

3.0 EXISTING SOCIO-ECONOMIC BASELINE CONDITIONS

The socio-economic study area consists of communities that are more likely to experience effects due to their proximity to the proposed project site, as well as their possible contribution to the project workforce. The primary study communities include: Yellowknife, N'Dilo, Dettah, Behchoko, Gameti, Wekweeti, and Whati. Members of these communities have historically and more recently participated in various other mining projects in the Slave Geological Province. It is anticipated that Tyhee NWT Corp will provide training, employment, business opportunities, and/or other associated benefits, where possible, to those communities that can provide the services expected to be required for the YGP operations.

Each community is described briefly in the following sections, and their location in relation to the proposed mine site is shown on Figure 3.1-1.

Community profile information was accessed from several secondary resources. Sources include: NWT Bureau of Statistics, Statistics Canada, and various previously submitted environmental assessments for other mining projects in the NWT.

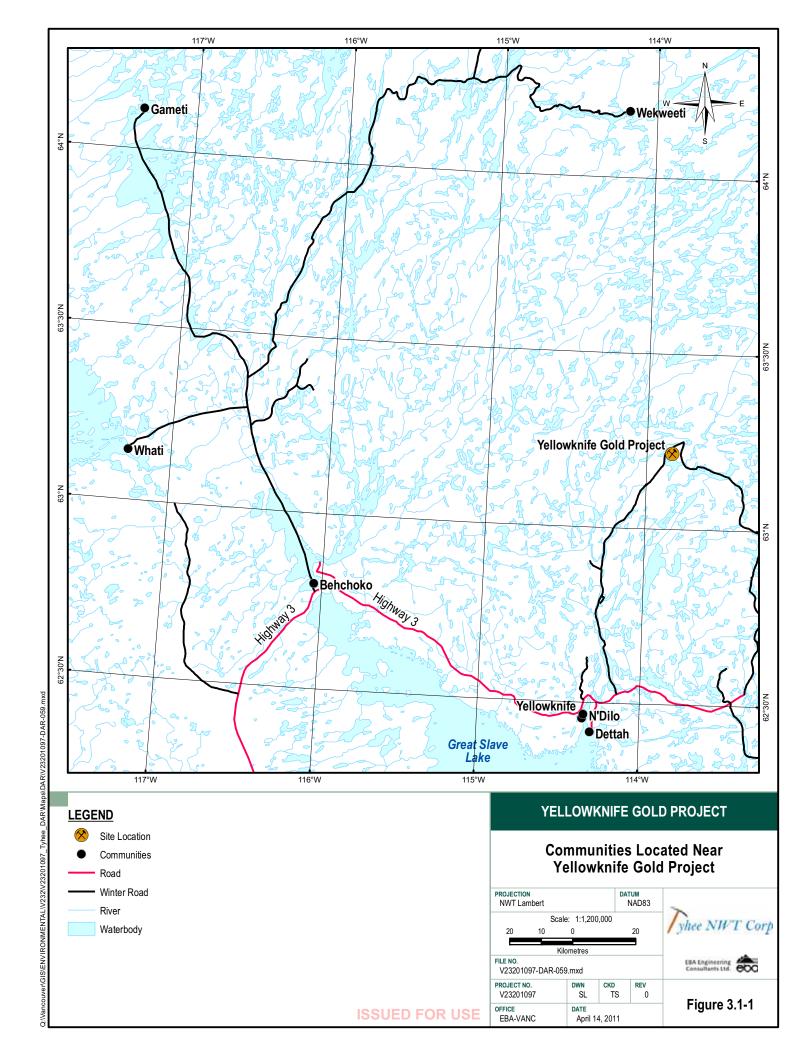
3.1 YELLOWKNIFE AND N'DILO

The City of Yellowknife is located on the west shore of Yellowknife Bay on the North Arm of Great Slave Lake and is accessible by air, road, and water. The community of N'Dilo is located on the northern tip of Latham Island, adjacent to the City of Yellowknife, and is a Yellowknives Dene settlement area (INAC 2010). NWT Bureau of Statistics and Statistics Canada do not provide separate information for N'Dilo. Data for the community of N'Dilo are, therefore, included in the Yellowknife data.

3.1.1 Background

Yellowknife is the capital of the Northwest Territories and is named after the Yellowknife Dene who moved into the area in the early 1800s. Gold was discovered at Yellowknife Bay in 1896 and Yellowknife became a boom town by 1936 with several mining companies staking claims in the Yellowknife and Great Bear Lake areas. The City has continued to grow as a mining, transportation and administrative centre. Yellowknife became the first city in the Northwest Territories in 1970 and remains the only city in the Territory to this day (Legislative Assembly of the Northwest Territories ND).

Yellowknives Dene who lived in the Yellowknife area remained on Latham Island when gold prospectors arrived. N'dilo is a permanent community, home to the Yellowknives Dene First Nation. There are no overnight services, restaurants or stores here, but N'dilo is a vibrant focus of Aboriginal life and residents frequently host cultural events promoting Dene arts, customs and history (Spectacular NWT 2009).





Yellowknife and N'Dilo are accessible year-round by air and by road, except during break-up and freeze-up of the Mackenzie River near Fort Providence. Yellowknife airport and the float plane terminals provide access to multiple communities throughout Canada. The City of Yellowknife and N'Dilo Community connect to Behchoko and other communities along NWT Highway 3, and during winter, connects to Gameti, Whati, and various diamond mine sites (i.e., Snap Lake, Diavik, and Ekati) using winter roads (Spectacular NWT 2009). In particular, the secondary route of the winter road, when in use, provides access to and from the YGP area. The communities are also accessible by private boat during the summer months.

3.1.2 Population

The historic and projected population numbers for Yellowknife are provided in Figure 3.1-2. The population of Yellowknife increased from 18,256 to 19,711 between 1996 and 2009, indicating an average annual growth rate of 0.6 since 1996. Between 1998 and 2004, the population decreased to a low of 17,414 and then increased to a high of 19,910 in 2008. The population is projected to increase to 20,896 by 2014 and 22,828 by 2024 (NWT Bureau of Statistics, 2010).

Approximately 23.1% of Yellowknife's population is Aboriginal. The majority of the N'Dilo population are Yellowknives Dene.



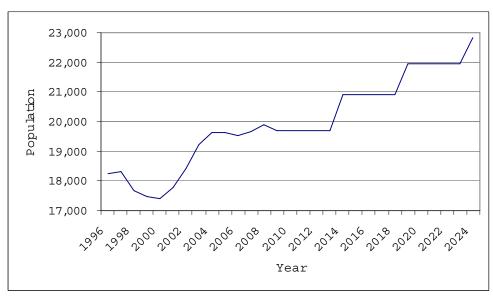


Figure 3.1-2
Yellowknife Historic and Projected Population, 1996 - 2024

From 1998 to 2007, the number of births per year ranged from 249 to 324, with an average of 287.9 births over the ten year period. The number of teen births ranged between 14 and 27 from 1998 to 2007, with an average of 18.4 teen births per year. The number of deaths has fluctuated between 35 and 60 deaths per year between 1998 and 2007.

The population by age and gender are described in Figure 3.1-3 and Table 3.1-1, respectively. Data indicate that Yellowknife and N'Dilo has a relatively young population with 71% of the population aged 44 or younger. There are a greater number of males than females in the Yellowknife area.



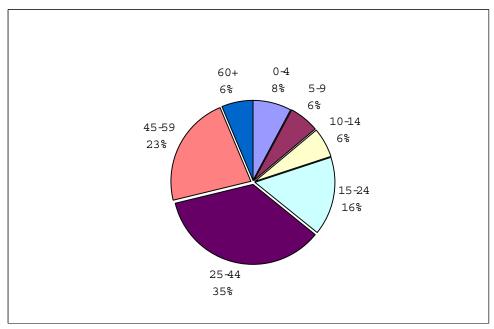


Figure 3.1-3
Yellowknife Population by Age Group, 2009

TABLE 3.1-1: YELLOWKNIFE POPULATION BY GENDER, 2009				
Gender	Population	Percent		
Male	10,094	51.2%		
Female	9,617	48.8%		

Source: NWT Bureau of Statistics (2010)

3.1.3 Employment

Yellowknife and N'Dilo employment data are provided in Figure 3.1-4. In 2009, 15,775 residents were aged 15 years and older. Employment data indicate that 12,576 residents were employed, 751 residents were unemployed, and 2,448 residents were not in the labour force. Of the 13,327 residents in the labour force, this translates into a participation rate of 84.5% and an unemployment rate of 5.6%. (NWT Bureau of Statistics 2010). Since 1986, the general trend indicates a slight decline in employment over time, while the unemployment rate remains fairly constant. This is likely due to the diversity of work opportunities in the area.

In 2009, the potential available labour supply was 1,209 people. Of these people, 46.4% were available to work rotation while 36.1% had less than a high school diploma (NWT Bureau of Statistics, 2010).



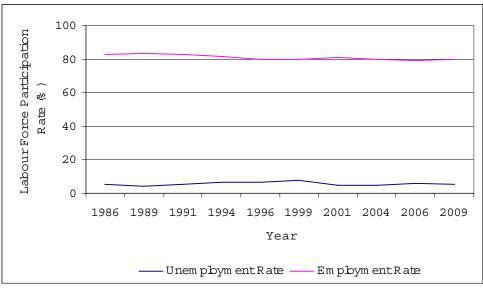


Figure 3.1-4
Yellowknife Employment and Unemployment Rates, 1986 - 2009

3.1.4 Education

The percent of residents achieving a high school diploma has generally increased since 1986 (Figure 3.1-5). In 1986, 66.7% of the population had completed high school, compared to 83.8% in 2009. Data for specific educational levels, such as trade, technical, and university certificates and diplomas were unavailable.

In 2009, the employment rate (i.e., the percentage of persons aged 15 years or older who were working at a job) of those with a high school diploma or greater was 85.7%. Whereas, the employment rate of those with less than a high school diploma was 48.1% (NWT Bureau of Statistics 2010).



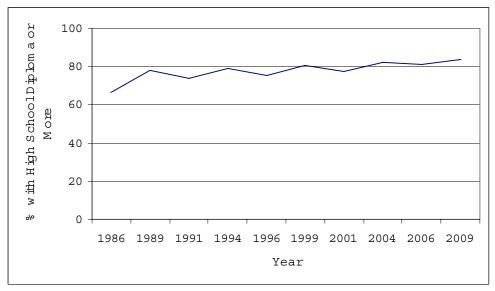


Figure 3.1-5 Yellowknife Educational Level, 1986 - 2009

3.1.5 Traditional Activities

Yellowknife and N'Dilo residents' level of involvement in traditional activities has changed considerably over time for hunting and fishing, but has remained relatively constant for trapping (Figure 3.1-6). The percent of people engaging in hunting and fishing has risen from 1.5% in 1988, to 34.5% in 2008, down from a high of 40.4% in 1998 (NWT Bureau of Statistics 2010).

In 2008, 3.5% of the population produced arts and crafts; whereas 10.7% of households consumed country foods (half or more) (NWT Bureau of Statistics 2010).



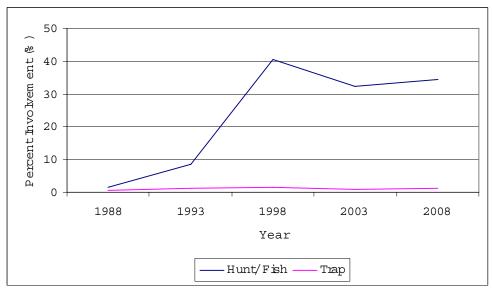


Figure 3.1-6
Yellowknife Participation in Traditional Activities, 1988 - 2008

3.1.6 Language

The majority of the population in Yellowknife speak English as their mother tongue. The percentage of Yellowknife's Aboriginal population that speaks an Aboriginal language has been slowly declining. In 1984, 51.5% of the Aboriginal population could speak an Aboriginal language. This rate subsequently declined to 18.0% in 2009 (NWT Bureau of Statistics 2010).

3.1.7 Community Services

A number of community services are offered in Yellowknife and N'Dilo through the Yellowknife Health and Social Services Authority, the Stanton Territorial Health Authority, and the Yellowknives Dene First Nation. Services include the Jan Stirling Centre for community health and community and family service, several medical and dental clinics and centres, eye clinic, and Stanton Territorial Hospital.

Other community services include recreation facilities, churches, schools, and library. There are multiple schools located in Yellowknife, including the Aurora College. In N'Dilo, the K'àlemì Dene Community School offers education services from kindergarten to grade 11 under the Yellowknife Education District No. 1.

Municipal services include water and sewer, waste collection, and public works (City of Yellowknife 2003).

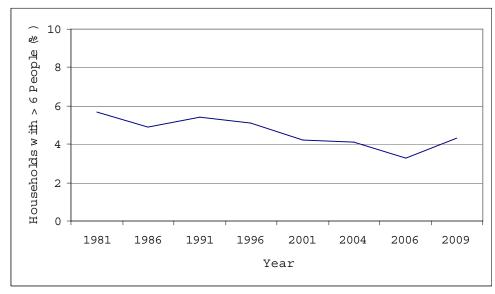
Within Yellowknife there are multiple businesses with capacity and expertise to provide goods and services to the proposed Yellowknife Gold Project. Goods and services include expediting, fuel sales and services, catering, transportation, hotels, and construction



supplies, amongst others. The Northern Territories Federation of Labour comprises several workers unions, which may provide relevant personnel, such as welders or electricians, to the YGP.

3.1.8 Housing

In 2009, there were 6,853 houses in the community, 52.8% of which were owned. The percentage of households with more than six people has declined since 1981 (Figure 3.1-7). In 1981, 5.7% of households had more than six people living in the household; by 2009, this percentage had declined to 4.3% (NWT Bureau of Statistics 2010).



Source: NWT Bureau of Statistics (2010)

Figure 3.1-7
Yellowknife Households with More Than Six People, 1981 - 2009

3.1.9 Crime

The Yellowknife RCMP detachment reports on crime statistics. Crime levels have generally increased since 1999, with noticeable increases in crimes between 2003 and 2005 (Figure 3.1-8). Similar trends occurred with the violent crime rate and property crime rate per 1,000 persons between 2003 and 2005, with an additional sudden increase in property crime rates from 2007 to 2009 (Figure 3.1-9).



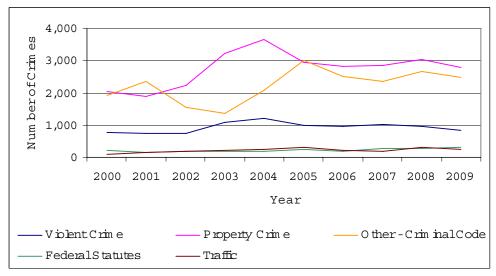


Figure 3.1-8 Yellowknife Crimes, 2000 - 2009



Source: NWT Bureau of Statistics (2010)

Figure 3.1-9
Yellowknife Violent Crime and Property Crime Rates, 2000 - 2009

3.1.10 Income

The average personal income for residents of Yellowknife has increased since 1998 (Figure 3.1-10). Average income in 1998 was \$41,825 and had increased to \$59,589 by 2007.



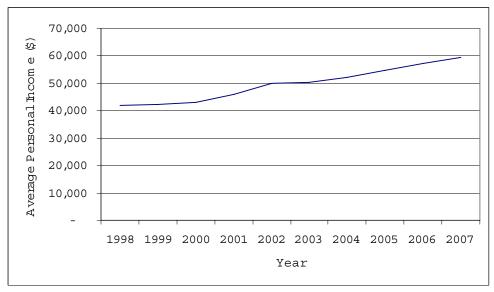
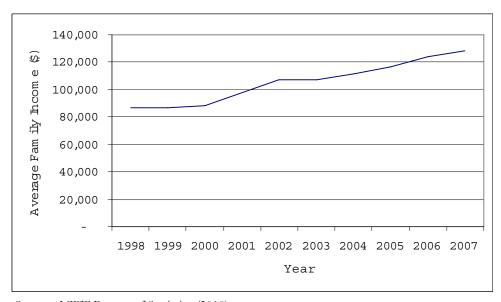


Figure 3.1-10 Yellowknife Average Personal Income, 1998 - 2007

Similarly, the average family income has generally increased since 1998 (Figure 3.1-11). In 1998, the average family income was \$86,445, which has since increased to \$128,473 by 2007.



Source: NWT Bureau of Statistics (2010)

Figure 3.1-11
Yellowknife Average Family Income, 1998 - 2007



3.2 DETTAH

3.2.1 Background

Dettah is located on the east side of Yellowknife Bay, southeast of Yellowknife (Figure 3.1-1). The community is a Yellowknives Dene settlement area (INAC 2010).

Dettah, which means 'Burnt Point', is situated in territory traditionally used for hunting by the Tlicho (Dogrib) Dene. Eventually, the Yellowknife Chipewyan began to hunt in the area. Dettah was a seasonal fish camp until Yellowknife was established as a gold mining centre. Dogrib people moved to the settlement from various camps on the east shore of Great Slave Lake as the site offered proximity to both wilderness resources and the city's developing services (Outcrop Ltd. 1990).

Dettah is accessible year-round by road. A 27 km all-weather road connects to Yellowknife year-round; during winter, Dettah is accessible from Yellowknife by a 6 km winter road across Yellowknife Bay. The community is also accessible by private boat during the summer months.

According to Statistics Canada, Dettah is considered a "settlement" under the census subdivision type, and the Aboriginal population is considered to be 'on-reserve' a Yellowknives Dene settlement area (Statistics Canada 2007).

3.2.2 Population

The majority of the Dettah population are Yellowknives Dene. The historic and projected population numbers for Dettah are provided in Figure 3.2-1. The population of Dettah increased from 194 to 257 between 1996 and 2009, indicating an average annual growth rate of 2.2 since 1996 (NWT Bureau of Statistics 2010). The population is projected to increase to 261 by 2024.



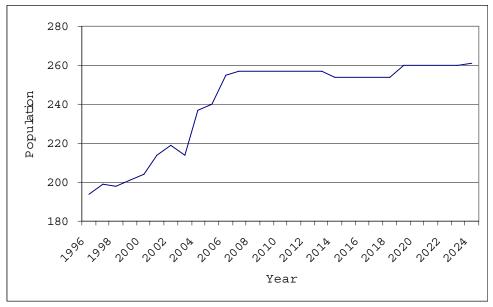


Figure 3.2-1
Dettah Historic and Projected Population, 1996 - 2024

From 1998 to 2007, there were 0 to 4 births each year, with an average of 1.7 births per year over the ten year period. The number of teen births has ranged from 0 to 2, with an average of 0.5 teen births per year. The annual number of deaths ranges between 0 and 1 from 1998 to 2007.

The population of Dettah by age and gender are described in Figure 3.2-2 and Table 3.2-1, respectively. The age groups are relatively evenly distributed, with 30% of the population aged 15 and younger, 38% of the population aged 15 to 44, and 32% of the population aged 45 and older. There are a slightly greater number of females than males in the community (Table 3.2-1).



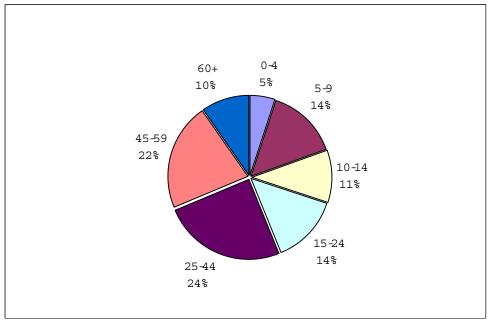


Figure 3.2-2
Dettah Population by Age Group, 2009

TABLE 3.2-1: DETTAH POPULATION BY GENDER, 2009				
Gender	Population	Percent		
Male	128	49.8%		
Female	129	50.2%		

Source: NWT Bureau of Statistics (2010)

3.2.3 Employment

The community of Dettah employment data are provided in Figure 3.2-3. In 2009, 182 residents were aged 15 years and older. Employment data indicate that 89 residents were employed, 35 residents were unemployed, and 58 residents were not in the labour force. Of the 124 residents in the labour force, this translates into a participation rate of 68.1% and an unemployment rate of 28.2% (NWT Bureau of Statistics 2010). Since 1986 the unemployment and employment rates have varied between recorded intervals. This could be the result of sporadic work opportunities in the area. The overall trend since 1986 is increased employment and decreased unemployment.

In 2009, the potential available labour supply was 46 people. Of these people, 41.3%, or approximately 19 people, were available to work rotation while 80.4% had less than a high school diploma (NWT Bureau of Statistics 2010).



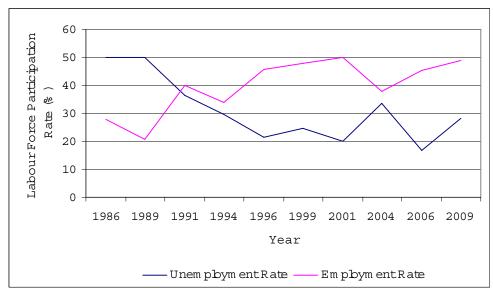


Figure 3.2-3
Dettah Employment and Unemployment Rates, 1986 – 2009

3.2.4 Education

The percent of Dettah residents achieving a high school diploma has increased since 1986 (Figure 3.2-4). In 1986, 5.3% of the population had completed high school, compared to 31.9% in 2009. There was a considerable increase in the percentage of the population that had a high school diploma or more between 1989 (12.9%) and 1991 (35.0%), but has since declined to 31.9% in 2009. Data for specific educational levels, such as trades, technical, and university certificates and diplomas were unavailable.

In 2009, the employment rate (i.e., the percentage of persons aged 15 years or older who were working at a job) of those with a high school diploma or greater was 72.9%. Whereas, the employment rate of those with less than a high school diploma was 37.1% (NWT Bureau of Statistics 2010).



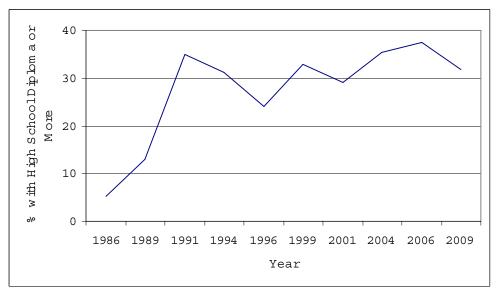


Figure 3.2-4
Dettah Educational Level, 1986 - 2009

3.2.5 Traditional Activities

Dettah residents' level of involvement in traditional activities has been changing over time, depending on the type of activity (Figure 3.2-5). Residents' involvement in hunting/fishing and trapping has generally increased since 1988, but has decreased from their respective peaks in 1998 and 2003. In 2008, approximately 22.5% of residents produced arts and crafts while 70.0% of households consumed country foods (half or more) (NWT Bureau of Statistics 2010).



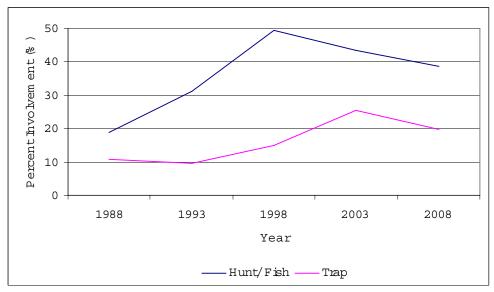


Figure 3.2-5
Dettah Participation in Traditional Activities, 1988 - 2008

3.2.6 Language

The percentage of Dettah's Aboriginal population that speaks an Aboriginal language is declining. Tlicho (Dogrib) is the traditional language spoken in the community. In 1984, 94.6% of the Aboriginal population could speak an Aboriginal language, this has since decreased to 59.9% in 2009 (NWT Bureau of Statistics 2010).

3.2.7 Community Services

Community services in Dettah are offered through the Yellowknife Health and Social Services Authority, the Stanton Territorial Health Authority, and the Yellowknives Dene First Nation. Services include a health station and a community centre.

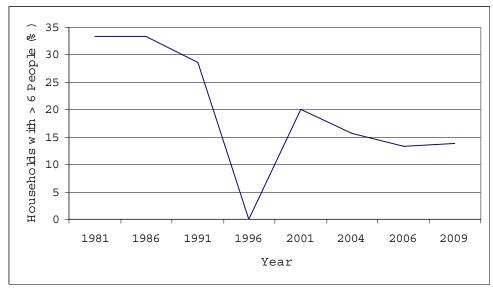
Dettah's Kaw Tay Whee School offers education services from kindergarten to grade 6, as well as preschool and adult education. After grade 6, students are bussed to schools in Yellowknife. The school is operated by the Yellowknife Education District No. 1, with support from the Dettah District Education Authority.

There are few goods and services offered in Dettah, likely due to its relatively close proximity to Yellowknife and N'Dilo. There are no commercial services (i.e., overnight accommodations, restaurants, or stores) currently available in Dettah.



3.2.8 Housing

In 2009, there were 80 houses in the community, 51.3% of which are owned. The percentage of households with more than six people has declined considerably since 1981 (Figure 3.2-6). In 1981, 33.3% of households had more than six people living in the household. In 1996, there was a sudden, unexplained, decline in the percentage of households with more than six people to 0% (or too small to be expressed), but this increased to 20.0% by 2001. By 2009, this percentage had declined to 13.8% (NWT Bureau of Statistics 2010).



Source: NWT Bureau of Statistics (2010)

Figure 3.2-6
Dettah Households with More Than Six People, 1981 - 2009

3.2.9 Crime

Crime data are not available specifically for Dettah. The Yellowknife detachment of the RCMP is responsible for policing the community of Dettah. It is likely that crime data are combined with data reported for Yellowknife.

3.2.10 Income

Income statistics, such as average personal income or average family income, are not reported for Dettah (NWT Bureau of Statistics 2010).



3.3 BEHCHOKO (RAE / EDZO)

3.3.1 Background

The hamlet of Behchoko is comprised of the communities of Rae and Edzo. Rae is located on a rocky peninsula on the southeast shore of Marion Lake (Figure 3.1-1). Edzo is located on the east shore of the West Channel, which flows between Marion and the North Arm of Great Slave Lake. Behchoko is located close to the north arm of Great Slave Lake, approximately 100 km northwest of Yellowknife.

Behchoko is the largest Dene community in the Northwest Territories. The Tlicho (Dogrib) people have lived in the Rae area for centuries (Outcrop Ltd. 1990). In 1790 a trading post was established in the area. John Rae, for whom Rae was first named, opened a Hudson Bay Company post in 1852 at Old Fort Rae, approximately 8 km from the present site. By 1890, 600 people had settled in this area. In the 1940s, permanent housing was built and medical services were provided from Yellowknife. Electricity came in 1959 and an access road to the highway was built the following year. Development of Edzo, now known as Behchoko, started in 1965 with the construction of a new school and new sanitation facilities (Legislative Assembly of the Northwest Territories ND).

Behchoko is accessible year-round by road. Behchoko connects with other communities along NWT Highway 3, and during winter, with Gameti, and Whati using winter roads (Spectacular NWT 2009). The community is also accessible by private boat during the summer months.

3.3.2 Population

The majority of the Behchoko population are Tlicho (Dogrib) Dene. The historic and projected population numbers are provided in Figure 3.3-1. The population of Behchoko increased from 1,764 to 2,026 between 1996 and 2009, indicating an average annual growth rate of 1.1 since 1996. The population is projected to increase to 2,112 by 2024 (NWT Bureau of Statistics 2010).



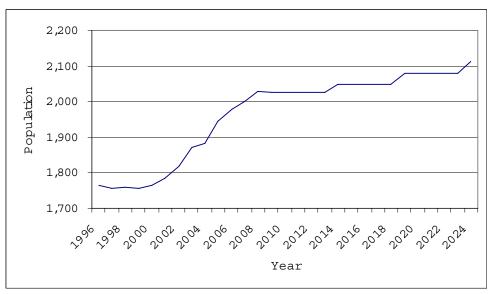


Figure 3.3-1
Behchoko Historic and Projected Population, 1996 - 2024

From 1998 to 2007, there were between 34 and 55 births each year, with an average of 45.6 births over the ten year period. The number of teen births ranged between 3 and 12 from 1998 to 2007, with an average of 7.1 teen births each year. The annual number of deaths fluctuated between 4 and 11 deaths per year between 1998 and 2007.

The population by age and gender are described in Figure 3.3-2 and Table 3.3-1, respectively. The data indicate a relatively young population with 81% of the population aged 44 or younger. There are a greater number of males than females in Behchoko.



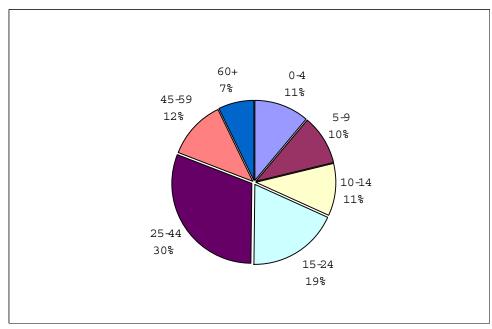


Figure 3.3-2 Behchoko Population by Age Group, 2009

TABLE 3.3-1: BEHCHOKO POPULATION BY GENDER, 2009				
Gender	Population	Percent		
Male	1,069	52.8%		
Female	957	47.2%		

Source: NWT Bureau of Statistics (2010)

3.3.3 Employment

Behchoko employment data are provided in Figure 3.3-3. In 2009, 1,374 residents were aged 15 years and older. The employment data indicate that 515 residents were employed, 151 residents were unemployed, and 708 residents were not in the labour force. Of the 666 residents in the labour force, this translates into a participation rate of 48.5% and an unemployment rate of 22.7% (NWT Bureau of Statistics 2010). Since 1986 the unemployment and employment rates have varied considerably between recorded intervals, particularly between 1999 and 2001, where employment increased and unemployment decreased. This could be the result of sporadic work opportunities in the area.

In 2009, the potential available labour supply was 507 people. Of these people, 77.3% were available to work rotation while 75.5% had less than a high school diploma. (NWT Bureau of Statistics 2010).



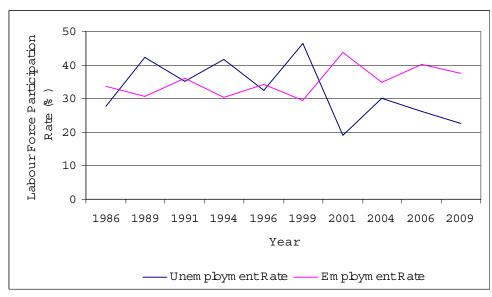


Figure 3.3-3
Behchoko Employment and Unemployment Rates, 1986 – 2009

3.3.4 Education

The percent of Behchoko residents achieving a high school diploma has generally increased since 1986 (Figure 3.3-4). In 1986, 22.5% of the population had completed high school, compared to 33.9% in 2009. There was a considerable increase in the percentage of the population that had a high school diploma or more between 1991 (23.1%) and 1994 (40.7%); this was followed by a sudden decline between 1994 and 1996 (29.8%). Data for specific educational levels, such as trade, technical, and university certificates and diplomas were unavailable.

In 2009, the employment rate (i.e., the percentage of persons aged 15 years or older who were working at a job) of those with a high school diploma or greater was 64.6%. Whereas, the employment rate of those with less than a high school diploma was 23.2% (NWT Bureau of Statistics 2010).



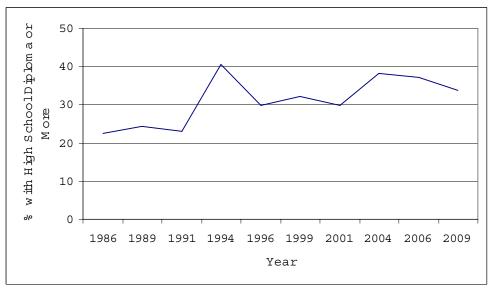


Figure 3.3-4 Behchoko Educational Level, 1986 - 2009

3.3.5 Traditional Activities

Behchoko residents' level of involvement in traditional activities has been changing over time, depending on the type of activity (Figure 3.3-5). Residents' involvement in hunting and fishing has increased since 1988, while the level of involvement in trapping declined after 1988, but has since increased. Approximately 12.7% of resident produce arts and crafts while 73.2% of residents consume country foods (half or more) (NWT Bureau of Statistics 2010).



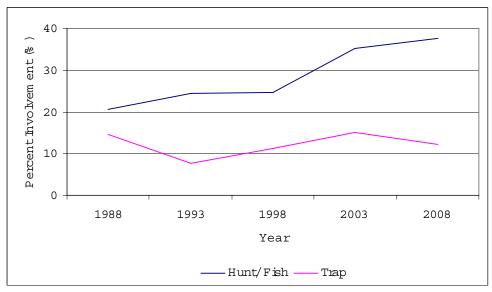


Figure 3.3-5
Behchoko Participation in Traditional Activities, 1988 - 2008

3.3.6 Language

The percentage of Behchoko's Aboriginal population that speaks an Aboriginal language is slowly declining. Tlicho (Dogrib) is the traditional language spoken in the community. In 1984, 95.0% of the Aboriginal population could speak an Aboriginal language, this increased to 97.9% in 1999, but this rate subsequently declined to 89.1% in 2009 (NWT Bureau of Statistics 2010).

3.3.7 Community Services

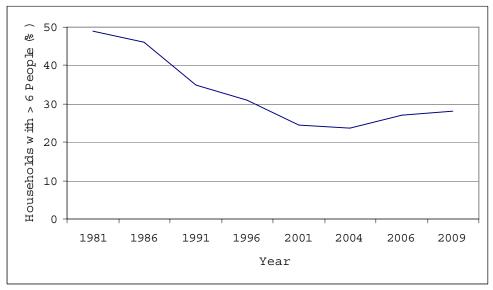
Community Services in Behchoko are offered through the Tlicho Community Services Agency. Services include the Marie Adele Bishop Health Centre/ Residence, Jimmy Erasmus Centre for personal care, Behchoko Social Services, and Chief Jimmy Bruneau Regional High School (NWT Health and Social Services 2009a; Tlicho Government 2009b). The community houses the central offices for the Tlicho Government and the Tlicho Community Services Agency and Tlicho Investment Corporation (Tlicho Government 2009b).

Other services offered in the community include a bed and breakfast, restaurant, service station, and general store (Northwest Territories Tourism ND). Municipal services include water and sewer, recreation, and public works (Tlicho Government 2009b).



3.3.8 Housing

In 2009, there were 467 houses in Behchoko, 53.7% or approximately 251 houses, which are owned. The percentage of households with more than six people has declined considerably since 1981 (Figure 3.3-6). In 1981, 48.9% of households had more than six people living in the household compared to 28.1% in 2009 (NWT Bureau of Statistics, 2010).



Source: NWT Bureau of Statistics (2010)

Figure 3.3-6
Behchoko Households with More Than Six People, 1981 - 2009

3.3.9 Crime

The Rae (Behchoko) RCMP detachment reports on crime statistics. Crime levels have generally increased since 1999, with noticeable increases in crimes between 2005 and 2008 (Figure 3.3-7). Similar trends occurred with the violent crime rate and property crime rate per 1,000 persons (Figure 3.3-8).



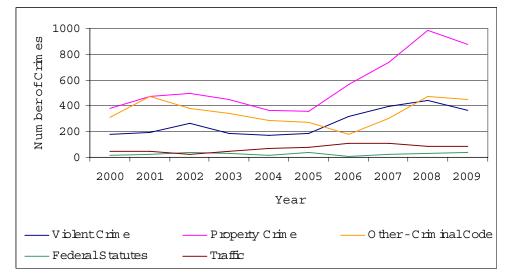
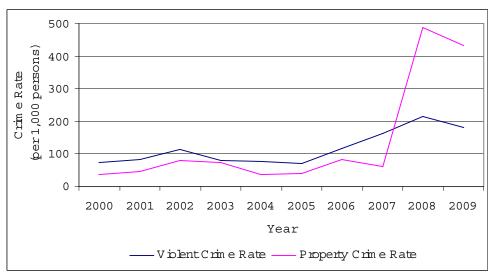


Figure 3.3-7 Behchoko Crimes, 2000 - 2009



Source: NWT Bureau of Statistics (2010)

Figure 3.3-8
Behchoko Violent Crime and Property Crime Rates, 2000 - 2009

3.3.10 Income

The average personal income for residents of Behchoko has generally increased since 1998 (Figure 3.3-9). Average personal income in 1998 was \$20,188 and has increased to \$36,043 in 2009.



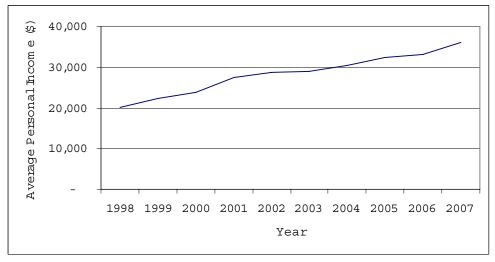
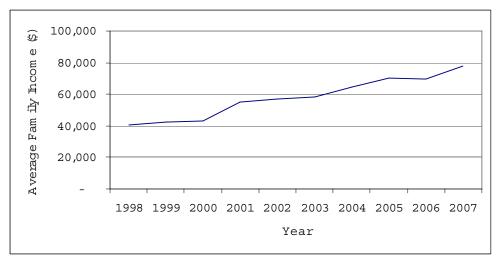


Figure 3.3-9
Behchoko Average Personal Income, 1998 – 2007

Similarly, the average family income has generally increased since 1998 (Figure 3.3-10). In 1998, the average family income was \$40,252; this had nearly doubled to \$77,936 by 2007.



Source: NWT Bureau of Statistics (2010)

Figure 3.3-10
Behchoko Average Family Income, 1998 - 2007

3.4 GAMETI (RAE LAKES)

3.4.1 Background

The community of Gameti (formerly Rae Lakes) is a traditional Tlicho community about halfway between Great Bear and Great Slave lakes on the chain of waterways connecting



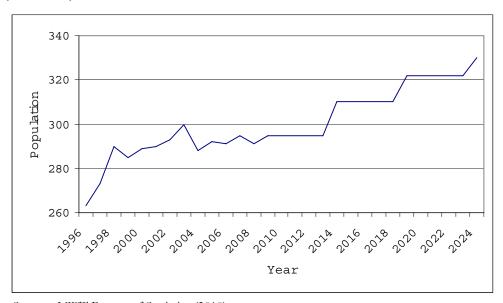
these two huge waterbodies (Figure 3.1-1). Gameti is located approximately 225 km (by air) from Yellowknife.

The community is located in a traditional hunting area of the Tlicho (Dogrib) and Sahtu Dene (Tlicho Government, 2009a), and was used as an outpost hunting camp for many Tlicho Dene, especially of the Rae area. In the 1970s, the community began to develop permanent infrastructure, such as an airstrip, school, store and log houses, for residents to settle there (Outcrop Ltd. 1990; Tlicho Government, 2009a). Today the economy is based on domestic fishing, hunting and trapping (Legislative Assembly of the Northwest Territories ND).

Gameti is accessible year-round on scheduled flights from Yellowknife or by a 100 km temporary winter ice road (January to March) from Behchoko (Spectacular NWT 2009).

3.4.2 Population

The population of Gameti is predominantly Tlicho (Dogrib) Dene. The historic and projected population numbers are provided in Figure 3.4-1. The population of Gameti increased from 263 to 295 between 1996 and 2009, indicating an average annual growth rate of 0.9 since 1996 (NWT Bureau of Statistics 2010). The population is projected to increase slightly to 330 by 2024.



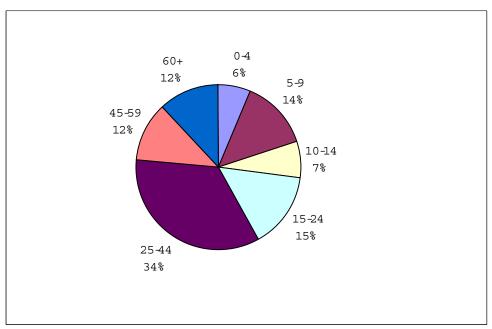
Source: NWT Bureau of Statistics (2010)

Figure 3.4-1
Gameti Historic and Projected Population, 1996 - 2024

From 1998 to 2007, the number of births ranged from 1 to 11 each year, with an average of 5.4 births per year. The number of teen births ranged between 0 and 2 between 1998 and 2007, with an average of 0.5 teen births per year. The number of deaths each year ranged between 0 and 4 between 1998 and 2007.



The population by age and gender are described in Figure 3.4-2 and Table 3.4-1. Data indicate a relatively young population with 76% of the population aged 44 or younger. There are a greater number of males than females.



Source: NWT Bureau of Statistics (2010)

Figure 3.4-2
Gameti Population by Age Group, 2009

TABLE 3.4-1: GAMETI POPULATION BY GENDER, 2009				
Gender	Population	Percent		
Male	153	51.8%		
Female	142	48.2%		

Source: NWT Bureau of Statistics (2010)

3.4.3 Employment

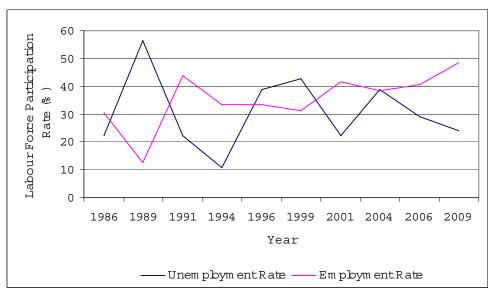
The community of Gameti employment data are provided in Figure 3.4-3. In 2009, 214 residents were aged 15 years and older. The employment data indicate that 104 residents were employed, 33 residents were unemployed, and 77 residents were not in the labour force¹⁰. Of the 137 residents in the labour force, this translates into a participation rate of 64.0% and an unemployment rate of 24.1%. Since 1986 the

¹⁰ The NWT Bureau of Statistics do not provide an explanation for the discrepancy in the data provided (i.e., the number of unemployed, employed and not participating in the labour force do not equal the number of residents over the age of 15).



unemployment and employment rates have varied considerably between recorded intervals, in particular, the employment rate has increased by 8.1% between 2006 and 2009.

In 2009, the potential available labour supply was 53 people. Of these people, 64.2% were available to work rotation while 83.0% had less than a high school diploma.



Source: NWT Bureau of Statistics (2010)

Figure 3.4-3
Gameti Employment and Unemployment Rates, 1986 – 2009

3.4.4 Education

The percent of Gameti residents achieving a high school diploma increased considerably since 1986. In 1986, 4.3% of the population had achieved a high school diploma compared to 32.2% in 2009. In particular, between 1989 and 1991 there was a significant increase from 2.2% to 40.6% (Figure 3.4-4). Data for specific educational levels, such as trades, technical, and university certificates and diplomas were unavailable.

In 2009, the employment rate (i.e., the percentage of persons aged 15 years or older who were working at a job) of those with a high school diploma or greater was 80.0%. Whereas, the employment rate of those with less than a high school diploma was 33.6% (NWT Bureau of Statistics 2010).



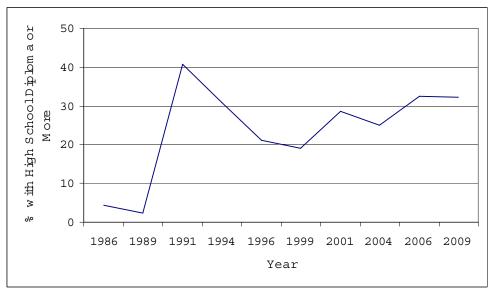


Figure 3.4-4
Gameti Educational Levels, 1986 – 2009

3.4.5 Traditional Activities

Gameti residents' level of involvement in traditional activities has been changing over time, depending on the type of activity (Figure 3.4-5). Although the involvement in hunting and fishing has increased since 1988, it has diminished from 42.9% in 1998 to 27.9% in 2008. The level of involvement in trapping has decreased over time, from 34.3% in 1988 to 14.0% in 2008. Approximately 24.3% of residents produce arts and crafts, while 73.2% of residents consume country foods (half or more) (NWT Bureau of Statistics 2010).



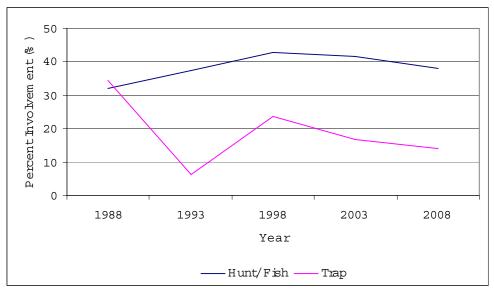


Figure 3.4-5
Gameti Participation in Traditional Activities, 1988 – 2008

3.4.6 Language

Gameti's population is generally maintaining their ability to speak an Aboriginal language. Tlicho (Dogrib) is the traditional language spoken in the community. The percentage of Aboriginal residents speaking Tlicho (Dogrib) has reduced over the years from 100.0% in 1989 to 93.3% in 2009 (NWT Bureau of Statistics 2010).

3.4.7 Community Services

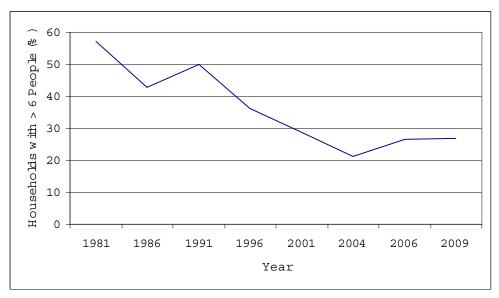
Community services are offered in the community by the Tlicho Community Services Agency. Facilities include the Gameti Health Centre/ Residence and the Gameti Social Services (NWT Health and Social Services 2009a). Social workers from Whati and Behchokö regularly provide services to the community (Tlicho Government 2009a).

Gamèti also has a community store, hotel and restaurant, church, fire station, and a four classroom school (Northwest Territories Tourism NDa; Tlicho Government 2009a). The community has municipal water and sewer, recreation, and public works (Tlicho Government 2009a).



3.4.8 Housing

In 2009, there were 71 houses in the community, 66.2% of which are owned. The percentage of households with more than six people has declined by more than half since 1981 (Figure 3.4-6). In 1981, 57.1% of households had more than six people living in the household; by 2009, this percentage had declined to 26.8%.



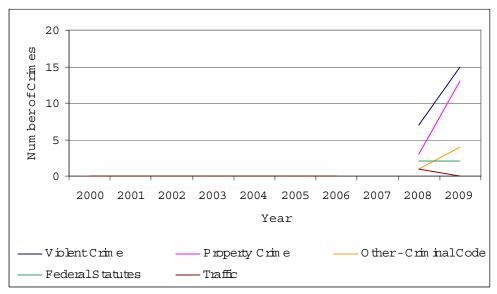
Source: NWT Bureau of Statistics (2010)

Figure 3.4-6
Gameti Households with More Than Six People, 1981 - 2009



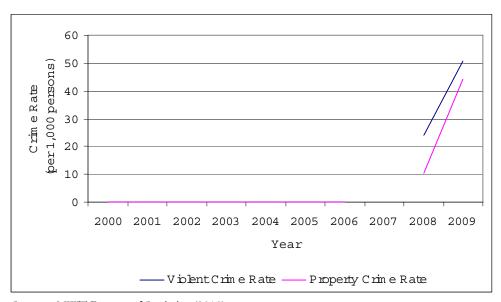
3.4.9 Crime

Crime statistics have been reported in Gameti since 2008. Crime levels have generally increased between 2008 and 2009, with noticeable increases in violent crime and property crime (Figure 3.4-7). Similar trends occurred with the violent crime rate and property crime rate per 1,000 persons (Figure 3.4-8).



Source: NWT Bureau of Statistics (2010)

Figure 3.4-7 Gameti Crimes, 2000 - 2009



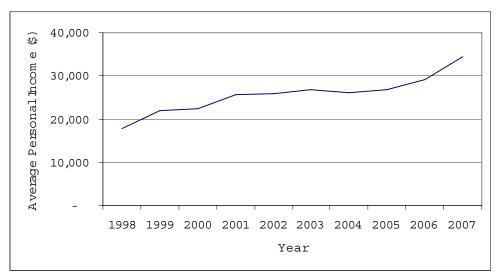
Source: NWT Bureau of Statistics (2010)

Figure 3.4-8
Gameti Violent Crime and Property Crime Rates, 2000 - 2009



3.4.10 Income

The average personal income for residents of Gameti has generally increased since 1998 (Figure 3.4-9). Average income in 1998 was \$17,713, which nearly doubled in 2007 to \$34,412.



Source: NWT Bureau of Statistics (2010)

Figure 3.4-9
Gameti Average Personal Income, 1998 – 2007

Similarly, the average family income has generally increased since 1998 (Figure 3.4-10). In 1998, the average family income was \$35,033; this had more than doubled to \$74,714 by 2007.



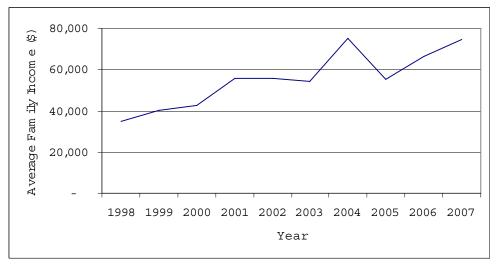


Figure 3.4-10
Gameti Average Family Income, 1998 - 2007

3.5 WEKWEETI

3.5.1 Background

Wekweeti (formerly known as Snare Lake), is located adjacent to the Snare River (Figure 3.1-1).

Wekweeti has traditionally been part of the Tlicho (Dogrib) Dene hunting territory used for centuries. It was considered an outpost hunting camp until the 1960s. Members of the Rae Band moved there in the 1960s in order to preserve their traditional lifestyle and values and to set up a permanent community (Outcrop Ltd. 1990; Tlicho Government 2009c).

Wekweeti is accessible year-round by scheduled flights to Yellowknife and by a temporary winter ice road (January to March) (Tlicho Government 2009c).

3.5.2 Population

The majority of the Wekweeti population are Tlicho (Dogrib). The historic and projected population numbers for Wekweeti are provided in Figure 3.5-1. The population of Wekweeti decreased from 146 to 137 between 1996 and 2009, indicating an average annual growth rate of -0.5 since 1996 (NWT Bureau of Statistics 2010). The population is projected to increase to 151 by 2024.



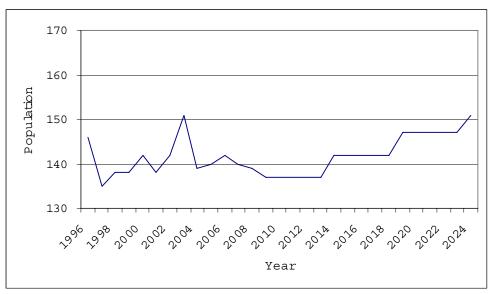


Figure 3.5-1
Wekweeti Historic and Projected Population, 1996 - 2024

During the period 1998 to 2007, there were 1 to 4 births each year, with an average of 2.7 births per year. The number of teen births generally ranged between 0 and 2 from 1998 to 2007, with an average of 0.7 teen births per year. The annual number of deaths ranged between 0 and 3 deaths from 1998 to 2007.

The population by age and gender are described in Figure 3.5-2 and Table 3.5-1, respectively. Data have been suppressed by NWT Bureau of Statistics (2010) for the age groups 60 years and older¹¹. Data indicate that Wekweeti has a relatively young population with 79% of residents aged 44 or younger. There are a greater number of females than males in the community of Wekweeti.

¹¹ The number of residents aged 60 years and older was calculated by subtracting the number of people in other age groups from the total population.



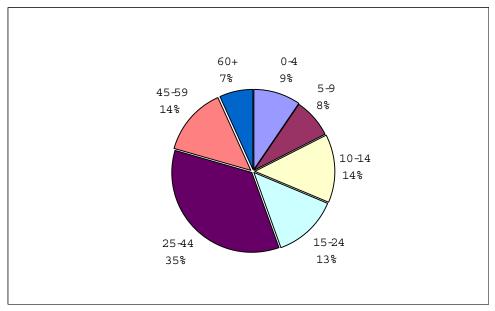


Figure 3.5-2 Wekweeti Population by Age Group, 2009

TABLE 3.5-1: WEKWEETI POPULA	TABLE 3.5-1: WEKWEETI POPULATION BY GENDER, 2009				
Gender	Population	Percent			
Male	67	48.9%			
Female	70	51.1%			

Source: NWT Bureau of Statistics (2010)

3.5.3 Employment

The community of Wekweeti employment data are provided in Figure 3.5-3. In 2009, 81 residents were aged 15 years and older. Employment data indicates that 47 residents were employed, 8 residents were unemployed, and 26 residents were not in the labour force. Of the 55 residents in the labour force, this translates into a participation rate of 67.9% and an unemployment rate of 14.5%. Since 1986 the unemployment and employment rates have varied considerably between recorded intervals, but unemployment rates are generally declining while employment rates are generally increasing.

In 2009, the potential available labour supply was 20 people. Of these people, 55.0% were available to work rotation while 60.0% had less than a high school diploma.



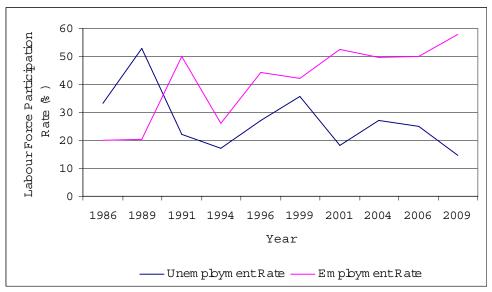


Figure 3.5-3
Wekweeti Employment and Unemployment Rates, 1986 – 2009

3.5.4 Education

The percent of Wekweeti residents achieving a high school diploma has more than tripled since 1986 (Figure 3.5-4). In 1986, 13.3% of the population completed high school; this declined considerably by 1989 to 3.8%, but subsequently rose to 42.0% by 2009. Data for specific educational levels, such as trade, technical, and university certificates and diplomas were unavailable.

In 2009, the employment rate (i.e., the percentage of persons aged 15 years or older who were working at a job) of those with a high school diploma or greater was 64.7%. Whereas, the employment rate of those with less than a high school diploma was 53.2% (NWT Bureau of Statistics 2010).



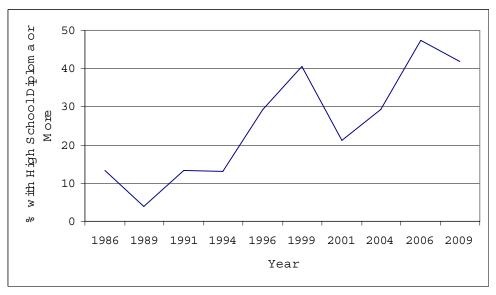


Figure 3.5-4
Wekweeti Educational Level, 1986 - 2009

3.5.5 Traditional Activities

The level of involvement of Wekweeti residents in traditional activities has been changing over time, depending on the type of activity (Figure 3.5-5). Residents' involvement in hunting and fishing has fluctuated considerably, from a low of 32.6% in 1993 to a high of 71.2% in 1998. As of 2008, 55.6% of residents were involved in hunting and fishing. The level of involvement in trapping declined after 1988 from a high of 35.1% to a low of 12.0% in 1993, but as of 2008, 22.2% of the population was involved in trapping Approximately 18.5% of the residents produced arts and crafts and 65.7% of residents consumed country foods (half or more) in 2008 (NWT Bureau of Statistics 2010).



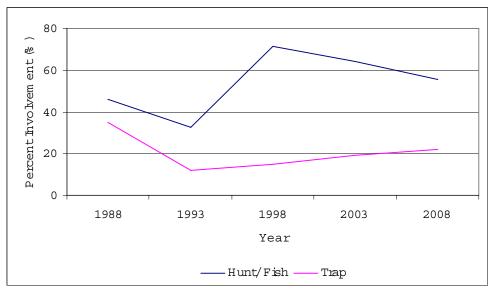


Figure 3.5-5
Wekweeti Participation in Traditional Activities, 1988 - 2008

3.5.6 Language

The percentage of Wekweeti's Aboriginal population that speaks an Aboriginal language is slowly declining. Tlicho (Dogrib) is the traditional language spoken in the community. In 1984, 100.0% of the Aboriginal population could speak an Aboriginal language, this rate subsequently declined to 93.6% in 2009 (NWT Bureau of Statistics 2010).

3.5.7 Community Services

Community services are provided through the Tlicho Community Services Agency. These services include a community wellness centre and social services (NWT Health and Social Services 2009a). The community also has a church, hotel, restaurant and general store (Northwest Territories Tourism NDb). Municipal services include water and sewer, recreation, and public works (Tlicho Government 2009c).

3.5.8 Housing

In 2009, there were 35 houses in the community, 65.7% of which are owned. Data regarding the percentage of households with more than six people have been collected since 2004. In 2004, 27.8% of households had more than six people, compared with 22.9% in 2009 (Figure 3.5-6; NWT Bureau of Statistics 2010).



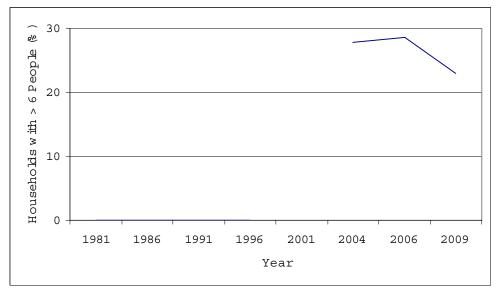


Figure 3.5-6
Wekweeti Households with More Than Six People, 1981 - 2009

3.5.9 Crime

Crime data are not available for Wekweeti (NWT Bureau of Statistics 2010); the RCMP does not have a detachment in the community (RCMP 2009).

3.5.10 Income

Income statistics, such as average personal income or average family income, are not reported for Wekweeti (NWT Bureau of Statistics 2010).

3.6 WHATI

3.6.1 Background

Whati (previously known as Lac La Martre) is located near Lac La Martre, approximately 150 km northwest of Yellowknife (Figure 3.1-1).

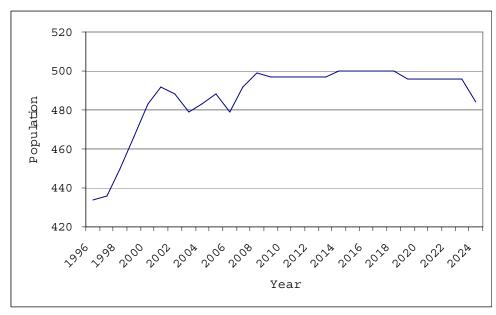
With rich and varied wildlife, the area has long been a favoured hunting ground of the Tlicho (Dogrib) Dene. Whati is an area rich in wildlife and is a traditional hunting area of the Tlicho people. The Northwest Company set up a permanent post in the area in 1793 although most of the trade occurred at the larger posts at Rae and Wrigley. In 1955 a federal school opened. Today the Tlicho maintain a traditional lifestyle and economy based almost solely on trapping, fishing and hunting (Legislative Assembly of the Northwest Territories ND).

Whati is accessible by scheduled flights from Yellowknife or by temporary winter ice road from Behchoko.



3.6.2 Population

The majority of the Whati population are Tlicho (Dogrib). The historic and projected population numbers are provided in Figure 3.6-1. The population of Whati increased from 434 to 497 between 1996 and 2009, indicating an average annual growth rate of 1.0 since 1996 (NWT Bureau of Statistics 2010). The population is projected to increase to 500 by 2014 then decrease to 484 by 2024.



Source: NWT Bureau of Statistics (2010)

Figure 3.6-1
Whati Historic and Projected Population, 1996 - 2024

From 1998 to 2007, there were between 7 and 16 births each year, with an average of 10.6 births each year over the ten year period. The number of teen births ranged between 0 and 4 from 1998 to 2007, with an average of 2.3 teen births per year. The annual number of deaths range between 0 and 4 each year between 1998 and 2007.

The population by age and gender are described in Figure 3.6-2 and Table 3.6-1, respectively. Data indicate that Whati has a relatively young population with 78% of residents aged 44 or younger. There are a greater number of males than females in the community of Whati.



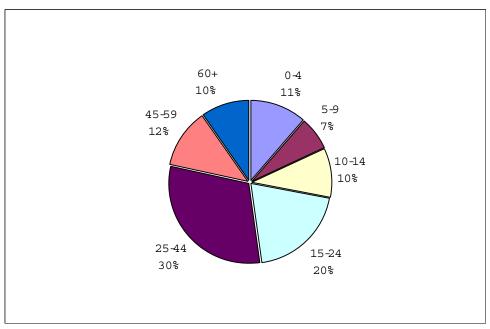


Figure 3.6-2
Whati Population by Age Group, 2009

TABLE 3.6-1: WHATI POPULATION BY GENDER, 2009				
Gender	Population	Percent		
Male	271	54.5%		
Female	226	45.5%		

Source: NWT Bureau of Statistics (2010)

3.6.3 Employment

Community employment data is provided in Figure 3.6-3. In 2009, 360 residents were aged 15 years and older. Employment data indicate that 156 residents were employed, 58 residents were unemployed, and 146 residents were not in the labour force. Of the 214 residents in the labour force, this translates into a participation rate of 59.4% and an unemployment rate of 27.1%. Since 1986 the unemployment and employment rates have varied considerably between recorded intervals but are becoming less varied over time. In general, unemployment rates have been generally declining while employment rates have been generally increasing.

In 2009, the potential available labour supply was 85 people. Of these people, 58.8% were available to work rotation while 60.0% had less than a high school diploma.



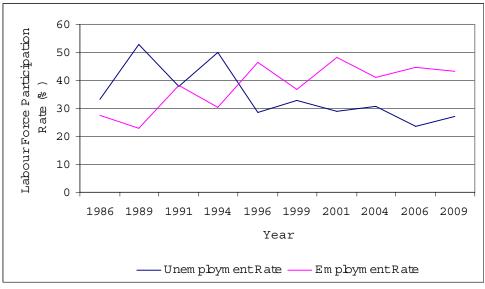


Figure 3.6-3
Whati Employment and Unemployment Rates, 1986 – 2009

3.6.4 Education

The percent of residents achieving a high school diploma has more than doubled since 1986 (Figure 3.6-4). In 1986, 14.6% of the population completed high school, compared to 33.6% in 2009. Data for specific educational levels, such as trades, technical, and university certificates and diplomas were unavailable.

In 2009, the employment rate (i.e., the percentage of persons aged 15 years or older who were working at a job) of those with a high school diploma or greater was 58.7%. Whereas, the employment rate of those with less than a high school diploma was 34.1% (NWT Bureau of Statistics 2010).



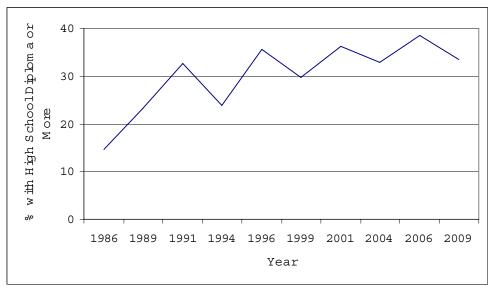


Figure 3.6-4 Whati Educational Level, 1986 - 2009

3.6.5 Traditional Activities

The level of Whati residents in traditional activities has been changing over time, depending on the type of activity (Figure 3.6-5). Residents' involvement in hunting and fishing has fluctuated considerably between 1988 and 2008. In 1988, 47.2% of the population hunted and fished, then peaked in 1998 at 66.0%, but has since decreased to 47.2% in 2008 (the same level as in 1988). The level of involvement in trapping declined considerably after 1988, but has since increased from 6.1% in 1993 to 14.7% in 2008. Approximately 17.5% of residents produced arts and crafts in 2008, while 78.0% of residents consumed country foods (half or more) (NWT Bureau of Statistics 2010).



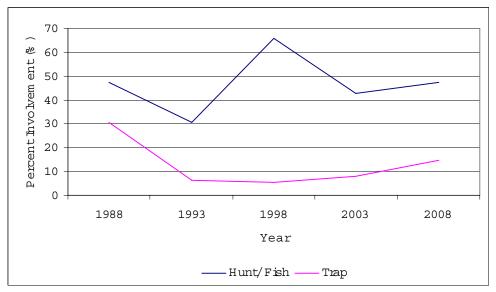


Figure 3.6-5
Whati Participation in Traditional Activities, 1988 - 2008

3.6.6 Language

The percentage of Whati's Aboriginal population that speaks an Aboriginal language is slowly declining. Tlicho (Dogrib) is the traditional language spoken in the community. In 1984, 99.3% of the Aboriginal population could speak an Aboriginal language. This rate subsequently declined to 92.8% in 2009 (NWT Bureau of Statistics 2010).

3.6.7 Community Services

Community services are offered through the Tlicho Community Services Agency. Services provided include a health centre/ residence, social services, and a school (NWT Health and Social Services 2009a). The community also has a church, RCMP detachment, grocery store, bed and breakfast, convenience store, and fuel services. Municipal services include water and sewer, recreation, and public works (Tlicho Government 2009d; Northwest Territories Tourism NDc).

3.6.8 Housing

In 2009, there were 118 houses in the community, of which 61.9% were owned. The percentage of households with more than six people has declined considerably since 1981 (Figure 3.6-6). In 1981, 57.1% of households had more than six people living in the household; this increased to 61.5% in 1991 but has since declined considerably to 26.3% in 2009 (NWT Bureau of Statistics 2010).



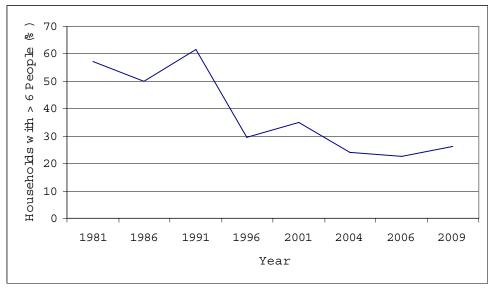
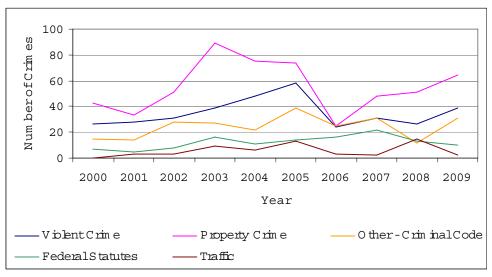


Figure 3.6-6
Whati Households with More Than Six People, 1981 - 2009

3.6.9 Crime

The Whati RCMP detachment reports on crime statistics. Crime levels have generally increased since 2000, with noticeable increases in crimes between 2003 and 2005, with a decline in 2006, and a subsequent increase between 2007 and 2009 (Figure 3.6-7). Similar trends occurred with the violent crime rate and property crime rate per 1,000 persons, but with a more pronounced increase between 2007 and 2009 for property crime rates (Figure 3.6-8).



Source: NWT Bureau of Statistics (2010)

Figure 3.6-7 Whati Crimes, 2000 – 2009

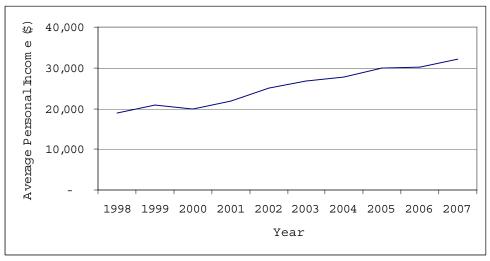




Figure 3.6-8
Whati Violent Crime and Property Crime Rates, 2000 - 2009

3.6.10 Income

The average personal income for residents of Whati has increased since 1998 (Figure 3.6-9). The average personal income in 1998 was \$18,800 and this average grew to \$32,033 by 2007.

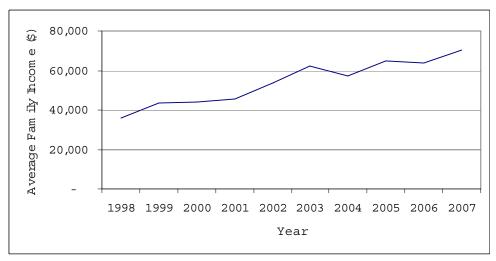


Source: NWT Bureau of Statistics (2010)

Figure 3.6-9
Whati Average Personal Income, 1998 – 2007



Similarly, the average family income has generally increased since 1998 (Figure 3.6-10). In 1998, the average family income was \$35,950, and this average grew to \$70,333 by 2007.



Source: NWT Bureau of Statistics (2010)

Figure 3.6-10 Whati Average Family Income, 1998 – 2007



3.7 HERITAGE RESOURCES

Archaeological investigations were conducted in 2004 and 2005 by Points West Heritage Consulting, on behalf of Tyhee NWT Corp.

The YGP study area for archaeological resources is defined as a 10 km² area around the Ormsby portal, and a 4 km² area around the Nicholas Lake portal, with a transportation corridor between the two (Figure 3.7-1). Available data from the Great Slave Lake region were also considered, to add context to the archaeological study results.

The YGP local study area encompasses all proposed ground disturbance such as: proposed borrow sources that may be outside the YGP study area, the existing winter road route between Prosperous Lake and the Historic Discovery Mine, and a buffer zone around the proposed mine and camp areas, within which, indirect effects may be possible (Figures 3.7-2a and b).

The 2004 archaeological field assessment were conducted on specific proposed development components identified on plans received in July 2004. The facilities that were examined to the level of inventory and impact assessments included:

- Two mine sites at Winter Lake and Nicholas Lake;
- Tailings area immediately surrounding Round Lake;
- Waste rock storage area west of Winter Lake;
- Part of a potential plant site on the northeast side of Winter Lake; and
- A possible borrow source on the southern end of an esker east of Winter Lake.

Preliminary archaeological assessments were conducted of:

- The full length of an esker along the southwest side of Giauque Lake, east of Winter Lake identified as a possible borrow source;
- General vicinity of a road between the historic Discovery deposit and the Nicholas Lake deposit; and
- Winter road to Prosperous Lake.



The 2005 archaeological assessments were conducted on specific proposed development components identified on plans received in June 2005 (Appendix G). These consisted of:

- proposed tailings containment area and associated facilities at Winter Lake;
- potential all weather road route to Nicholas Lake;
- existing winter road route from Yellowknife (Prosperous Lake);
- alternative processing plant locations northeast and northwest of Winter Lake;
- alternative camp site locations north and west of Winter Lake;
- preliminary assessment of a possible airstrip on an esker along the southwest side of Giauque Lake, east of Winter Lake.

The archaeological reports for 2004 and 2005 are provided in Appendix G. These reports outline the methodology used and the findings.

During background research, all accessible and available sources of data were consulted in order to establish a necessary interpretative base of knowledge. The literature review comprised a search of site data files for previously recorded archaeological sites held at the Prince of Wales Northern Heritage Centre in Yellowknife, examination of reports on previous archaeological studies within the region, consultation of ethnographic studies, historic accounts, explorers' descriptions, and traditional knowledge documents available for the region. Published documents were obtained from the Circumpolar Institute library at the University of Alberta as well as the University's own libraries. The information gained from these documents was then used to assist in planning field investigative strategies.

3.7.1 Human History in the Region

The Great Slave Lake region was historically utilized by members of three groups of Northeastern Athapaskan speakers. Early explorers and ethnographers identified these groups as the Chipewyan, the Dogrib Indians, and the Yellowknives or Copper Indians (Hearne 1911). All three groups occupied the forest-tundra eco-tone to varying degrees, and all were nomadic hunter-gatherers, focused primarily on hunting barren ground caribou (Smith 1981; Helm 1981; Gillespie 1981). Consequently, the seasonal round and lifestyles were generally similar.

The Yellowknives and Dogrib people were said to occupy the lands north and northwest of Great Slave Lake (Helm 1981). The Chipewyan people generally ranged east and southeast of Great Slave Lake (Smith 1981).

The Yellowknives and the Dogrib habitually frequented the vicinity of the study area with overlapping ranges. In general, survival for these aboriginal groups was largely dependent on the barren ground caribou. Consequently, their travels were governed by the movements of the caribou.

Fish also comprised an important component of the diet and were taken throughout the year, by nets in summer and ice fishing in winter. Large quantities of both caribou meat and



fish were dried throughout the summer and fall to provide winter provisions. There are virtually no references in historic documents to use of plant resources as food, with the exception of berries. Various trees and plants provided important components of the tool kits and undoubtedly were used for medicinal purposes.

Prior to arrival of European goods, aboriginal tool kits in the Great Slave region were constructed using readily available wood, bone, antler and, to a lesser degree, stone materials. They comprised implements necessary for exploiting and processing the region's natural resources, with particular emphasis on hunting. Spears and bows and arrows were made of combinations of wood and bone, and arrows were tipped with stone, copper, or bone. Hunting constructions such as deadfall traps, chutes and pounds were built of wood materials. Snares used for smaller animals and fish nets were made of sinew from animals and twine of roots, while fish hooks were usually bone or antler. Implements for processing meat were made largely of bone, with stone used for cutting edges. Birch bark, where available, was used for canoes and containers; snowshoes and toboggans were made of wood. Clothing was made of hides, with caribou providing the best quality hides in late summer and fall. Dwellings were generally tipis of wood poles and hide covers and had open hearths in the centres.

Early explorer, fur trader and adventurer documents recorded several travel routes used by local native people to move from Great Slave Lake to various points in the Barrenlands and boreal forest. Since the early explorers were guided by local inhabitants, those aboriginal routes were used during early explorations. One route followed along the Yellowknife River and a series of lakes to Pointe Lake and on to the Coppermine River. This is the closest travel route to the present study area, and it was taken by Sir John Franklin in his first expedition in 1820 (Franklin 1969), guided by a Yellowknife Indian (Akaitcho). Over the next several decades, fur traders and explorers continued to explore in the general Slave Lake area.

Several mines were opened in the Great Slave Lake region in the 1930s and 1940s. A number are of direct relevance to this study. Within the local study area, gold on Giauque Lake was found and staked in 1944. The Discovery Mine opened in 1949 and production continued until 1969. A sizeable townsite developed over the life of the mine. At the time these studies were conducted, virtually all the buildings were still standing; however, as of 2011, most structures have been removed by INAC's Contaminant and Remediation Directorate (CARD) program.

A number of other exploration and prospecting camps were scattered over the general region in the 1940s (Silke, personal communication, 2004). Those most relevant to this study occur along a band approximating the winter road route, with camps noted on Johnston Lake, Goodwin Lake, Morris Lake, Narrow Lake, Winter Lake and Giauque Lake (Silke 2004b). Of particular interest within the local study area is a camp located at the north end of Narrow Lake, identified as LaSalle Yellowknife Gold Mines Ltd. occupied in 1949-50 (ibid.).



3.7.2 Heritage Resource Expectations

Archaeological sites in the Great Slave Lake region can be expected to occur along travel routes and at resource gathering or hunting locations. The YGP local study area likely falls between main travel routes recorded historically and, therefore, may not have been heavily utilized. However, since this area is within the winter range of the Bathurst caribou herd, it is probable that people occasionally passed through the area. Although the LSA is hypothesized to contain relatively few archaeological sites, compared to adjacent areas, it is still possible that some sites are present. Archaeological sites in this area would most likely be found on elevated terrain features (for example, ridges, benches, bedrock outcrops) adjacent to water courses or water bodies. Such terrain features near good caribou crossing locations were of particular importance. Elevated landscape features were preferred for several reasons:

- 1. Drier camp locations than lower ground which is often muskeg in this area;
- 2. Good lookouts for game and people; and
- 3. In summer, better chance for wind to aid in reducing mosquitoes and black flies.

Since fishing was also an important subsistence activity in times of need, elevated terrain around the edges of lakes would offer some potential for sites. Eskers extending for some length were preferred travel routes for caribou and for people. Consequently, there is good potential for archaeological sites on such features.

Along the winter road route, the highest potential for archaeological sites can be expected to occur in the southern section along the Yellowknife drainage system; north of the point at which the route deviates from the Yellowknife River (above Clan and Johnston lakes), the potential for sites would be expected to gradually fall off, to be rated as moderate near and within the local study area.

From the ethnographic research, it is apparent that most implements used by past inhabitants of the study area were probably made of wood and bone with only a few stone components, due to the latter's lesser availability. Consequently, much of the tool kit would deteriorate relatively rapidly and only a few pieces of stone would survive over long periods of time. Since dwellings were reported to consist of wooden frames covered by caribou skins held down with rocks, physical remains would probably consist only of the circle of rocks. Hearths should be identifiable. In this area, sites would likely be small, since they would result from family groups searching for individual or small groups of caribou that would have dispersed in the forest.

Most early explorers recorded that burials were not used prior to the coming of missionaries. Bodies were traditionally left on the ground, often covered with skins, and certain goods were sometimes left near the body (Hearne 1911:323). Under those conditions, human remains would not survive long. Therefore, it is highly unlikely that burials predating the late 1800s would be found.

In summary, the main types of sites to be expected in this study area are small, short term hunting and fishing camps. These sites could date as old as 7,000 years ago. They would be



distributed on elevated terrain features near current or extinct water bodies. Such sites could contain stone circles, hearths, cut timber in the case of more recent sites, and stone tools and/or remains of their manufacture. Because people were probably typically traveling in small groups in the forest hunting occasional dispersed animals, sites within the forest fringe are unlikely to contain evidence of repeated or long term use or use by large groups. More recent sites dating to the mining period as well as traditional hunting can also be expected.

3.7.3 Discovery /Ormsby Area

Ground reconnaissance was completed at the following locations:

- The elevated bedrock ridge between the historic Discovery Mine site and extending to
 its southern extent in the vicinity of Narrow Lake. This passes over the current Ormsby
 portal.
- An approximate location for a waste rock dump west of the portal, as identified on the conceptual plan.
- The northwest shoreline of Winter Lake.
- The entire perimeter of Round Lake which may serve as the tailings pond.
- An approximate location for the proposed mill.
- An esker between Winter and Giauque lakes.

Historic mining remains are scattered across much of the local study area between the historic Discovery Mine site and the general vicinity of the Ormsby portal. There is also potential for aboriginal hunting camps in the area dating back approximately 50 years.

3.7.3.1 Winter Lake Tailings Containment Area

The proposed Winter Lake tailings containment area was surveyed by a combination of aerial overflight, shoreline viewing by boat and ground reconnaissance in 2005.

Heritage resources found in 2005 were hunting camps dating less than 50 years of age. Three camps were found on Winter Lake, appearing to date within the past 10 to 30 years. Two of the three camps are situated on the east side of the lake, while one camp is situated on the west side of the island in Winter Lake.

One additional camp was observed on Prosperous Lake, on the lake shore a short distance east of the road route. Miscellaneous structural remains and debris related to exploration, mining and gravel extraction were also encountered. These remains are all comparatively recent; therefore, no further work is recommended.

The proposed control structure (dam) location at the outlet of Winter Lake was visually assessed. The bedrock outcrops were examined and the remained is rated as low potential for heritage resources.

No cultural remains were uncovered; therefore, no further work is recommended at this site.



3.7.3.2 Alternative Processing Plant and Camp Facilities

Alternative processing plant and camp facilities locations were investigated north and east of Winter Lake in 2005.

No archaeological resources were observed during a ground reconnaissance survey of the elevated bedrock ridge between the camp and the mine, other than the scattered mining remains found on the bedrock ridge in 2004.

No cultural remains were observed in the area north of Winter Lake between the existing camp and the Ormsby portal. Archaeological potential is low as the area southeast of the ridge is generally characterized by low lying muskeg.

The alternative plant site east of Winter Lake was visually assessed by pedestrian traverses. The combination of distance from any terrain edge or water body and the irregularity of the ground resulted in a rating of low potential for heritage resources. The access road to this location from the existing main road was also judged low archaeological potential as the route crosses elevated irregular bedrock and then drops into periodically wet, black spruce muskeg.

A proposed ancillary facility southwest of the mine was also assessed. The location is low boggy ground with mostly spruce tree cover while the access route goes around an elevated bedrock outcrop to traverse generally low ground. Consequently, these facilities are situated in areas considered low archaeological potential.

3.7.3.3 Esker Airstrip

A preliminary field reconnaissance of a possible airstrip was conducted on an esker east of Winter Lake, extending south from the main body of Giauque Lake. A low and slow helicopter overflight was completed of the portion of the esker identified as a possible airstrip, as well as some shovel testing at the south end and visual observation of the remainder. No archaeological remains were observed. The southern end has moderate potential while the north end has low potential for archaeological remains.

3.7.4 Nicholas Lake Area

In 2004, ground reconnaissance and low level helicopter flights were conducted of the camp and portal area and along the elevated ridge along the north side of the lake. It was observed that there are few level areas of a size sufficient to permit setting up a camp, and the terrain is generally too irregular to be appealing as a preferred travel route.

Three prehistoric sites were recorded (Hanks 1989) three to five kilometres northwest of the Nicholas Camp. These were reported to be small, surface lithic scatters.

No remains of human activity (besides mining and prospecting) were observed.



3.7.5 Proposed Haul Road from Ormsby to Nicholas Lake

A low-level helicopter over-flight of the general corridor between the two exploration areas was completed in 2004; additional low-level helicopter overflight and ground reconnaissance was conducted in 2005. The potential for archaeological sites is considered relatively low, except near the lakes, where potential could be rated moderate. The bedrock ridge along the north side of Nicholas Lake would not be particularly appealing for human use, due to the height above water, the lack of resources, and difficulty of travel over the rough surface. Consequently, the archaeological potential of this particular landform is judged to be comparatively low.

The 2004 investigations confirmed that the potential for pre-contact archaeological resources in most of the YGP study area is low, based on terrain features, as well as a lack of archaeological remains in the areas examined. Exceptions to this general assessment are eskers and lake margins, where potential could be rated as moderate to high.

No cultural remains were found during the 2005 investigations. Much of the vicinity of the route assessed is typified by irregular, rocky bedrock surface with little sediment and vegetation cover. The terrain along the west side of Giauque Lake exhibits comparatively high, irregular bedrock; along Maguire Lake, terrain is more even but quite rocky. Bedrock outcrops again increase in height toward Eclipse and Nicholas lakes, the section south of Eclipse Lake to the Nicholas Lake camp is rugged, irregular bedrock with boulders. The potential for heritage resources along this particular route is judged to be generally low. Although the exact route was not definitely identifiable on the ground, there is really not much variation in this general corridor and as long as there are no major route alignment changes, it is unlikely that there will be a significant change in the archaeological assessment.

3.7.6 Existing Winter Road to Prosperous Lake

The winter road to Prosperous Lake (the junction with Highway 4 (Ingraham Trail)) was flown by low and slow helicopter to assess archaeological potential and to identify sections with sufficient potential to require ground level assessment in 2005.

Since this is a winter road, the majority of the route is over water with only short portages between lakes. The overflight revealed that the land based portions of the winter road generally traverse low lying, often waterlogged ground between swamps, ponds and lakes. Due to the need to keep grades to a minimum, few elevated, dry landforms are directly on the route, but some do occur immediately adjacent. The southern portion of the route is suggestive of lower potential for archaeological resources, due to the fact that the relief increases heading south, to the point that bedrock ridges are very high and low ground between (on which the road runs) is characterized by muskeg. In the south half of the route, the road travels over largely waterlogged terrain. Throughout the length of the route, lake edges crossed by the road do not have elevated beaches; rather, they are characterized by gradual rises. With the exception of some small esker deposits crossed by the northern portion of the road, the potential for archaeological resources of the terrain directly affected



by the road is deemed to be low. No cultural remains were found during an examination of three sections of an esker complex within the southwest section of the project study area.

In the area near Morris Lake, archaeological potential is low and no cultural remains were observed. The portage between Clan and Johnston lakes was traversed on foot. At the base of the bedrock were the remains of a burned camp. The portage in the north portion of Bluefish Lakes was also examined by ground reconnaissance. No cultural remains were observed. However, at the portage from Bluefish Lake into the north end of Prosperous Lake, there was much evidence of recent human activity. Although it is likely that this area has been used into the distance past, no evidence of older occupations was found and due to the distance of the location from the road, there is little chance of impact by the use of the winter road on this part of the shoreline.

The northern portion of the winter road to Prosperous Lake was viewed by low level helicopter and portions were traversed on foot. It is mostly on water or swamp that is often bordered by low lying ground. At some of the lake edges, bedrock outcrops and a couple of sections of sand and gravel beach deposits were observed. The majority of the route in low and wet areas would be rated as low potential.

Overall, no archaeological remains were found along the winter road route between YGP and Prosperous Lake. The typical terrain is either low and wet ground or high, rocky irregular bedrock, neither of which has good potential for archaeological resources. Only a few limited locations of landforms with moderate potential were observed and checked, the best of these are in the northern part of the route, within or just outside the LSA. The only cultural remains observed appear to date no older than the past 10 to 30 years. The potential for encountering archaeological sites along the specific road route is considered low.

3.7.7 Conclusions

During the 2004 assessment, no pre-contact archaeological sites were recorded in any of the areas subjected to detailed ground reconnaissance. Considerable evidence of the prospecting activity that has occurred over the past 60 years was observed. This included scattered debris and several small campsites.

In 2005, heritage resources were all associated with hunting camps dating less than 50 years old. Three such camps were found on Winter Lake. No archaeological remains were found.

Documentary research suggests that the YGP study area lies between past preferred travel routes from Great Slave Lake to various points north. Field investigations conducted in 2004 and 2005 appear to lend support to this general premise. No archaeological sites were recorded, suggesting low levels of use of this specific area. The hypothesis that site would most likely be occasional, small, short term hunting or fishing camps was also confirmed, but the fact that all such sites recorded appear to date within the past 50 years suggests that more intensive use of the area may be linked to the development of the original winter road to Discovery Mine.



The winter road to Yellowknife is assessed as low risk to encounter archaeological resources as long as there are no significant deviations from the existing route that was assessed. Although it is likely that people occasionally traveled the Yellowknife River drainage system, they probably did not often stop in that relatively rugged section through which the winter road passes.

In conclusion, no further archaeological assessments are considered necessary for the specific project components examined in 2004 and 2005.

3.8 TRADITIONAL LAND USE STUDIES

The YGP is located within the asserted traditional territory of the Akaitcho Dene First Nation (including the Yellowknives Dene) and the North Slave Métis and the Mowhi Gogha De Niitlee traditional use area of the Tlicho (Figure 3.8-1). The Government of the Northwest Territories (GNWT) is currently negotiating a Land, resources and self-government agreement with Akaitcho Dene First Nations and the Federal Government. The NSMA submitted a formal claim in 1998, but there are currently no formal negotiations.

3.8.1 Yellowknives Dene First Nation (YKDFN)

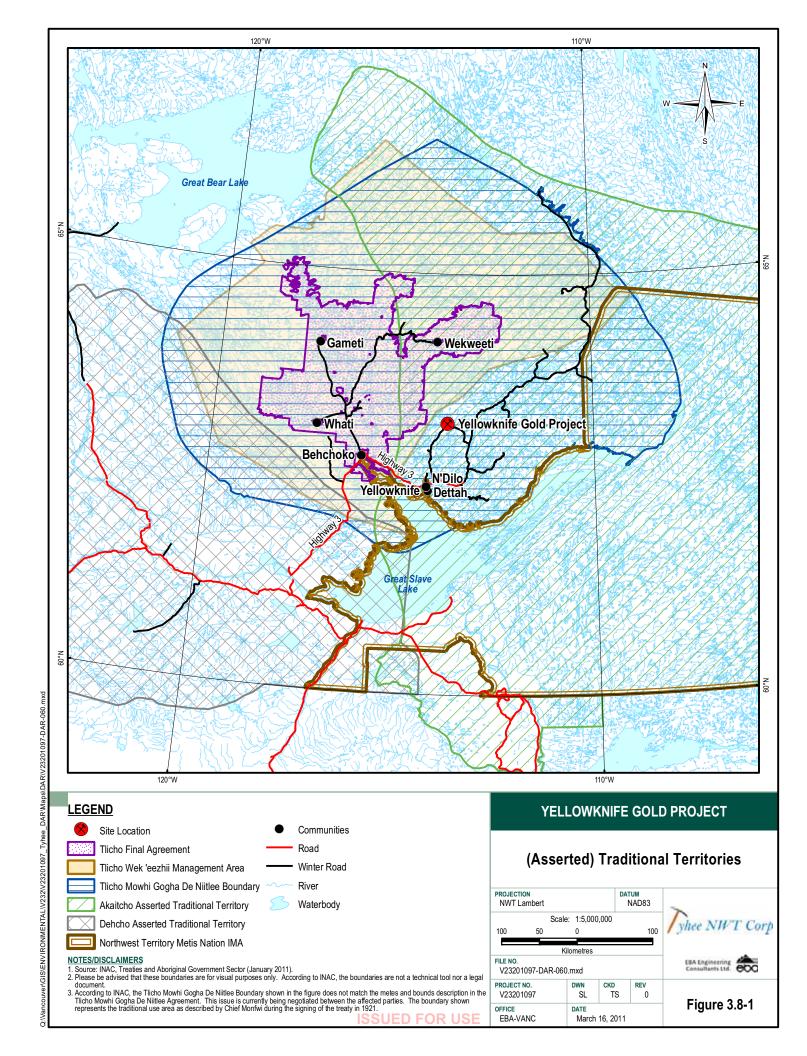
The YGP is located within the asserted traditional territory of the Akaitcho Dene First Nation, in particular, the Yellowknives Dene First Nation (YKDFN) (Figure 3.8-1). The following historical information is summarized from information provided by the Akaitcho Treaty 8 Tribal Corporation.

3.8.1.1 YKDFN History in the Region

In 1900 the Akaitcho People began to negotiate a treaty with the British Crown, with Chief Emil Drygeese as their spokesperson. Chief Drygeese was a Chief from the Weledeh (Yellowknives Dene). The treaty included the Akaitcho territory to the north and east of Great Slave Lake (Akaitcho Treaty 8 Tribal Corporation ND).

In 1916, Canada informed the Dene that they could no longer hunt migratory birds as Canada along with the United States of America and Mexico agree to the Migratory Birds Convention to prohibit the hunting of migratory birds in the spring. The Dene considered the Convention as a violation of the Treaty and refused to take Treaty monies for three years. At one point, Chief Joseph Drygeese (Emil's younger brother) evicted prospectors from the Territory.

As a result of these actions, a commissioner was sent in 1920 to talk to the Akaitcho Dene who were gathered in Deninu Kue. The Commissioner assured the Dene that the Crown wanted the Treaty and they could continue to live as they had always lived including hunting migratory birds. In addition, the Dene told the Commissioner that they wanted areas where no non-Dene would hunt. The Commissioner agreed. Subsequently, there were two areas withdrawn and surveyed as exclusive hunting, trapping, fishing and gathering areas of the Akaitcho Dene.





One area was known as the Yellowknives Game Preserve and the other area was known as the Slave River Preserve. These Preserves were in place until the 1950s when the non-Dene living in the Yellowknife area asked the Minister of Indian Affairs to remove them so that they could hunt in the area around Yellowknife.

The Dene and the Crown do not have a shared understanding of the terms of that treaty and are currently working to resolve outstanding land, resource and governance issues through negotiations.

In August 2006, the three parties signed an Interim Land Withdrawal Agreement that identified and protected certain areas while an Akaitcho Agreement was being negotiated. The next step is to continue working towards signing an Agreement-in-Principle (AIP), which will lay out the principles for an agreement between the parties on land, resources and governance.

3.8.1.2 YKDFN Traditional Land Use

Traditional Land Use information was provided by YKDFN Elders during a tour to the Yellowknife Gold Project on August 11, 2005. The main purpose of the site visit was to provide the Elders with an opportunity to learn more about the Yellowknife Gold Project and to collect YKDFN traditional land use information for inclusion in the Developers Assessment Report, which would be submitted to the MVEIRB for review. While on site, the tour participants met with the Tyhee NWT Corp. representatives:

Site tour participants included:

- Patrick Goulet YKDFN
- Alfred Belanger YKDFN
- Eric Crapeau YKDFN
- Eddie Sikye YKDFN
- Paul Mackenzie YKDFN
- Mike Francois YKDFN
- Peter Sangris YKDFN
- Louis Azzolini consultant to YKDFN
- John Clark EBA Engineering Consultants Ltd. (consultant to Tyhee NWT Corp)



Information gathered during the site tour from tour participants are illustrated in Figure 3.8-2. YKDFN traditional trails are used during summer or winter months, allowing YKDFN to travel by sled or canoe for the purposes of hunting or fishing. The trails located within the YGP study area are:

- Trail to a fish camp on Giauque Lake;
- Trail to caribou hunting northwest of Eclipse Lake. This trail crosses Giauque Lake, Maguire Lake, and Eclipse Lake;
- Trail to north of Round Lake, which appears to follow the winter road route to the historic Discovery Mine. This trail is used only during the winter months.

Efforts have been made to expand on the information provided from YKDFN tour participants through additional consultation, but to date further information has not been provided. Consultation attempt records with the YKDFN are included in Section 4 and Appendix G.

3.8.2 North Slave Métis Alliance (NSMA)

The YGP is located within the asserted traditional territory of the North Slave Métis (Figure 3.8-3). The following information is summarized from the North Slave Métis Alliance's Land Use Report for the Yellowknife Gold Project (2008, Appendix G). The Land Use Report was prepared using a collection of readily available information, including:

- Site tour with representatives from North Slave Métis Alliance (NSMA) on August 12, 2005;
- Archival review including traditional land use maps; and
- Discussions between NSMA and Tyhee NWT Corp staff on September 30, 2006.

3.8.2.1 Métis History in the Region

Several Métis families have been residing the area for seven generations or more before Treaty 11 was signed. Métis oral tradition suggests that early Coureurs de Bois have been in the Great Slave Lake area since the 1690s. At first, they participated in the long distance "Indian trade" between Fort Churchill (est. 1688) and the Mackenzie Basin, although much later, the fur trade shifted to an overland route from the Athabasca area.

Records indicate that up to 100 Métis workers were employed by the French Canadian fur trader, Laurent Leroux, to construct Fort Providence (now a historic site called Old Fort Providence) on the east shore of Yellowknife Bay in 1786. The post-on-sill buildings housed up to 20 men, women and children. The fort became the main supplier of meat for the northern fur trade because of its access to vast numbers of wintering caribou. Alexander Mackenzie used Fort Providence as a provisioning post on his way down the Mackenzie River, in 1789, as did Sir John Franklin on his 1820 expedition up the Yellowknife River to the Coppermine River.



Fort Providence was closed in 1823, after the Hudson's Bay Company and the North West Company amalgamated, but Métis continued to inhabit the area, as well as the new post. There is evidence that indicate that there were other settlements occupied by the French-Métis on Great Slave Lake prior to the 1790s.

The area was important for processing fish, making canoes, and picking berries in the summer. In the winter, the Yellowknife River was used as a transportation route to hunt caribou and trap. During this active period in the fur trade (the 1800s) the Métis left their wives and children in relatively permanent settlements, while they worked the lands and waters as trappers, fishermen, boats men, transporters, provisioners (professional hunters, fishers, and suppliers of wood), traders, interpreters, labourers and guides.

Rupert's Land and the Northwestern Territories were purchased by Canada from the Hudson's Bay Company in 1870. In 1899 a staking rush began with the discovery of lead zinc ore at Pine Point, little else was found and government geologists felt there was little likelihood of rich deposits. In 1920, however, oil was discovered on the Mackenzie River. This discovery was believed to be the reason Canada decided to make a Treaty with the Dene and the Métis living in the area north of Great Slave Lake.

Treaty 11 was signed on August 22, 1921. Three of the seven chiefs who took treaty were likely Métis. The area identified under Treaty 11 included the area between Fort Providence (the new Fort Providence) in the southwest, to Great Bear Lake in the northwest, across to Contwoyto Lake and Aylmer River in the northeast, and Lutsel K'e (formerly known as Snowdrift) in the southeast.

In 1923 a 70,000 square mile (181,286 km²) game preserve was set up around the Yellowknife River watershed, for treaty Dene and Métis only.

Gold was discovered near Yellowknife in 1930, this resulted in another gold rush and the eventual rapid growth of Yellowknife. Métis worked in the area hauling people and freight, fishing and cutting wood. While taking advantage of employment and business opportunities, Métis continued to fish with nets in Yellowknife Bay, hunt ducks, rabbits, foxes, and harvest berries from one of the best berry picking areas in region. There was also a mink ranch at Negus Kam point.

The Métis families tended to congregate at Duck Lake, Prosperous Lake, Burwash, and on the islands and shoreline of Yellowknife Bay, including school draw and willow flats. By 1940 the population of Yellowknife had grown to 1,000, the proportion of non-Métis to Métis was 20:1.

Métis involvement in the Discovery Mine (1944 to 1969) included construction and hauling freight along the winter road, which also serviced mining camps on Johnston Lake, Goodwin Lake, Morris Lake, Narrow Lake, Winter Lake, and Giauque Lake.

In 1947, the Métis were ordered to move into Yellowknife from Duck Lake and other outlying areas so that the children could attend school. By then, the Yellowknife population was nearing 3,000 and Métis had to compete for the waterfront property which was becoming scarce.



When the Yellowknife Game Preserve was abolished in 1955, and the road to Fort Reliance began construction in 1960, the Métis were increasingly subjected to crowding on their harvesting grounds around Yellowknife, up the Yellowknife River, and along the Ingraham Trail.

3.8.2.2 Traditional Métis Land Use

Métis land use patterns are not similar to the Dene land use patterns, as there has always been a strong commercial component to Métis activities on the land. Besides the traditional aboriginal land use categories of trapping, hunting, fishing, and gathering, both for subsistence and for trade, Métis use also includes transporting, expediting, guiding, interpreting, prospecting, trading, provisioning, construction and environmental management. These traditional occupations are integral to and characterized North Slave Métis culture long before the establishment of effective control by the Government of Canada and into the present.

The general area of the Yellowknife Gold Project is presently used by Métis for traveling, harvesting, and cultural purposes. There are a network of trails within the YGP study area used to hunt, fish, trap, gather, travel, transport, and trade (Figure 3.8-3). Hunting and trapping are used for income-generation and subsistence. The route along the Yellowknife River between Old Fort Providence and Old Fort Enterprise has been used by the Métis for hundreds of years and has special significance.

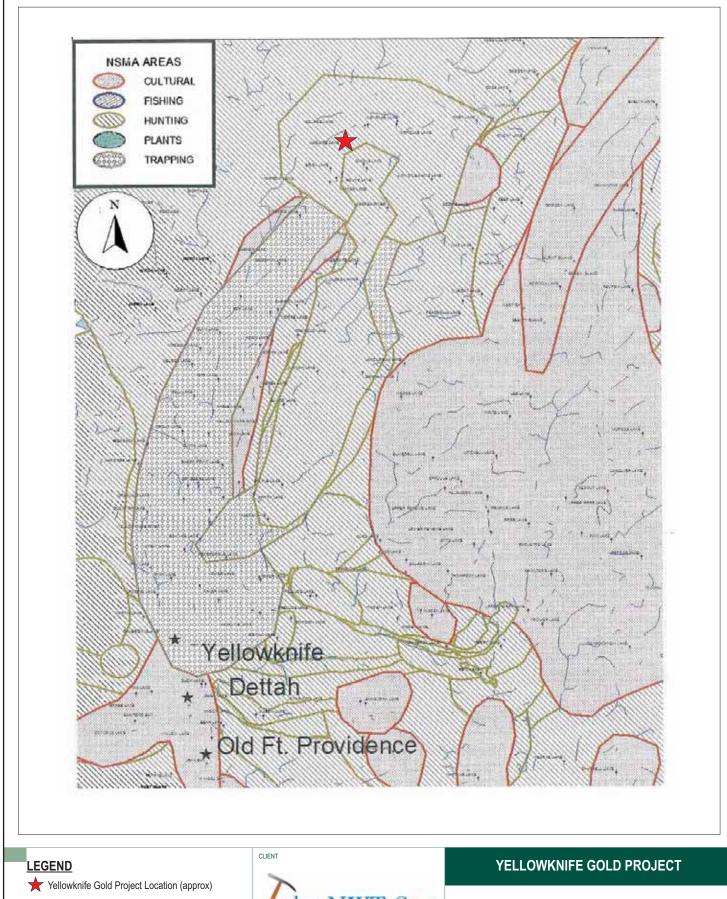
There are no registered trapping concessions, and the area is open for trapping. People generally trap along the winter road and skidoo trails.

Several people hunt in the area of YGP, on Giauque and Nicholas Lake. It was noted that caribou have been observed at the historic Discovery mine during remediation efforts.

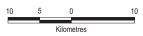
Narrow Lake is noted for its whitefish fishing while other lakes in the area are noted for their sport fishing. People do not fish on several lakes near YGP including: Giauque, Thistlewaite, Duncan, Fishing, Barker, Fox, Johnston, Drygeese, Prosperous, River, and Walsh Lake, or on the Yellowknife River. No reason was provided.

Gathering is conducted in the woods throughout the region. The Historic Discovery Mine is known as a mushroom area; however, people like to keep their favourite berry picking locations secret.

The North Slave Métis are also involved in several commercial ventures, including guiding and interpreting, prospecting and staking, trading and provisioning, construction, and environmental management.







Source: North Slave Metis Alliance Land Use Report For The Yellowknife Gold Project, Feb 19, 2008 (pg 19)





EBA Engineering Consultants Ltd.

North Slave Metis Alliance

Traditional Land Use

PROJECT NO.	DWN	CKD	REV		
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OFFICE	DATE				
EBA-VANC	17, 2011				

Figure 3.8-3