-university	University certificate or diploma below the	University certificate; diplom or degree
Canada Male	24.1%	24.3%	14.3%	15.3%	3.8%	18.2%
Canada Female	23.4%	26.7%	7.6%	19.2%	5.0%	18.1%
Yukon Male	25.4%	21.2%	17.5%	17.7%	2.3%	16.0%
Yukon Female	19.9%	26.3%	6.1%	23.6%	4.5%	19.5%
Dawson Male	25.0%	21.7%	19.2%	19.2%	2.5%	12.5%
Dawson Female	18.4%	25.2%	7.8%	27.2%	4.9%	15.5%

Educational Attainment

Source: Statistics Canada 2006 C

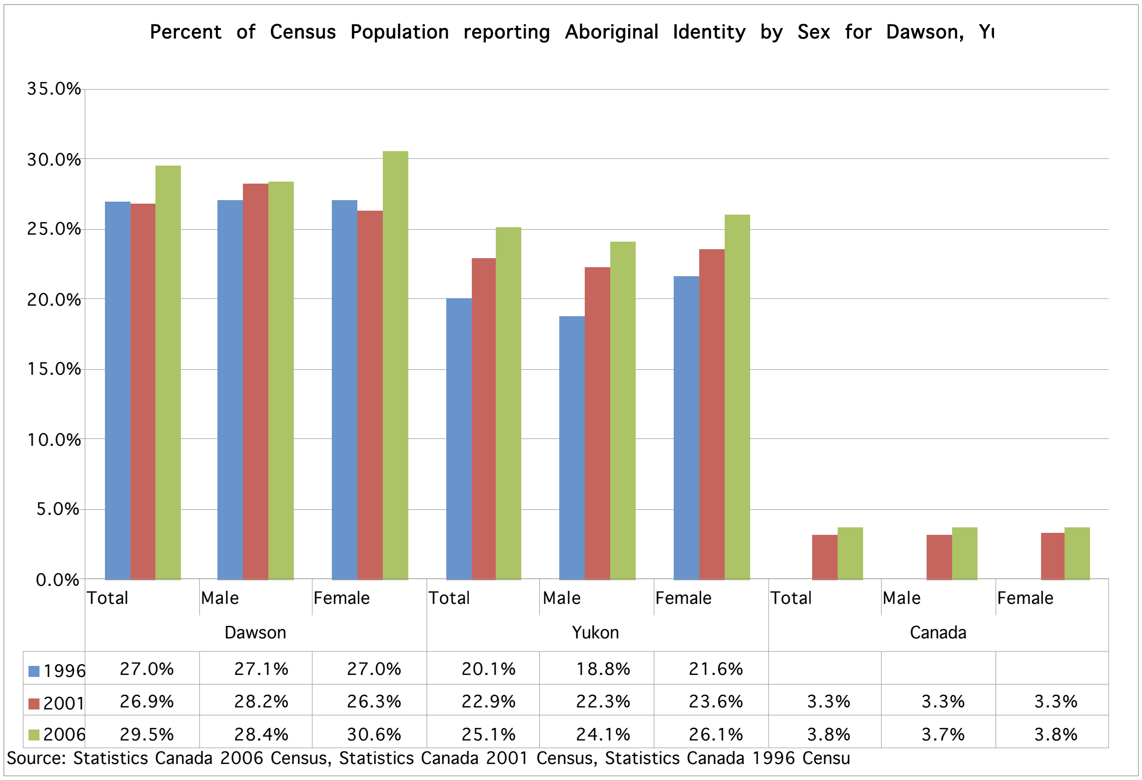
Of those with certification above the high school level the distribution by major field of study has some interesting possible anomalies. The higher level of Dawson certificate holders in the personal; protective and transportation services area and relatively lower level in the health, parks, recreation and fitness area in Dawson seems a bit odd. The higher proportion in the visual and performing arts sector is consistent with the overall impression of Dawson. Across the range of areas of study Dawson is well represented and it is entirely likely that people are employed in Dawson in areas other than for which they received certification.



Aboriginal Identity

The level of data available varies by census as do some of the definitions. For the purposes of some historical perspective the “identity” definition is used for comparison purposes.

Over time the proportion of the population reporting aboriginal identity on census returns has increased at the Canada, Yukon and Dawson levels – except for a small wobble in 2001 for females in Dawson. As would be expected, the proportion of the population reporting aboriginal identity is higher in Yukon than in Canada as a whole and is higher in Dawson than Yukon as a whole.

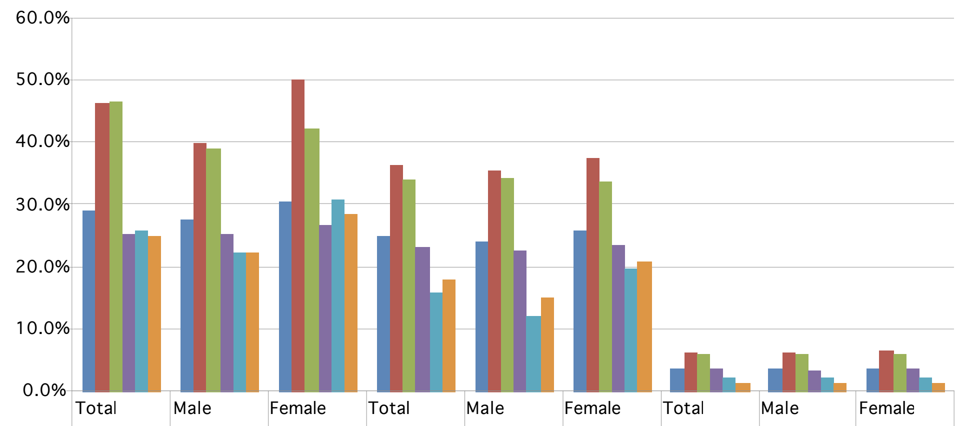


	Dawson			Yukon			Canada		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1996	27.0%	27.1%	27.0%	20.1%	18.8%	21.6%			
2001	26.9%	28.2%	26.3%	22.9%	22.3%	23.6%	3.3%	3.3%	3.3%
2006	29.5%	28.4%	30.6%	25.1%	24.1%	26.1%	3.8%	3.7%	3.8%

While the overall proportion reporting aboriginal identity has increased this proportion is not reflected across all age groups. In general, across all geographical levels, the proportion of population in the pre-school (0 to 4) and school age (5 – 19) age groups is above the total population proportion while all other age groups are below the population proportion.

In Dawson, as of the 2006 Census, the internal growth of the community population is largely driven by the FN members with families. Any dramatic increase in the working age population in the short term will need to come from in-migration and, to some extent depending on the type of development (family friendly versus work camp based), there will be a decline in the proportion or the working age (20 - 54) population reporting aboriginal identity but not likely much of an impact on the earlier age groups.

Aboriginal Identity by Geographic Level as a Proportion of Total Population and A
Census

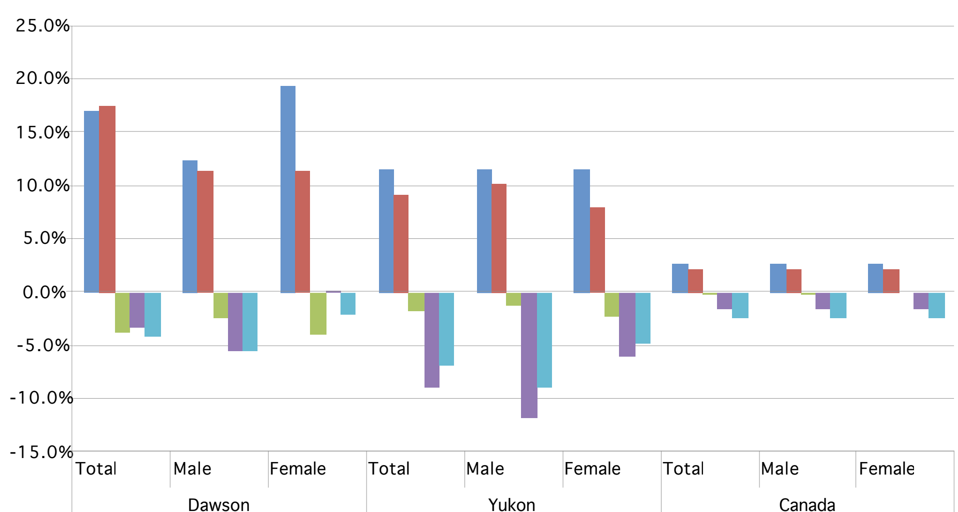


	Dawson Total	Dawson Male	Dawson Female	Yukon Total	Yukon Male	Yukon Female	Canada Total	Canada Male	Canada Female
Total	29.1%	27.7%	30.6%	24.9%	24.0%	25.8%	3.7%	3.7%	3.7%
Pre-School 0 to 4 yea	46.2%	40.0%	50.0%	36.4%	35.6%	37.4%	6.4%	6.4%	6.5%
School Age (5 - 19)	46.5%	39.1%	42.1%	34.0%	34.2%	33.8%	5.9%	5.9%	5.9%
Working Age (20 - 54)	25.3%	25.3%	26.7%	23.2%	22.7%	23.6%	3.6%	3.4%	3.7%
Pre-Retirement (55 -	25.8%	22.2%	30.8%	16.0%	12.2%	19.9%	2.2%	2.2%	2.2%
65+	25.0%	22.2%	28.6%	18.0%	15.1%	21.0%	1.3%	1.4%	1.3%

Source: Statistics Canada 2006 Census, Statistics Canada 2001 Census, Statistics Canada 1996 Cens

It is much easier to see the extent of the differences by age group from the total population proportion by looking specifically at the deviations from overall proportion. Across all geographic levels, as noted above, the younger age groups are substantially above the overall population proportion.

Deviations from Total Population Proportion by Age Group, Sex and Geograpl

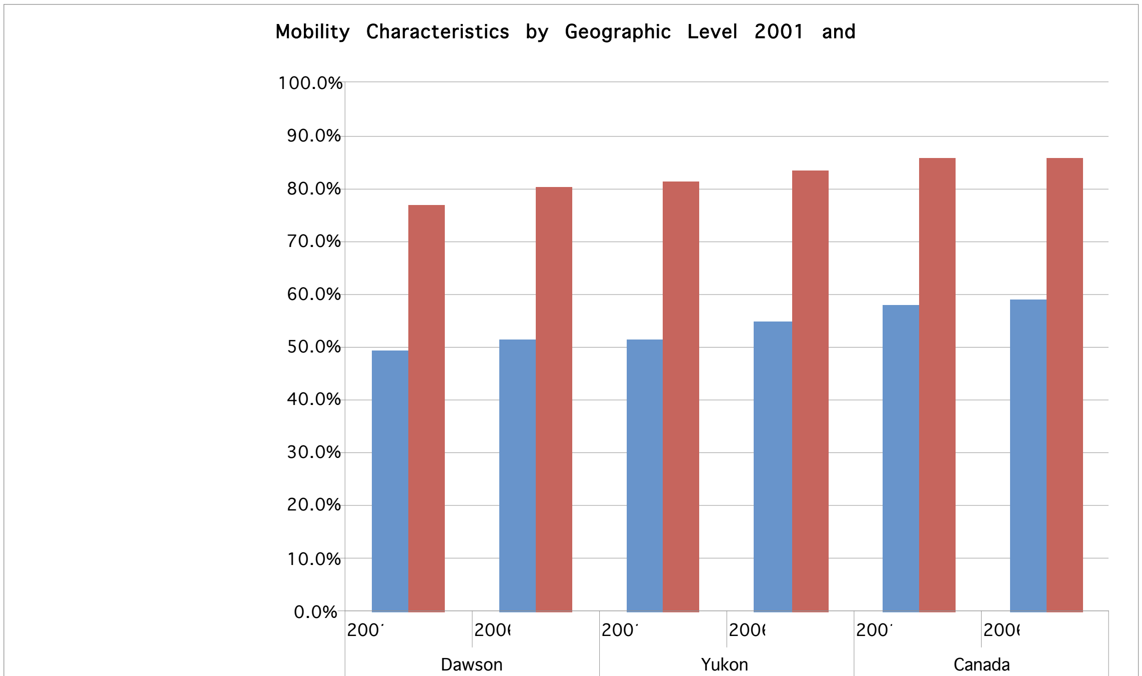


	Dawson Total	Dawson Male	Dawson Female	Yukon Total	Yukon Male	Yukon Female	Canada Total	Canada Male	Canada Female
Pre-School 0 to 4 years	17.1%	12.3%	19.4%	11.5%	11.6%	11.6%	2.7%	2.7%	2.8%
School Age (5 - 19)	17.5%	11.5%	11.5%	9.1%	10.2%	8.0%	2.2%	2.2%	2.2%
Working Age (20 - 54)	-3.7%	-2.4%	-4.0%	-1.7%	-1.3%	-2.2%	-0.1%	-0.3%	0.0%
Pre-Retirement (55 -	-3.3%	-5.4%	0.1%	-8.9%	-11.7%	-5.9%	-1.5%	-1.5%	-1.5%
65+	-4.1%	-5.4%	-2.1%	-6.9%	-8.9%	-4.8%	-2.4%	-2.3%	-2.5%

Source: Statistics Canada 2006 Census Aboriginal Populatioı

Mobility

Although both the Yukon and Dawson report more mobility than Canada it is important to note that for both levels of geography there has been an increase in non-movers from 2001 to 2006. However, movers does not mean moving in or out of the area and it is useful to note that Dawson is not all that different from the Yukon and while different from Canada is not as different as might be expected.



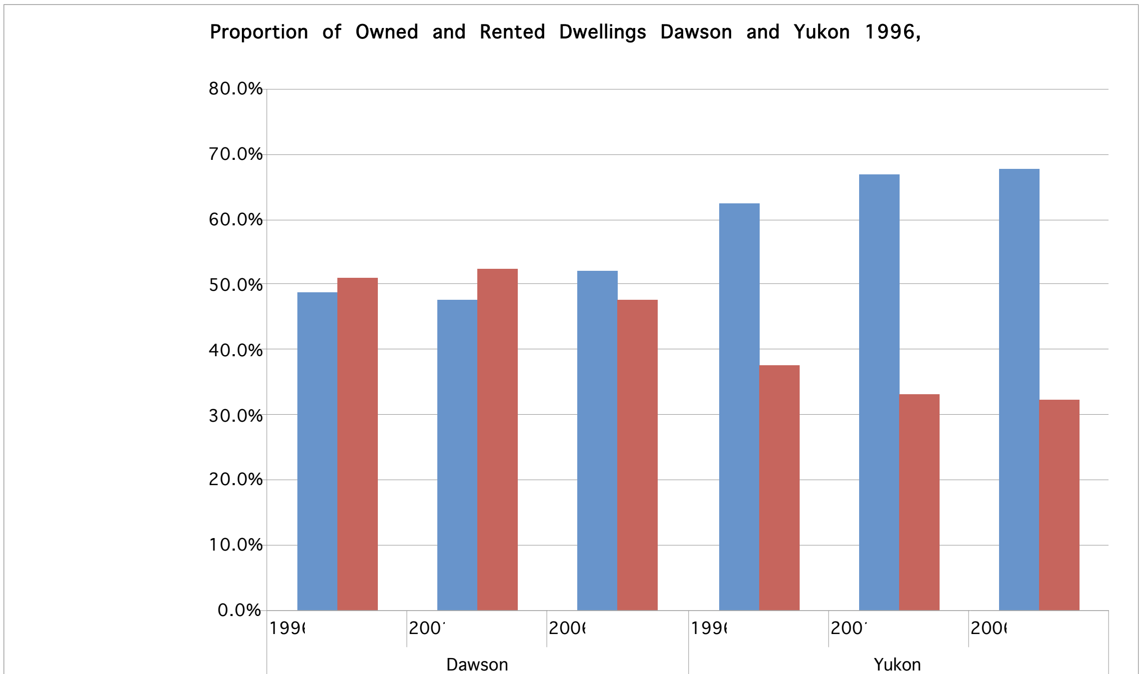
	Dawson		Yukon		Canada	
Lived at the same address 5 years ago	49.6%	51.4%	51.4%	55.1%	58.1%	59.1%
Lived at the same address 1 year a	76.8%	80.2%	81.5%	83.4%	85.7%	85.9%

Source: Statistics Canada 2006 Census, Statistics Canada 2001 Census

The 2006 Census permits comparison of the proportion of the population who lived in the same census division 5 years ago in addition to the same address and that figure provides a more comparable estimate of regional stability. This view indicates that Dawson and Yukon were identical with 80.1% of the population 5 years of age and over having lived in the same census division compared to 81.1% of Canada. This indicates that contrary to popular misconception the population in the Yukon and Dawson is fairly stable and rooted.

Housing

The data across the censuses is not consistent therefore this comparison is based on a subset of the variables which can be compared over time. While the Yukon has a high, relative to Dawson, level of people living in homes they own it also has been increasing. This suggests the establishment of a more permanent population base as people are making an investment to put down roots. In contrast, Dawson only in 2006 had more owner occupied dwellings than rented. The high proportion of rental in relation to owned dwellings can be due to a number of factors one of which may be the structure of population which is largely single and may be less likely to invest in housing while another could simply be the lack of available residential lots or properties for sale.



	Dawson			Yukon		
Number of owned dwellings	48.9%	47.6%	52.3%	62.4%	66.9%	67.7%
Number of rented dwellings	51.1%	52.4%	47.7%	37.6%	33.1%	32.3%

Source: Statistics Canada 2006 Census, Statistics Canada 2001 Census, Statistics Canada 1996 Cen

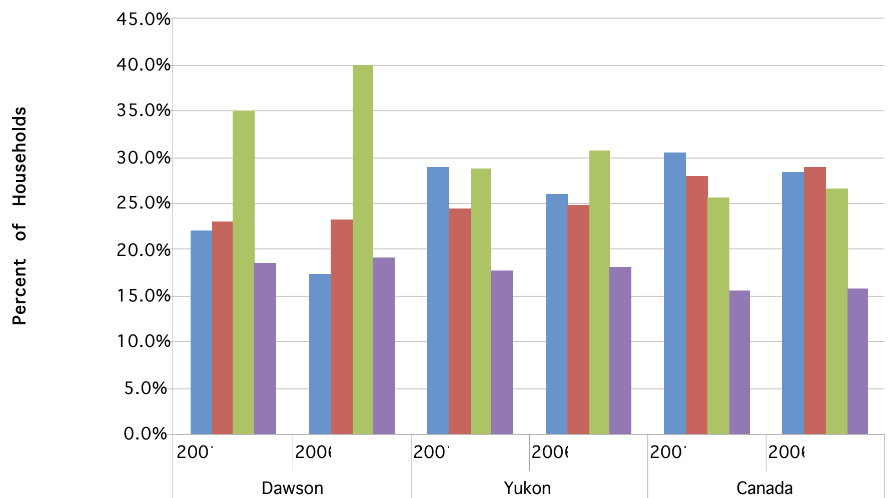
Housing is currently a challenge in Dawson. Whether it is for year-round residents or for temporary summer workers it is a topic that arises consistently. Of concern are the quality and age of existing housing and the high costs of repairs and renovations. Any further development which will push the demand for housing is going to run into the limitations already existing in the community around housing. While there is an overall desire for a modest population increase to reach a critical mass for year-round services there is currently very limited capacity for new residents to find adequate housing. This applies to rental properties as well and without adequate apartment accommodation or some form of condominium development the ability to attract and retain people is a factor.

Household Types

Consistent with the marital status and population age data Dawson has the lowest levels of couple households, in particular households with children living at home. The large number of singles in the population also is reflected in the large number of 1 person households giving the impression of Dawson's population being one which lives alone. While the *other household types* includes those sharing accommodation this group is not substantially different from Yukon.

It is of interest to note the increase in 1 person households in Dawson from 2001 to 2006 as that may indicate the type of housing options that may be most in demand.

Household Types Dawson, Yukon and Canada 2001



	Dawson 200'	Dawson 2006	Yukon 200'	Yukon 2006	Canada 200'	Canada 2006
Households containing a couple (married or common-law) with children	22.2%	17.5%	29.0%	26.1%	30.5%	28.5%
Households containing a couple (marrie or common-law) without children	23.1%	23.3%	24.5%	24.9%	28.0%	29.0%
One-person households	35.2%	40.0%	28.7%	30.9%	25.7%	26.8%
Other household types	18.5%	19.2%	17.7%	18.2%	15.7%	15.8%

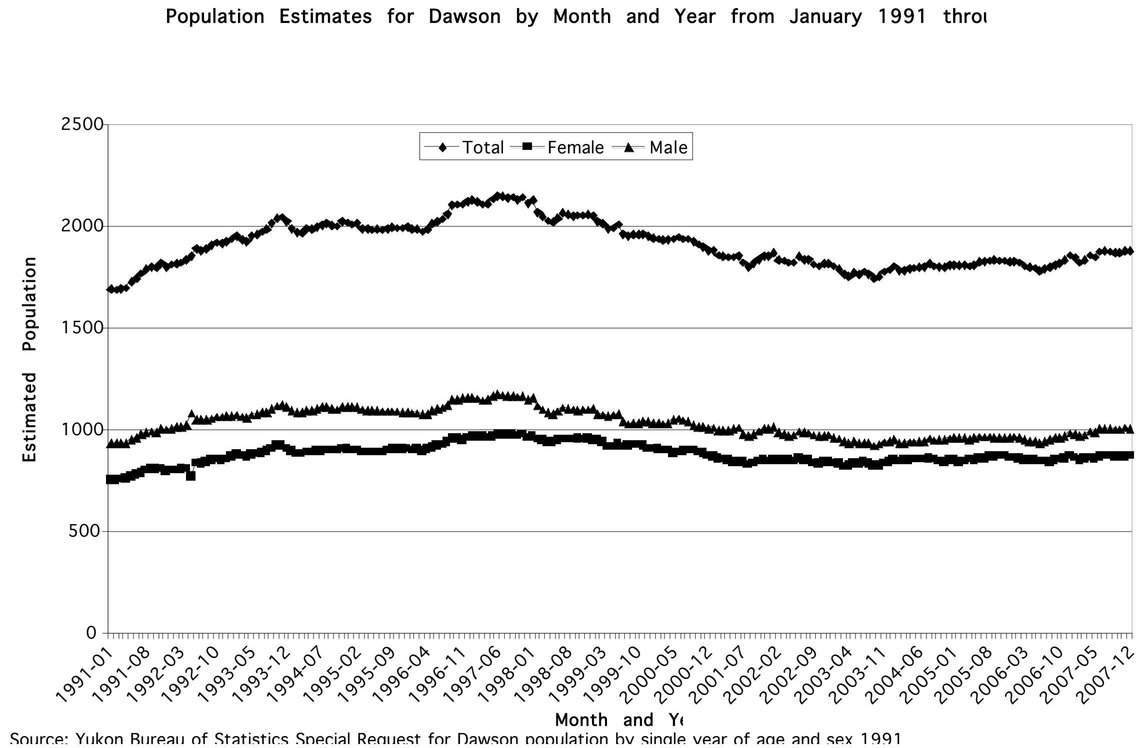
Source: Statistics Canada 2006 Census, Statistics Canada 2001 Census

Yukon Based Estimates

The Yukon Bureau of Statistics estimates, based on health care registrations, enables a much more detailed look at the Dawson population by month from January 1991 through December 2007.

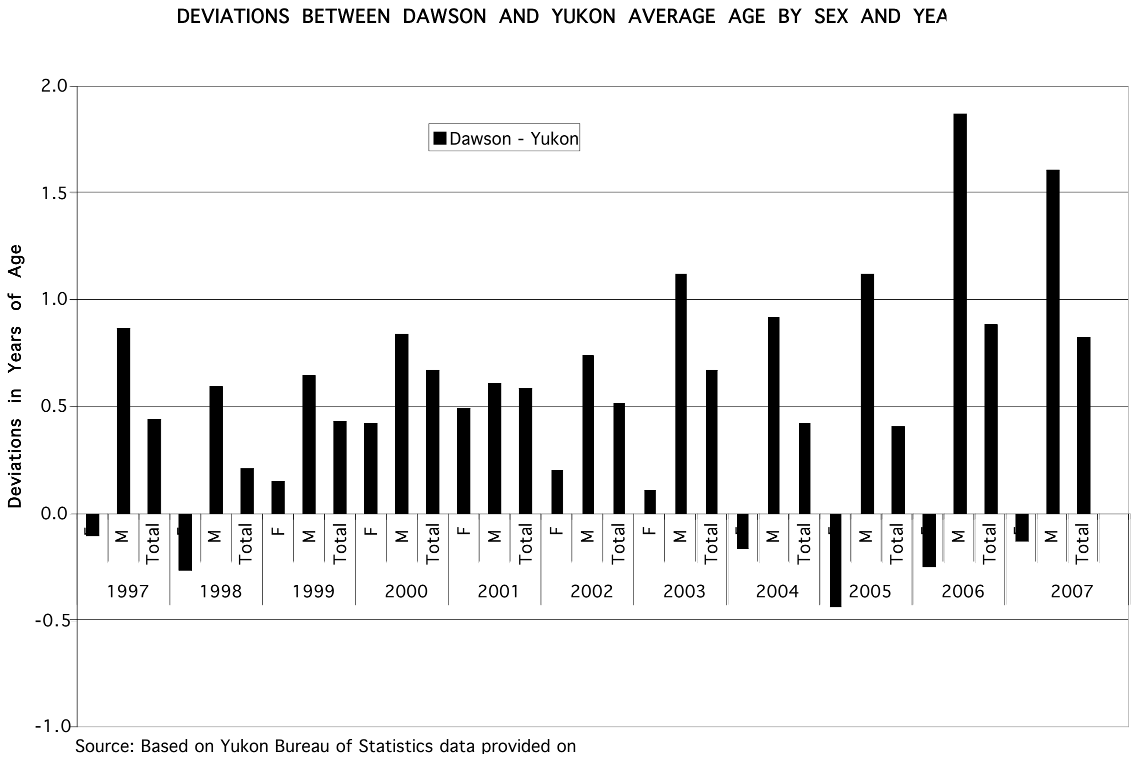
Dawson's population appears to be cyclical during this time period with a peak in June 1997 of 2151 tailing off to a low of 1756 in November 2003. Since that time there has been wobbly growth.

The other factor about Dawson's population is that in comparison to the Yukon population there are consistently more males living in Dawson than females. Over the past eleven years the average proportion of the population that is female has been 46.6% in Dawson compared to 49.6% for the Yukon.

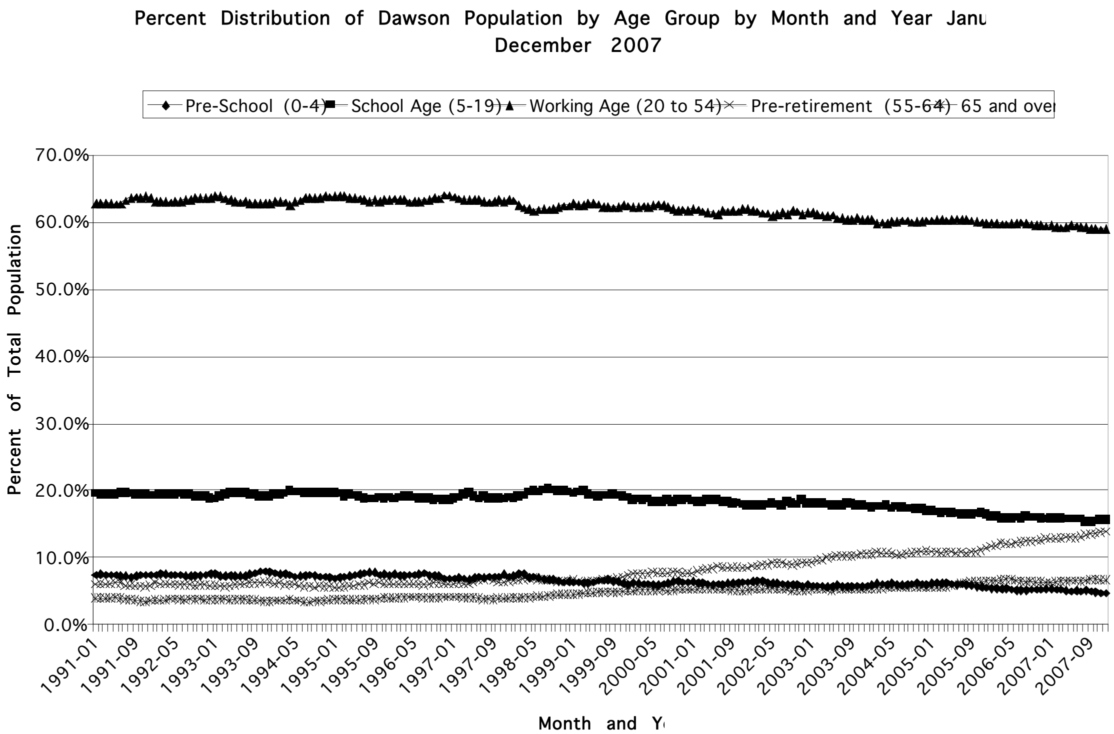


Structure of the Population

Dawson is an aging population – faster than the Yukon in general. In 1997 the average age of females was 31.5 and for males 33.1 years but by 2007 this had increased to 36.1 for females and 38.4 for males. Males in Dawson are consistently above the Yukon average male age while females remain close around the Yukon average. The following graph, while somewhat busy, effectively demonstrates the increasing gap between the average male age in Dawson and the Yukon over time. It also shows the minor variations both above and below for the average female age in Dawson compared to the Yukon. In all instances the total Dawson population is older than the Yukon – primarily due to the large differences in the average male ages.

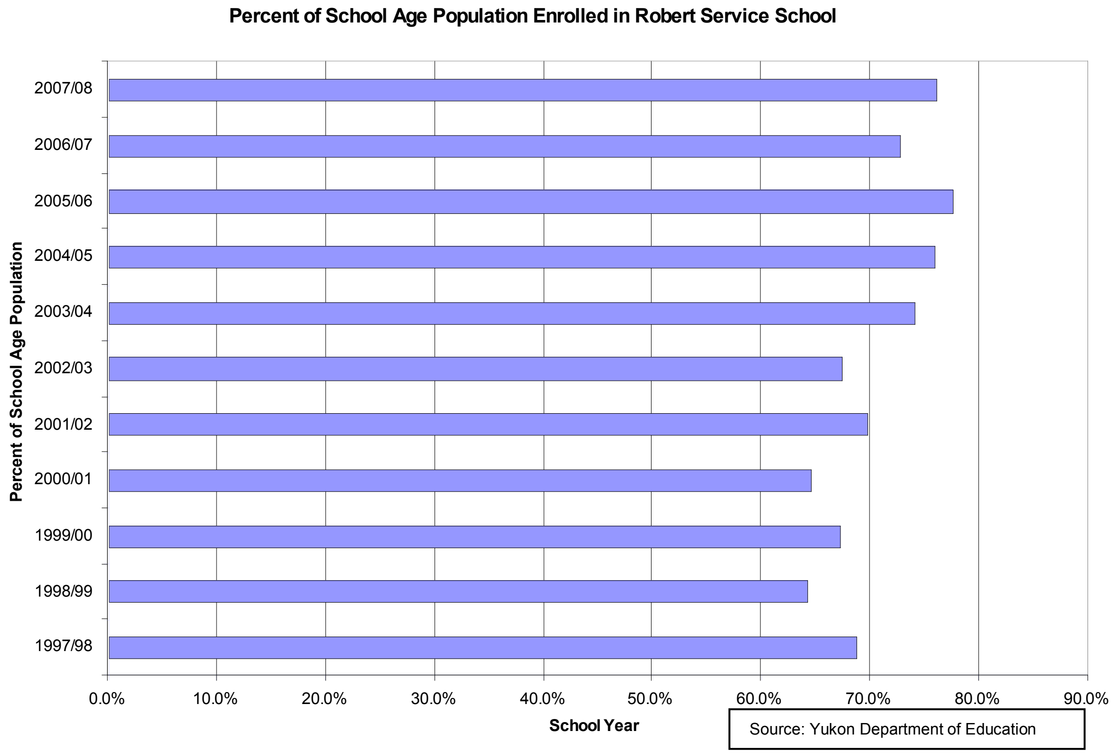


The increasing age of the Dawson population can be seen in looking at the population disaggregated into discrete age groups over the 1991 through 2007 time period. This view reveals a declining pre-school population and an increasing pre-retirement and 65+ population. In addition, the school age population has flattened out but with the declining pre-school population will shortly start declining as well and soon will be surpassed by the pre-retirement population if present trends continue. The working age population has followed the overall trends noted for the total population – which is not surprising as it remains the largest group - but as a labour pool basis for further economic development it will need significant in-migration to meet demand.



Source: Based on Yukon Bureau of Statistics data provided on re

While the school aged population has declined over time the proportion of the population enrolled in school has increased as shown in the graph below. With the previous discussion of the proportion of this age group identifying as aboriginal this seems to indicate that an increasing number of FN students are remaining in school – which bodes well for this age group developing the capacity to participate in economic opportunities that arise.



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Labour Force

The census also provide points in time description of the employment situation in terms of participation and employment levels and occupations and industries.

Yukon has a high participation compared to the rest of Canada but Dawson consistently has a higher participation rate than the Yukon. However, over time the participation rate for both the Yukon and Dawson has declined overall and only Dawson shows a slight increase from 2001 to 2006 in the female participation rate which mirrors the Canada increase in female participation – albeit at a substantially lower initial level.

One of the unique things about the Yukon in general is that female unemployment rates are substantially lower than male rates and this is due, to a large part, by the seasonal nature of work in male dominated industrial components – construction and resource extraction along with the support industries servicing these components.

Table LF1
Participation and Employment Rates by Sex for Yukon and Dawson 1996, 2001 and 2006 Censuses

	Canada			Yukon			Dawson		
Participation rate	Total	Male	Female	Total	Male	Female	Total	Male	Female
1996	65.5	72.7	58.6	81.3	84.0	78.5	86.8	89.1	84.4
2001	66.4	72.7	60.5	79.8	82.1	77.6	85.2	88.6	81.4
2006	66.8	72.3	61.6	78.1	79.9	76.2	83.5	85.8	81.6
Unemployment rate									
1996	10.1	10.2	10.0	11.0	12.1	9.9	12.9	12.4	12.3
2001	7.4	7.6	7.2	11.6	14.5	8.6	9.8	10.8	8.9
2006	6.6	6.5	6.6	9.4	11	7.8	13.4	16.5	8.3

Source: Statistics Canada 1996, 2001 and 2006 Census

However, participation rate only identifies whether a person worked or not during the previous year and there can be wide variations in the type and amount of work.

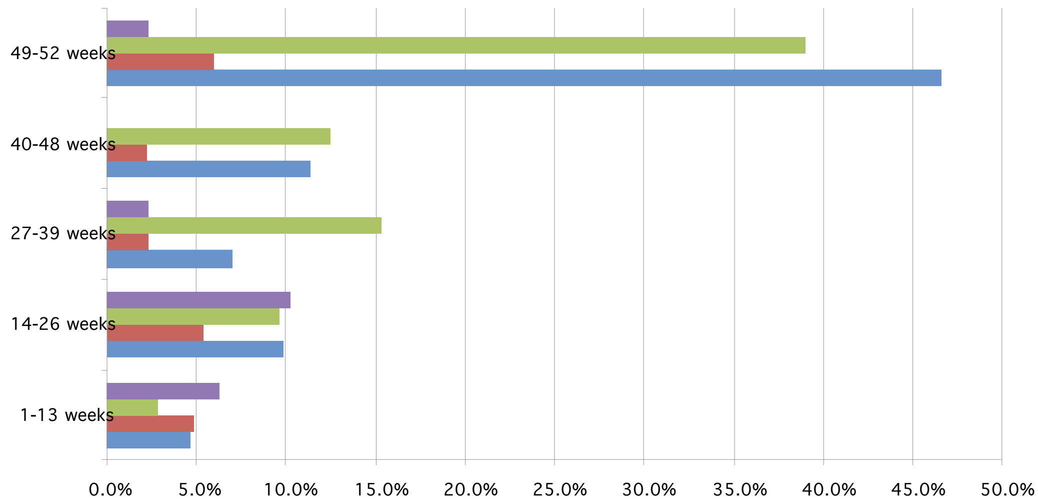
Work Activity

The most recent data available on work activity is from the 2001 Census which reports on the 2000 work year. Fewer workers in Dawson work a full year whether full or part-time than in Yukon. The largest group of part-time workers in Dawson work between 14 and 26 weeks with the next largest group working 1 to 13 weeks. In comparison to Yukon, Dawson part-time workers work an average of 22 weeks per year compared to 30 weeks for Yukon part-time workers.

The pattern for full-time workers is similar to Yukon where Dawson full-time workers average 42 weeks per year of work compared to 43 for Yukon. Where the differences are seen is in the full year level and the higher proportion of Dawson workers in the 27 to 39 week period.

Both the Yukon and Dawson reflect a seasonal cycle in weeks worked with Dawson showing a stronger seasonality factor due to an economy, other than government, reliant on tourism and resource based seasonal activities.

Percent of Workers by Weeks Worked by Type of Work Dawson and



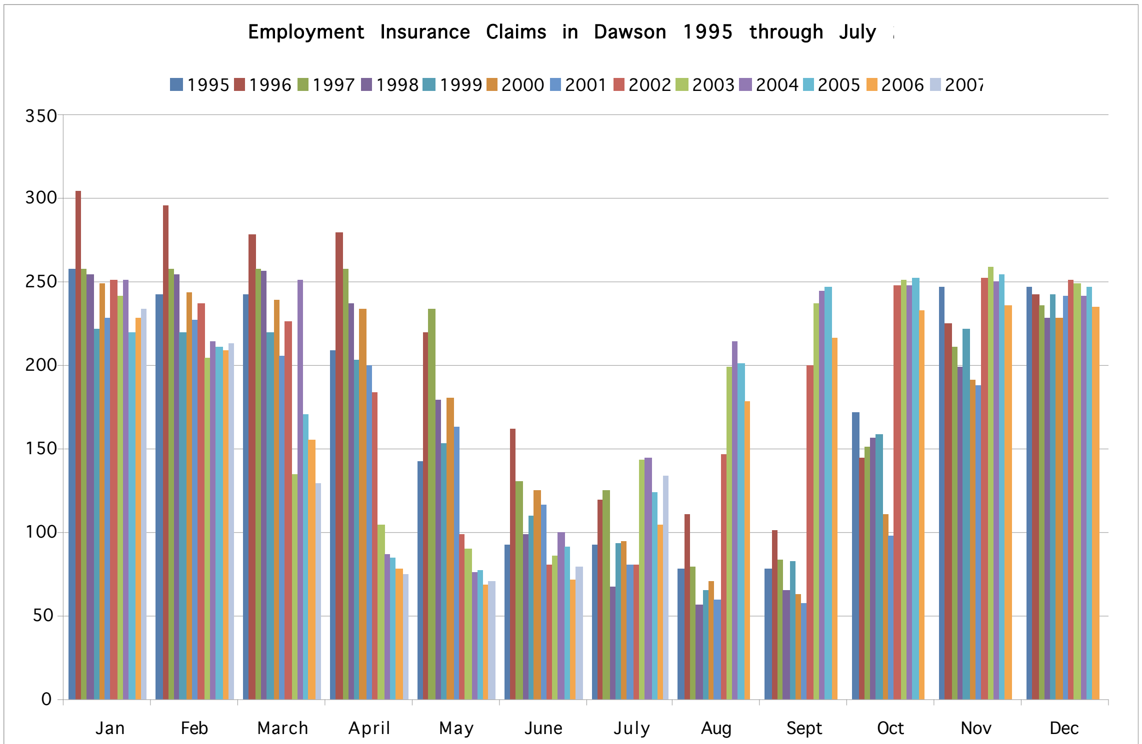
	1-13 weeks	14-26 weeks	27-39 weeks	40-48 weeks	49-52 weeks
Dawson Part-Time	6.2%	10.2%	2.3%	0.0%	2.3%
Dawson Full-Time	2.8%	9.6%	15.3%	12.4%	39.0%
Yukon Part-Time	4.9%	5.4%	2.3%	2.2%	5.9%
Yukon Full-Time	4.6%	9.8%	7.0%	11.3%	46.6%

Source: Statistics Canada, 1996 Census 95F0382XCB20010

Unemployment Cycles[60]

One method of tracking unemployment is through the Employment Insurance claims made by Dawson residents. However, data reliability problems make assessments of pattern changes impossible. Overall the pattern shows the seasonal fluctuations expected with the winter months being the highest for claims and the summer months the lowest. If, and when, this data file is sorted out it will provide a much more sensitive view of any changes in employment cycles.

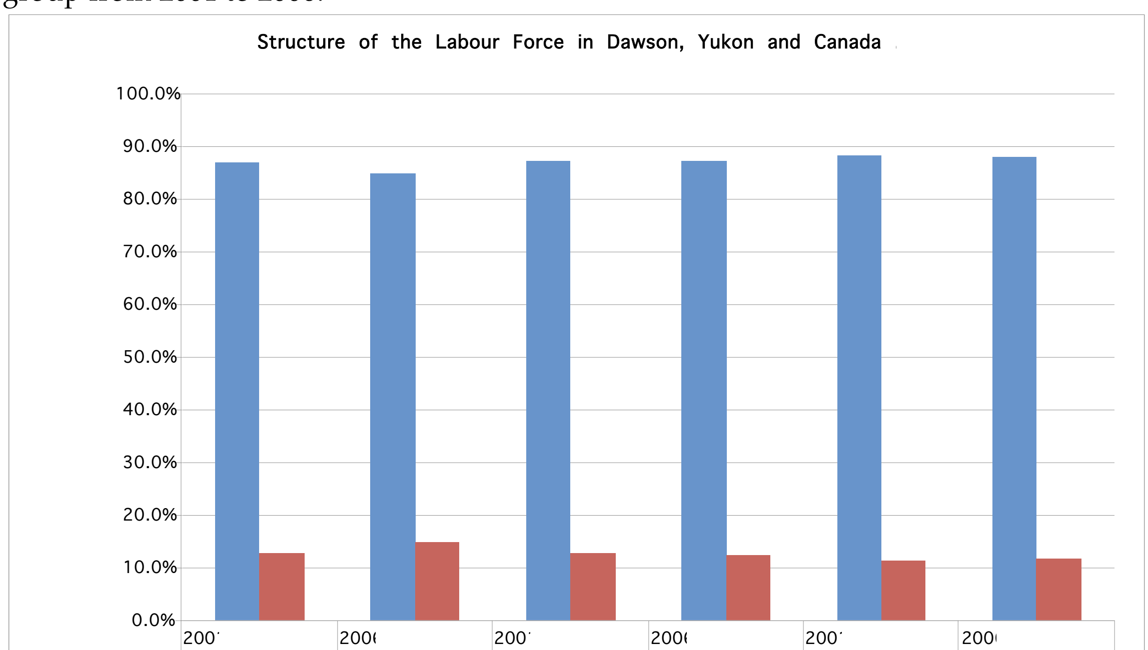
[60] Source: Compilation of Yukon Statistical Reviews (Monthly and Annual)



Source: Yukon Bureau of Statistics - Compilation of monthly and annual re

Structure of Labour Force

The labour force can be divided into those who work for others and those who are self-employed. Dawson has the highest proportion of the labour force in the self-employed category and is the one geographic level to demonstrate a considerable increase in this group from 2001 to 2006.



	200'	2006	200'	2006	200'	2006
	Dawson		Yukon		Canada	
Wage earners	87.0%	84.9%	87.2%	87.4%	88.5%	88.1%
Self-employed	13.0%	15.1%	12.8%	12.6%	11.5%	11.9%

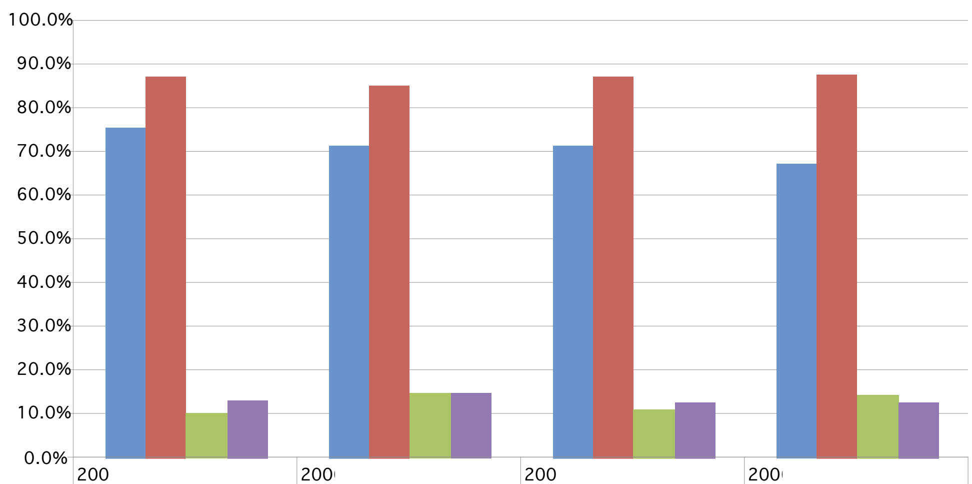
Source: 2006 Census Statistics Canada 97-559-XCB2006024, 2001 Census - Statistics Canada 95F038

This is of more than passing interest as it goes along with the shifting age group profile of both Dawson and the Yukon. When comparing the working age population as a proportion of 15+ population (consistent with the labour force population base) to the wage earning proportion of the labour force there is a corresponding movement in both for Dawson but not for Yukon. As the working age (20-54) proportion of the population decreased in Dawson so has the proportion of wage earners as a proportion of the labour force. This is not the case in Yukon overall and is another indication of there being not only age differentials between Yukon and Dawson but lifestyle and choices as well.

As noted under the population discussion there is an older male population in Dawson and looking at the pre-retirement age group (55-64) in relation to the self-employed portion of the labour force shows a similar relation as does the working age in Dawson. The pre-retirement population is increasing as is the self-employed group in Dawson which, again, is not the pattern in Yukon where the population group is increasing but the self-employed level is not.

This is not to suggest that only older workers are self-employed but more to recognize that one of the patterns of the pre-retirement group is to take early retirement and to move into self-employment. Given the older population in Dawson this may explain, in part, the growth in this area.

Comparing Working Age and Pre-retirement Population to Labour Force Wage Earners 2001 and 2006



	Dawson		Yukon	
Working Age (20-54)	75.4%	71.5%	71.3%	67.2%
Wage Earners	87.0%	84.9%	87.2%	87.4%
Pre-retirement (55-	10.2%	14.7%	11.0%	14.6%
Self-employed	13.0%	15.1%	12.8%	12.6%

Source: 2006 Census Statistics Canada 97-559-XCB2006024, 2001 Census - Statistics Canada

Employment by Industry

The distribution of employment across economic sectors is one means of understanding the economy operating at a geographical location at a point in time. In this case there are two comparable points in time, 2001 and 2006 (see Table LF2), as the 1996 census used a different industrial classification system and does not permit direct comparison.

The one area where the Yukon and Dawson is substantially a larger proportion of the labour force is in public administration – basically government employment where the Yukon is highest and Dawson 4 to 5 percentage points behind. The perception that government employment dominates the labour force in both Dawson and the Yukon is accurate once the education and health areas are included along with the arts and culture areas which are largely government funded. What is noticeable in Dawson is that the public administration area has increased from 2001 to 2006 while the next largest industrial component (accommodation and food services) has declined slightly but it remains a much larger component of the labour force than in either Yukon or Canada.

The mining and oil and gas extraction and arts, entertainment and recreation sectors in Dawson, as might be expected, are also much larger components of the economy than in the Yukon or Canada. Construction also is slightly higher but has declined from 2001 to 2006 and over the remaining industries there is a lower proportion indicating that Dawson's economy is not of sufficient scale to support a comprehensive industrial distribution.

Table LF2						
Distribution of Labour Force by Industry 2001 and 2006						
	Dawson	Dawson	Yukon	Yukon	Canada	Canada
Industry Category/Year	2001	2006	2001	2006	2001	2006
Agriculture, forestry, fishing and hunting	1.2%	1.1%	1.6%	1.1%	3.6%	3.1%
Mining and oil and gas extraction	8.2%	8.6%	2.4%	3.6%	1.1%	1.4%
Utilities	1.2%	0.0%	0.8%	0.4%	0.8%	0.8%
Construction	9.9%	7.0%	7.9%	6.9%	5.6%	6.3%
Manufacturing	1.2%	0.0%	2.2%	2.2%	14.0%	11.9%
Wholesale trade	1.2%	1.1%	1.9%	1.7%	4.4%	4.4%
Retail trade	8.8%	7.5%	11.0%	10.2%	11.3%	11.4%
Transportation and warehousing	5.8%	3.8%	4.4%	4.6%	5.0%	4.9%
Information and cultural industries	0.0%	0.0%	3.9%	3.0%	2.7%	2.5%
Finance and insurance	1.2%	1.1%	2.1%	1.6%	4.1%	4.1%
Real estate and rental and leasing	1.2%	1.1%	1.1%	1.3%	1.7%	1.8%
Professional, scientific and technical services	2.3%	2.2%	4.2%	4.3%	6.3%	6.7%
Management of companies and enterprises	1.2%	0.0%	0.0%	0.1%	0.1%	0.1%
Administrative and support, waste management and remediation services	2.3%	4.8%	3.3%	3.3%	3.9%	4.3%
Educational services	4.1%	5.9%	6.7%	6.8%	6.6%	6.8%
Healthcare and social assistance	6.4%	6.5%	9.0%	9.1%	9.7%	10.2%
Arts, entertainment and recreation	7.0%	8.1%	3.1%	2.7%	2.0%	2.1%
Accommodation and food services	17.5%	17.2%	9.1%	8.9%	6.7%	6.7%
Other services (except public administration)	4.1%	4.3%	4.1%	4.2%	4.8%	4.9%
Public administration	17.5%	19.4%	21.1%	24.0%	5.8%	5.8%

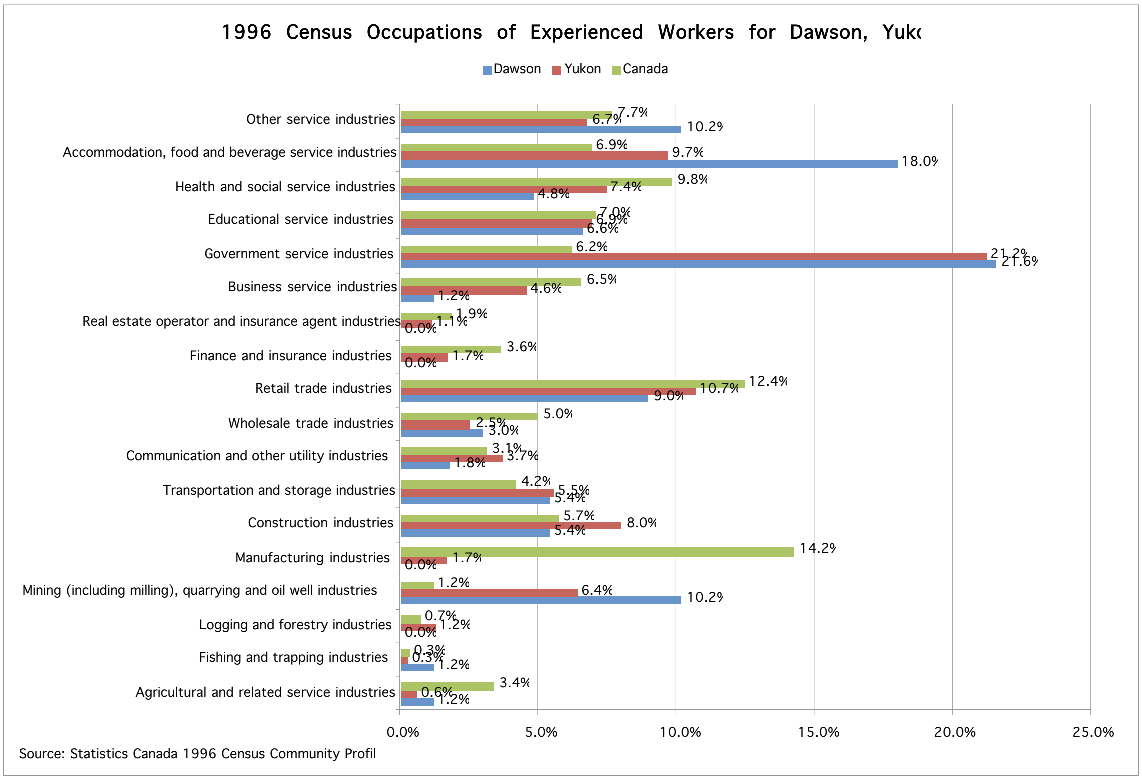
Source: 2006 Census Statistics Canada 97-559-XCB2006024, 2001 Census - Statistics Canada 95F0383XCB01006.

It was previously noted that Dawson had a high level of self-employment compared to Canada and the Yukon. It is useful to compare the distribution within each type of labour force activity (wage earner/self-employed) in 2001 and 2006. In mining and oil and gas extraction and construction the number of self-employed has increased while the proportion of self-employed active in accommodation and food services and retail trade show the largest decreases between 2001 and 2006. Administrative and support, waste management and remediation services shows a decline as well – in fact dropping to 0.0% in 2006 in terms of self-employment which appears to be offset by an increase in the wage earners in this sector. A similar self-employment pattern is seen in transportation and warehousing, dropping to 0.0%, but without a reciprocal increase in the wage earning proportion.

On the other side real estate and rental and leasing and professional, scientific and technical services started at 0.0% in 2001 and increased in terms of self-employment in 2006. Again, there is a different pattern in the wage-earning component where the professional component went down slightly while the real estate, etc component increased as well.

The large government component can be seen in the 1996 data which, while dated, is still a reasonable relative description of the Dawson labour force. As also would be expected the tourism related sector (accommodation and food and beverage) and mining are substantially larger in Dawson than Yukon or Canada. These two areas are also highly seasonal with annual cycles of high activity with long stretches of low levels of activity.

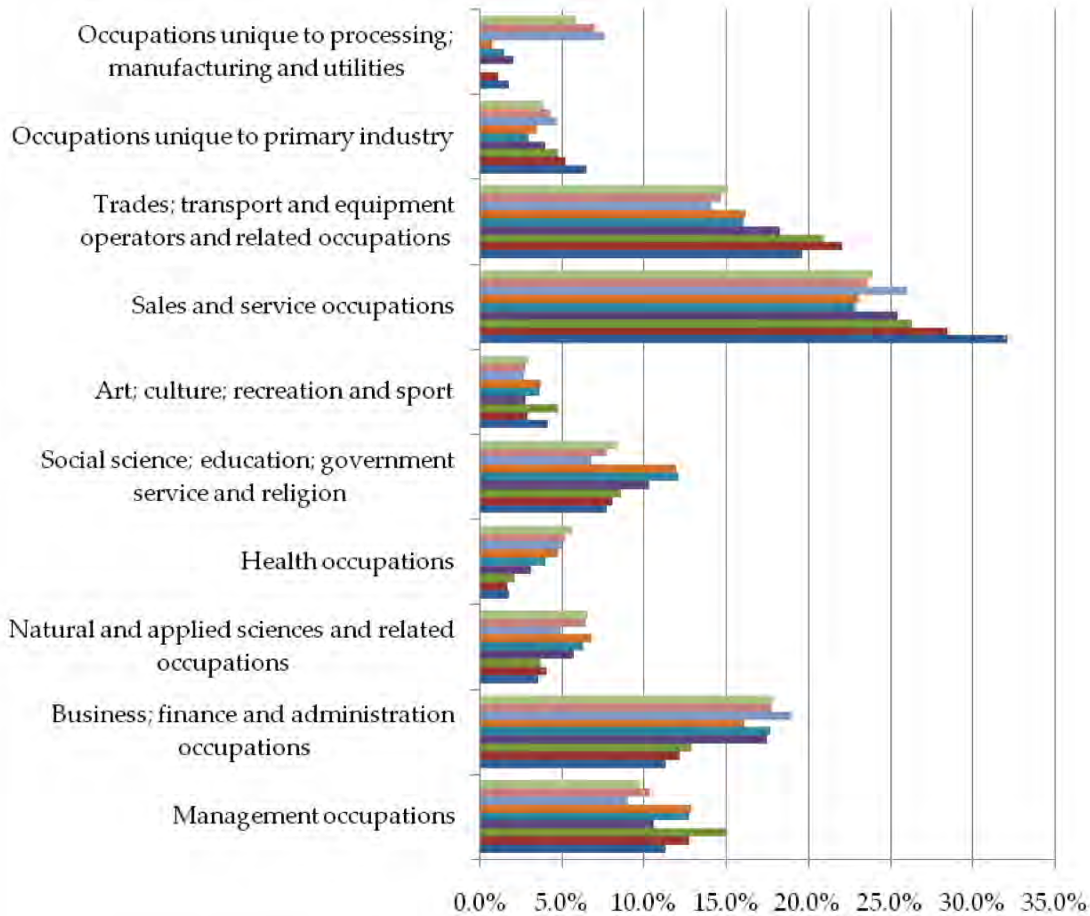
One item of interest, though small, is that agriculture involves proportionately more people in Dawson than in the Yukon and was frequently mentioned during interviews as being one area that merits further support and expansion. Several interviewees noted that historically Dawson had produced much of its own food through necessity and being more self-sufficient in this area was highly desirable.



Occupations

The occupational data from the censuses is comparable over time and does not show any sudden shifts in the occupational make-up of the labour force. From 1996 to 2006 Dawson has increased in Management, Business and Trades related occupations and declined in Sales and Primary Industry occupations as proportions of the labour force. Other areas show minor fluctuations and SOVA is too recent to have had an impact on this profile. It is expected that the occupations relating to arts and culture will increase as a proportion based on the current developments in the post-secondary arts related educational opportunities.

Occupations of Experienced Workers in Dawson, Yukon and Canada 1996, 2001 and 2006



	Management occupations	Business; finance and administration occupations	Natural and applied sciences and related occupations	Health occupations	Social science; education; government service and religion	Art; culture; recreation and sport	Sales and service occupations	Trades; transport and equipment operators and related occupations	Occupations unique to primary industry	Occupations unique to processing; manufacturing and utilities
Canada 2006	9.7%	17.9%	6.6%	5.6%	8.4%	3.0%	23.9%	15.1%	3.8%	5.9%
Canada 2001	10.4%	17.8%	6.4%	5.2%	7.7%	2.8%	23.6%	14.7%	4.3%	7.0%
Canada 1996	9.0%	19.0%	5.0%	5.0%	6.8%	2.7%	26.0%	14.1%	4.8%	7.6%
Yukon 2006	12.9%	16.1%	6.8%	4.8%	12.0%	3.7%	23.1%	16.2%	3.5%	0.8%
Yukon 2001	12.8%	17.7%	6.3%	4.0%	12.1%	3.6%	22.9%	16.0%	3.0%	1.5%
Yukon 1996	10.6%	17.5%	5.8%	3.1%	10.4%	2.8%	25.5%	18.3%	4.0%	2.0%
Dawson 2006	15.1%	12.9%	3.8%	2.2%	8.6%	4.8%	26.3%	21.0%	4.8%	0.0%
Dawson 2001	12.8%	12.2%	4.1%	1.7%	8.1%	2.9%	28.5%	22.1%	5.2%	1.2%
Dawson 1996	11.3%	11.3%	3.6%	1.8%	7.7%	4.2%	32.1%	19.6%	6.5%	1.8%

Source: 2006 Census Statistics Canada 97-559-XCB2006024, 2001 Census Statistics Canada 95F0383XCB01006, Statistics Canada Census 1996, Community Profiles

Discussion

The structure of the economy, from the perspective of labour force employment, has gone through some changes but not unexpected or dramatic given the context and demographic realities. It is tempting to infer the 'frontier spirit' from the growth in self-employment but it is likely more a demographic than 'spirit' phenomena.

Another consideration is that looking over the past period, where there has not been dramatic change, does not mean that possibility is not there. The focus on SOVA and expanding into other post-secondary areas could impact the occupational and industrial distribution. In fact, any particular development could be modelled against the base distribution which would provide some estimate of impact.

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APPENDIX B – References

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APPENDIX C – Interview Participants

Name	Position
Bill Bowie	Owner/Operator, Arctic Inland
David Curtis	Head, School of Visual Arts
Donald Flinn	CEO Klondike Star Mineral Corporation
Doug Hayward	Southern Cross Solutions
Drew Philipsen	Kluane Trucking
Eldo Enns	Yukon College
Gary Parker	Head, Klondike Institute of Arts and Culture
Gary Wilson	Director, Business Development and Strategic Initiatives, Tr'ondëk Hwëch'in
Georgette McLeod	Acting Director, Heritage and Culture, Tr'ondëk Hwëch'in
Greg Hakonson	Former placer miner, entrepreneur/innovator and President, Dawson City Arts Society
Jack and Lucy Vogt	Market Gardening
Jackie Olson	Owner, Peabody's Photo Parlour
John Lenart	Agriculture
Jorn Meier	Tr'ondëk Hwëch'in Information Technology Department and President of Klondike Visitors Association
Linda Briemon	Manager, Westmark Hotel
Linda Huston	Director, Southeast Alaska & Yukon Operations, Holland America
Mark Wickham	Administrator, City of Dawson
Mitch (John) Mitchell	Han Housing
Otto Cutts	Director, Chief Isaac Inc.
Paul Moore	Chief Administrative Officer, City of Dawson
Peter Jenkins	Owner/Operator Eldorado Hotel, retired MLA
Rob Watt	Parks Canada Superintendent
Robert Close	MacKenzie Petroleum
Roberta Joseph	Councilor, Economic Development Portfolio, Tr'ondëk Hwëch'in
Ron Daub	CEO, Vuntut Development Corporation
Sergeant Dan Gaudet	Head, Dawson RCMP Detachment
Sharon Edmonds/Boyd Gillis	Jeweler
Wendy Cairns	Owner/Operator, Bombay Peggy's

APPENDIX D – Section 13: Tr’ondëk Hwëch’in Self-government Agreement

13.0 LEGISLATIVE POWERS

13.1 The Tr'ondëk Hwëch'in shall have the exclusive power to enact laws in relation to the following matters:

- administration of Tr'ondëk Hwëch'in affairs and operation and internal management of the Tr'ondëk Hwëch'in;
- management and administration of rights or benefits which are realized pursuant to the Final Agreement by persons enrolled under the Final Agreement, and which are to be controlled by the Tr'ondëk Hwëch'in; and
- matters ancillary to the foregoing.

13.2 The Tr'ondëk Hwëch'in shall have the power to enact laws in relation to the following matters in the Yukon:

- provision of programs and services for Citizens in relation to their spiritual and cultural beliefs and practices;
- provision of programs and services for Citizens in relation to the Han language;
- provision of health care and services to Citizens, except licensing and regulation of facility-based services off Settlement Land;
- provision of social and welfare services to Citizens, except licensing and regulation of facility-based services off Settlement Land;
- provision of training programs for Citizens, subject to Government certification requirements where applicable;
- adoption by and of Citizens;
- guardianship, custody, care and placement of Tr'ondëk Hwëch'in children, except licensing and regulation of facility-based services off Settlement Land;
- provision of education programs and services for Citizens choosing to participate, except licensing and regulation of facility-based services off Settlement Land;
- inheritance, wills, intestacy and administration of estates of Citizens, including rights and interests in Settlement Land;
- procedures consistent with the principles of natural justice for determining the mental competency or ability of Citizens, including administration of the rights and interests of those found incapable of responsibility for their own affairs;
- provision of services to Citizens for resolution of disputes outside the courts;
- solemnization of marriage of Citizens;
- licences in respect of matters enumerated in 13.1, 13.2 and 13.3 in order to raise revenue for Tr'ondëk Hwëch'in purposes;
- matters necessary to enable the Tr'ondëk Hwëch'in to fulfill its responsibilities under the Final Agreement or this Agreement; and
- matters ancillary to the foregoing.

13.3 The Tr'ondëk Hwëch'in shall have the power to enact laws of a local or private nature on Settlement Land in relation to the following matters:

- use, management, administration, control and protection of Settlement Land;
- allocation or disposition of rights and interests in and to Settlement Land, including expropriation by the Tr'ondëk Hwëch'in for Tr'ondëk Hwëch'in purposes;
- use, management, administration and protection of natural resources under the ownership, control or jurisdiction of the Tr'ondëk Hwëch'in;
- gathering, hunting, trapping or fishing and the protection of fish, wildlife and habitat;
- control or prohibition of the erection and placement of posters, advertising signs, and billboards;
- licensing and regulation of any person or entity carrying on any business, trade, profession, or other occupation;
- control or prohibition of public games, sports, races, athletic contests and other amusements;
- control of the construction, maintenance, repair and demolition of buildings or other structures;
- prevention of overcrowding of residences or other buildings or structures;
- control of the sanitary condition of buildings or property;
- planning, zoning and land development;
- curfews, prevention of disorderly conduct and control or prohibition of nuisances;
- control or prohibition of the operation and use of vehicles;
- control or prohibition of the transport, sale, exchange, manufacture, supply, possession or consumption of intoxicants;
- establishment, maintenance, provision, operation or regulation of local services and facilities;
- caring and keeping of livestock, poultry, pets and other birds and animals, and impoundment and disposal of any bird or animal maltreated or improperly at-large, but the caring and keeping of livestock does not include game farming or game ranching;
- administration of justice;
- control or prohibition of any actions, activities or undertakings that constitute, or may constitute, a threat to public order, peace or safety;
- control or prohibition of any activities, conditions or undertakings that constitute, or may constitute, a danger to public health;
- control or prevention of pollution and protection of the environment;
- control or prohibition of the possession or use of firearms, other weapons and explosives;
- control or prohibition of the transport of dangerous substances; and
- matters coming within the good government of Citizens on Settlement Land.

APPENDIX E – Interview Guide

Economic Scan and Assessment of Potential for Development

Dawson Economic Region

Interview Guide

Respondent name:_______________________________________

Respondent code:____________

Interview completed by:___________________________________

Date of interview:____

V1.3 February 13, 2008

Thank you for taking the time to meet with me today. On behalf of the federal, territorial and Tr'ondëk Hwëch'in governments, we are preparing an economic scan and assessment of potential economic sectors for development in the Dawson Economic Region.

This background work will be used to inform the development of a Regional Economic Development Plan as committed to by all levels of government under the Tr'ondëk Hwëch'in Final Agreement.

This interview is a critical part of preparing an economic scan and assessment of potential development. I will be taking notes as we go along and please be assured that your responses and my notes will be kept strictly confidential – they will not be provided to the Government of Canada, Government of Yukon, the Tr'ondëk Hwëch'in or anyone else in a form which would allow the identification of an individual or a business.

Before we begin, I'd like to note that you were identified as an interview participant in your capacity of___________________________________ and as an active community participant. As such, we are hoping to learn from you as a community member in addition to your role as a representative of a particular organization.

Before we begin, I would also like to note that throughout the interview I will be using the term "Dawson Economic Region". The Dawson Economic Region is an area of land that corresponds with the traditional territory of the Tr'ondëk Hwëch'in people.

<u>A. Socio-economic Model of Dawson Economic Region</u>

To help us build a model that accurately describes the socio-economic structure of the Dawson Economic Region, can you to tell me which of the following economic sectors make the largest contribution to the Dawson regional economy… [Hand economic sector list to interview respondent]

Economic sector	**Contribution Ranking (1 is largest)**	**% Share**
Communications		
Culture, arts and recreation		
Knowledge-based		
Government services		
Transportation		
Agriculture		
Energy		
Renewable resources		
Nonrenewable resources		
Tourism		
Volunteer sector		
Traditional pursuits		
Food and beverages		
Construction		
Other:		
Other:		
Other:		

Can you tell me about the current services available in Dawson? Please identify those you use and are aware of. Examples of services include hair/aesthetic salons, gift shops, bookstores, vehicle repair, electronics, dentist, medical clinics, etc.

In the winter months, what services would you like to have available in the Dawson Economic Region but currently are not?

In the summer months, what services would you like to have available in the Dawson Economic Region but currently are not?

B. Economic Circumstances of the Dawson Economic Region

Some folks have suggested that the Yukon is just now at the beginning of a major economic boom. Other commentators point to the recent downturn in economic activity the United States and suggest that the Yukon economy will be dragged down into an economic slowdown. Who do you think is right? Why?

Where do you think Dawson stands? Is the Dawson Region on the cusp of an economic boom, is it headed for dire economic straights or is it just going to carry on as it has?

Which economic sectors in the Dawson Region do you expect will grow over the next couple of years? [refer to list previously handed out]. Why do you think those sectors will grow?

Are there any economic sectors in the Dawson Economic Region you expect to decline in the next couple of years? Why do you think those sectors will decline?

Do you have any other comments about the economic circumstances of the Dawson Economic Region you would like to add?

C. Development Opportunities

In which economic sectors do you feel organizations and people in the Dawson Economic Region Dawson should be focusing efforts to develop the economy of the Dawson Economic Region? Why do feel that those sectors should be developed?

Are there any specific barriers to development that come to mind that you think need to be addressed before development opportunities in the Dawson Economic Region can be pursued. If yes, what are they?

D. Development Values Context

Expanding economic opportunities and possible developments in the Dawson Region will bring change. In fact change is pretty much a constant in our lives. However, there are features of our personal, community and work life each of us would like to keep pretty much as they are. These are important to us, what we value and what we would like to maintain whether economic opportunities expand or not.

I would like to ask you what these features are in…your personal life (family)? your work life (economic)? your community life (society)?

E. Additional Comments

Are there any comments you would like to add that you feel would be important for the development of an economic scan and assessment of potential for development in the Dawson Economic Region? If yes, what would you like to add?