

1 INTRODUCTION

1.1 Purpose and Objectives

The purpose of this volume is to present the relevant and currently available information on the recent historic background and existing circumstances of the communities and people that might be affected by the Mackenzie Gas Project (the project). This volume takes an issues-focused approach to baseline information. The focus is on community wellness, which is a deliberately broad term that includes the physical, emotional, social, cultural and economic well-being of a community, including individuals, families and the community as a whole.

The objective is to identify indicators of these various aspects of community wellness, the interrelationships between them and the influences acting on them, within the limits of the available data.

Typical socio-economic material is presented in:

- Section 2 – People and the Economy
- Section 3 – Infrastructure and Community Services
- Section 4 – Individual, Family and Community Wellness
- Section 5 – Traditional Culture

This volume also contains the following discussions:

- Section 6 – Nontraditional Land and Resource Use
- Section 7 – Heritage Resources

The information in this volume provides the baseline against which project effects can be assessed. See Volume 6, Socio-Economic Impact Assessment for the assessment of project effects.

1.2 Study Area

The socio-economic study area includes all of the communities in the Northwest Territories in which the direct or indirect effects of gas production and pipeline construction may affect permanent residents. This includes:

- communities in the Inuvialuit Settlement Region (ISR)
- communities in the Gwich'in Settlement Area (GSA)
- communities in the Sahtu Settlement Area (SSA)
- communities in the Deh Cho Region (DCR)

- Yellowknife, Hay River and Enterprise, together referred to as the Industrial and Commercial Centres (ICCs) of the Northwest Territories

The socio-economic study area also includes northwestern Alberta, where, in an ancillary project, NOVA Gas Transmission Ltd. (NGTL) is proposing to construct the Northwest Mainline (Dickins Lake Section) and the NGTL interconnect facility.

In this environmental impact statement (EIS), this part of the study area is referred to as northwestern Alberta, and includes the:

- relevant reserves of the Dene Tha' First Nation (DTFN)
- ICCs of High Level, Rainbow Lake and Zama City

Figure 1-1 illustrates the study area communities.

The nontraditional land and resource use, and heritage resources portions of the socio-economic impact assessment (SEIA) identify specific local study areas (LSAs) and regional study areas (RSAs) in relation to project component locations and activities.

The size of the study area in the ISR and DCR reflects awareness that although some communities are distant from production or pipeline facilities, they will be affected by the project. Yellowknife, Hay River and Enterprise are included because of expected effects of the project on government departments in Yellowknife, and on the transportation, staging facilities and infrastructure in Hay River. In Alberta, High Level may be affected by truck and rail traffic, and Rainbow Lake and Zama City by project-related activities.

1.3 Approach

This SEIA is designed to focus on project effects on the wellness of potentially affected communities. Community wellness is often the most highly valued aspect of community life. The state of community wellness depends on the well-being of all aspects of a community – individuals, families and the community as a whole. It may be significantly enhanced by project benefits and vulnerable to adverse effects.

This approach to assessing the effects of the project is community-focused, addressing community concerns. The aim is to design and implement the project using procedures that optimize effects that residents see as beneficial to their communities, and reduce effects they believe are undesirable.

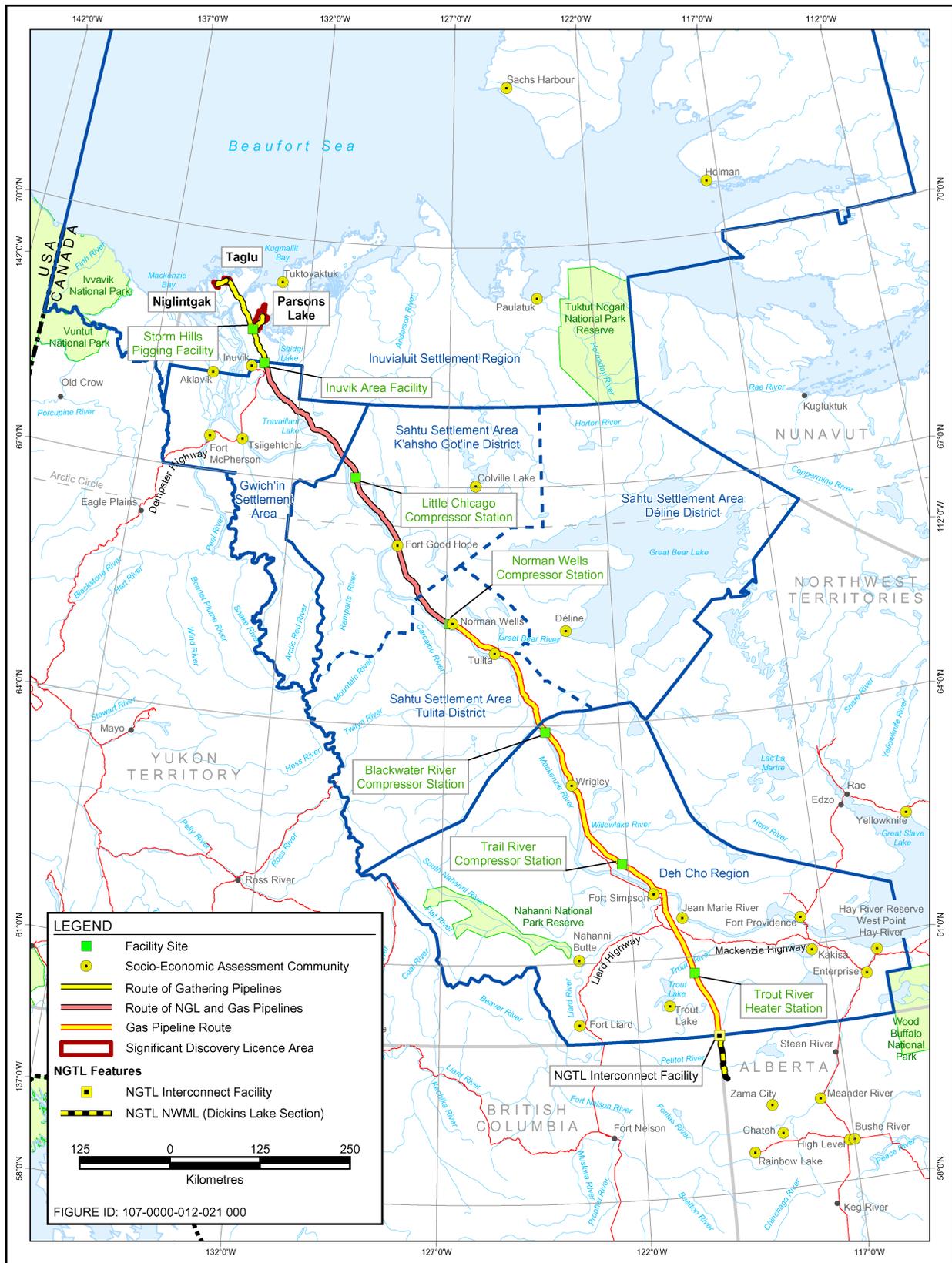


Figure 1-1: Study Area Communities

A community-driven approach requires:

- having knowledge about the characteristics of the communities that may be affected
- understanding the interests and concerns of these communities

Knowledge of community characteristics has been obtained by collecting information for this EIS from residents who are informed about a particular circumstance. Information on interests and concerns was gained in the meetings and community consultations held with residents of every community in the study area, except Wrigley, where an incomplete meeting was held (see Volume 1, Section 4, Public Participation).

1.4 The Communities and the People

Analysis indicates that the project could affect up to 32 communities, i.e., 26 in the Northwest Territories and six in northwestern Alberta (see Table 1-1). Note that Hay River Reserve and West Point Reserve are each Aboriginal communities distinct from Hay River. According to the 2001 census count, the 26 territorial communities are home to about 35,000 residents, of whom about half are Aboriginal people. All of these communities, except Inuvik, Norman Wells, Hay River and Yellowknife, are described as predominantly Aboriginal in this EIS. The six northwestern Alberta study area communities have a combined population of about 6,000.

Table 1-1: Study Area Communities

Province	Region	Community
Northwest Territories	Inuvialuit Settlement Region	Aklavik Tuktoyaktuk Holman Paulatuk Sachs Harbour
	Gwich'in Settlement Area	Inuvik Fort McPherson Tsiigehtchic
	Sahtu Settlement Area	Norman Wells Fort Good Hope D�line Tulita Colville Lake

Table 1-1: Study Area Communities (cont'd)

Province	Region	Community
Northwest Territories (cont'd)	Deh Cho Region	Fort Simpson Fort Providence Fort Liard Wrigley Nahanni Butte Trout Lake Jean Marie River Kakisa Hay River Reserve West Point Reserve
	Industrial and commercial centres	Yellowknife Hay River Enterprise
Northwestern Alberta	Dene Tha' First Nation	Chateh Meander River Bushe River
	Industrial and commercial centres	High Level Rainbow Lake Zama City

The project effects experienced by these communities include:

- effects from project activities occurring close to the community
- the opportunity to provide various goods and services
- employment of some community residents

In 2001, over half (about 22,000) of the Northwest Territories study area population lived in Yellowknife and Hay River, including 82% of the non-Aboriginal and about one-third of the Aboriginal residents. These communities are somewhat removed from the direct effects and disruptions the project might induce. Inuvik, with about 60%, and Norman Wells, with about 30% Aboriginal residents, will be centres of project construction activities. About 13,750 people live in the remaining study area communities, of whom almost 12,000 are Aboriginal.

As the social and economic data presented in this volume suggests, the interests and concerns of Aboriginal communities substantially drive this analysis of project effects because of their relative disadvantaged socio-economic status. Accordingly, project construction activities and possible disruptions, and project-related employment could affect Aboriginal people more than non-Aboriginal people.

1.5 Historical Background and Political Organization

The history and circumstances of the contacts maritime Aboriginal people made with Euro-Canadians were quite different from those of inland Aboriginal people. The Inuit settled the Arctic coastal regions, whereas the Dene settled the Mackenzie River drainage system and northern Alberta.

Each group evolved ways of ensuring survival over many thousands of years. Sustained contacts with Europeans began in the seventeenth century. In the nineteenth century, trading posts were established along the Mackenzie drainage system, catering first to the Dene and later to the Inuvialuit, as the Inuit of the BDR now call themselves.

1.5.1 Settlements, Hamlets and Regional Centres

In the early twentieth century, some trading posts gradually began attracting semi-permanent populations of Dene and Inuvialuit, who still followed their traditional way of life. Schools and health care were supplied first by the churches. Education, health and protection services were gradually provided by government in the emerging Aboriginal settlements. These services and employment opportunities increased the attraction of the growing communities. With larger houses and provision of electric power, water and waste-disposal services, living in the hamlet became easier than on the land. Thus, the Dene and Inuvialuit gradually acculturated to some Euro-Canadian ways, but continued to practice some aspects of their traditional way of life.

Some hamlets became regional centres, and transport and distribution hubs. In the 1930s, Aklavik rapidly became the commercial, government, education and health delivery centre of the Western Arctic. When the community outgrew the Aklavik site, Inuvik was established about 1960, becoming the new dominant service centre. Like Inuvik, Fort Simpson and Hay River became regional centres with large Aboriginal populations.

Fort Simpson began in 1804 as the *Fort of the Forks*, as it was called then, and grew in size and importance over time to become the dominant centre in the DCR.

Hay River was established as a tracking post in 1868. Soon after church missions were established, a Royal Canadian Mounted Police (RCMP) detachment arrived in 1925, and a hospital was built. Hay River emerged as the territorial transportation centre with the building of an airstrip in 1942, the growing importance of transporting by barge, the highway from Grimshaw in 1948, and the railroad connection to the south in 1964. All were used when northern oil and gas exploration began in the late 1960s. Today, Hay River is the staging point for freight transported by barge to communities along the Mackenzie River and the Arctic coast.

The roots of Yellowknife as a settled community began with the discovery of gold near the town site in 1896, but difficult access to the area delayed commercial production and community growth until the late 1930s. Since then growth has been sporadic. In 1953, Yellowknife became a municipal district, and the Mackenzie Highway was completed in 1960, both stimulating growth. Another period of expansion began in 1967, when Yellowknife was selected as the territorial capital.

Today, Yellowknife, the largest population centre in the Northwest Territories, is home to 43% of the territorial population. The GNWT, corporate offices, and many Aboriginal organizations and nongovernmental organizations (NGOs), have headquarters there (City of Yellowknife 2004).

Most Dene communities in the southern Northwest Territories have easy highway access to Fort Simpson, Hay River or Yellowknife.

1.5.2 Land Claims Settlements

The oil and gas industry in the Mackenzie Delta, and pipeline proposals during the 1970s and 1980s resulted in increasing pressure for the government to recognize the rights, and settle the land claims, of the Aboriginal people (Coates 1985; Usher 1970, 1971). The Inuvialuit were the first to participate in the land claims settlement process, signing the *Inuvialuit Final Agreement* in 1984 (Inuvialuit Regional Corporation and the Government of Canada 1988). The agreement defines the boundaries of the ISR, and Inuvialuit rights and responsibilities, and created the Inuvialuit Regional Corporation to administer the region.

In 1992, the Gwich'in signed an agreement that defines the boundaries of the GSA and established it as a political entity, administered by several boards, each responsible for a specific function (Beaufort Delta Self-Government 2004). The legislation defining and establishing the SSA was passed in 1994.

Ongoing negotiations between the Deh Cho people and the Government of Canada, the Deh Cho Process for land claims negotiations, resulted in the *Interim Measures Agreement* signed by the Deh Cho First Nation, Government of Canada and GNWT in May 2001. One of these interim measures, the *Interim Resource Development Agreement*, was signed by the Deh Cho First Nation, Government of Canada and GNWT on April 17, 2003.

See Section 3, Infrastructure and Community Services for additional details on ISR, GSA, SSA and DCR institutions.

1.5.3 The Métis

The Métis were important in Northwest Territories development, involved in fur trapping and trap line management since the late 1700s. In 1852, the Métis and

the Hudson's Bay Company settled in (old) Fort Rae, near the site of an earlier Métis post. In time, a distinctive Métis society emerged, different from the Dene and the southern Canadian, with its own language, laws, values, technology and economy. Commissioner Conroy, before negotiating Treaty 11 in 1921, informed the Department of Indian Affairs in Ottawa of the distinct Métis community in this region, composed of old and respected families. Conroy's position was that the Métis could either take treaty or take monetary *scrip* (North Slave Métis Alliance 2003). Scrip refers to a document given by the Government of Canada to Métis who applied, promising either land or money, usually 140 acres or \$140, but increased to 240 acres or \$240 after 1885 (Saskatchewan Indian Cultural Centre 2004).

Today Métis are found in most of the study area communities, particularly in the Deh Cho and Sahtu areas. No less than 10 Métis alliances, councils and corporations have been organized in Mackenzie Valley communities. (GNWT RWED 2003a)

1.5.4 Communities in Northwestern Alberta

The evolution of northwestern Alberta is similar to that of the southern Northwest Territories. The nomadic life of the Dene Tha' was gradually transformed by the arrival of Euro-Canadians, leading in time to their living in settled communities.

The Dene Tha' in northwestern Alberta, northeastern British Columbia and the southern Northwest Territories practiced a seasonal nomadic existence throughout their traditional territories. Having little access to trading posts until the late eighteenth century, they were generally disinterested in the trade goods available, preferring their traditional economy, culture and lifestyle.

Although the Dene Tha' signed Treaty 8 in 1900, their traditional lands were so little explored by Euro-Canadians that extensive contacts with traders, missionaries and government agents came only in the late 1940s. This enabled them to continue their traditional lifestyle well into the twentieth century. Schooling was first available at a residential school in Chateh in 1951. Some parents moved there to avoid separation from their school-age children, and thus the transition from nomadic to settlement living began.

In northwestern Alberta, as in the Northwest Territories, Métis live among the Dene Tha' as well as in the new Euro-Canadian communities, i.e., High Level, Rainbow Lake and Zama City.

Long before it became a modern community, the High Level site was used as a stopover by local Aboriginal people travelling to and from the trading post at Fort Vermillion. Not until 1965 was High Level incorporated as a community. Thereafter, its growth was fuelled by highway construction in the late 1950s,

railroad construction during the 1960s, and nearby oil and gas discoveries in 1965, with subsequent pipeline construction.

High Level is now the dominant and rapidly growing community in northwestern Alberta. As the regional hub, it is the service centre for regional oil and gas activities and forest products.

Rainbow Lake began developing in 1966, in response to oil and gas discoveries in the area. The current population of about 1,200 is primarily young people employed in the oil service industry (Town of Rainbow Lake 2003).

Zama City, settled in the late 1960s, is located in one of Alberta's largest oil fields. Similar to Rainbow Lake but smaller in size, it has a population of 130 (2001 census) that provides services to the oil and gas industry and the more than 4,000 transient oil field workers (Statistics Canada 2002; Town of Zama City 2003).

1.6 Information Needed to Support this Assessment

This volume describes the baseline for the study area, i.e., existing conditions in the communities and regions that might be affected by construction and operations. Knowledge of these conditions is essential to understanding how communities in the study area might experience project effects.

The initial approach to collecting baseline information resulted in more than 440 tables of social and economic data with possible relevance to pipeline effects.

To create a comprehensive yet readable document, the process of synthesizing and analyzing this tabular data to succinctly describe the baseline conditions, and eventually predict and monitor project effects included:

- presenting fewer tables, some of which contain overlapping data, but only where several indicators are necessary to understand a particularly sensitive issue, such as:
 - alcohol abuse, which is captured by data on hospitalizations for alcohol-related illnesses, alcohol-offence data from the police and self reports of frequency of heavy drinking
 - traditional resource harvesting, which requires several indicators to understand its possibly changing significance
- providing some data-based conclusions without supporting tables
- providing a synopsis at the end of each section in this volume. In pulling together the primary findings, new information has occasionally been added

that completes a pattern. This information is presented in a regional data-based generalization or a table in which data for all the regions is combined.

Relevant baseline information has been organized as follows:

- people and the economy (see Section 2)
- infrastructure, community services and governance (see Section 3)
- individual, family and community wellness (see Section 4)
- traditional culture (see Section 5)
- nontraditional land and resource use (see Section 6)
- heritage resources (see Section 7)

The key indicators used, and therefore the data presented, reflect the results of the SEIA methods employed. Based on the results of issues scoping, focus was placed on identified valued components and key questions. These are further discussed in Volume 6, Socio-economic Impact Assessment.

1.6.1 People and the Economy

Information in Section 2, People and the Economy includes:

- labour force activity:
 - participation
 - employment and unemployment rates
 - jobs currently held
- labour force education and training achievements

Also relevant is information on the sizes of various sectors of the economy, as they are possible sources for the goods and services that might be needed.

1.6.2 Infrastructure and Community Services

Section 3, Infrastructure and Community Services contains detailed, community-specific information on infrastructure facilities, including descriptions of:

- water supply
- disposal of liquid and solid waste
- power supply and fuels used
- air, land, rail and water transport arrangements and frequencies
- communication facilities and services
- housing conditions and recreation facilities

1.6.3 Individual, Family and Community Wellness

Section 4, Individual, Family and Community Wellness describes individual, family and community wellness. Much of the information relates to wellness aspects and influence, including:

- physical, mental and emotional health
- family relationships
- community behaviours

Most of the data on wellness is negative, e.g., rates of illness, family violence and crimes, rather than positive, i.e., healthfulness, family solidarity or good citizenship, because official data is not often collected or reported publicly on positive indicators.

This section describes the following influences that affect wellness:

- individual, e.g., substance abuse, and the problems it causes
- institutional, e.g., levels of problem conditions reported by protective and helping agencies, health and social service professionals, and police

Section 4 also provides information on agencies and programs, and relevant statistics related to those influences.

1.6.4 Traditional Culture

Section 5, Traditional Culture provides information on traditional culture, which includes the knowledge, skills, disciplines, beliefs and values of the Aboriginal people. Traditional culture is important to them because it is:

- their principal source of pride, worth, distinctiveness and identity
- the basis for harvesting the benefits and meeting the challenges of survival on the land they respect and love
- their primary defence against the prejudice and discrimination sometimes experienced from Euro-Canadians

As with other components of this study, indicators are one way to present baseline data. Such indicator data for beliefs and values is currently unavailable for the study area communities. Some data is now being collected through ongoing traditional knowledge studies.

Three cultural indicators, based on people's activities, are currently available for the study area communities. They are:

- involvement in traditional harvesting
- the amount of country food consumed
- the ability to speak a traditional language

Traditional harvesting has an important physical and psychological influence on wellness in Aboriginal communities. Wild fish, game, plants and berries are nutritionally superior to processed food and are sources of natural medicine (Usher 1976). Furthermore, country foods are shared within a community, thereby enhancing community solidarity. Preserving traditional language has an important psychological influence on wellness by helping to establish feelings of identity and purpose.

1.6.5 Nontraditional Land and Resource Use

Section 6, Nontraditional Land and Resource Use describes existing land and resource uses for nontraditional users, including residents and nonresidents within the study area. Focus is on the land or resource uses that the project could affect, including:

- granular resources
- timber resources
- mineral resources
- oil and gas activities
- nontraditional resource harvesting, including hunting and fishing
- tourism and recreation
- other commercial activities
- environmentally protected areas
- visual and aesthetic resources

In addition to discussions of these valued components, a description of land ownership in each region is also provided.

1.6.6 Heritage Resources

The objective of Section 7, Heritage Resources is to provide a synopsis of the prehistoric and historic culture of the study area, to:

- determine the relative heritage resource potential of project component areas
- interpret and evaluate the heritage resources encountered during the 2002 and 2003 field work program
- formulate recommendations to manage project effects on heritage resources

Prehistory and history for each of the four settlement areas and northwestern Alberta are discussed.

1.7 Sources of Information

Collecting data for this volume involved:

- collecting quantitative and qualitative data
- verifying the data during community consultations

Quantitative data was obtained from:

- 1996 and 2001 censuses of Canada
- special surveys conducted by the Government of Canada and GNWT
- GNWT Health and Social Services (HSS)
- RCMP administrative records

Relevant information was also obtained from literature reviews. In addition, government agencies were helpful in providing several special tabulations.

Government agencies and NGOs provided details on staffing, resources, policies, training and other programs.

Qualitative data was obtained during interviews with community and territorial officials and other knowledgeable people during visits to all the study area communities that may be affected by the project. Many of these visits were to:

- collect baseline information
- review it with local knowledgeable people
- seek corrections, qualifications and valuable additional information

In the broader context of public participation in the EIS, two rounds of community meetings and regional workshops were held to:

- share project information
- gather community feedback on the project description
- identify and verify key issues and concerns
- identify potential effects and suitable mitigation measures

The meetings provided valuable qualitative information, based on local experience and insights.

To protect the identity of individuals in small communities, information obtained during interviews has sometimes been attributed to personnel from an organization, rather than citing an individual's name. In other cases, names and

dates have been cited in the text and the information about the personal communication provided in the list of references.

For further information on the public participation process, see Volume 1, Section 4, Public Participation.

1.8 Data Limitations

1.8.1 Context for Understanding the Data

Assessing socio-economic impacts requires examining many aspects of human living conditions and behaviour. The indicators available to describe and analyse these diverse and highly dynamic circumstances are by necessity both quantitative and qualitative. Qualitative indicators are essential to understanding and interpreting the quantitative ones, as described more fully in Section 1.8.2, Data and Indicators, and Section 1.8.3, Limitations of Low-Frequency Data.

In creating descriptions of baseline conditions, the analysts assessed and synthesized the qualitative and quantitative information collected. These descriptions are based on verified published data and reflect documented opinions of regional and local public service delivery personnel, but socio-economic condition assessments are, by nature, subjective. Both groups and individuals, whether trained social scientists or not, have valid but varied and variable opinions on the importance of individual key issue findings and what they mean for a collective expression of a community's state of well-being. This dependence on variable public attitudes, combined with the natural defensiveness about outsiders describing someone's living circumstances, can make qualitative analysis challenging.

However, the requirement for describing socio-economic baseline conditions is not to place a value on the conditions of study area communities. It would be both pretentious and inappropriate for the assessment team to assert that any community is either good or bad. Rather, what is important is to set the stage for predicting what specific aspects of these conditions may change because of project influences. There are two general types of indicators of these conditions:

- those that may benefit from project effects, e.g., economic indicators, such as employment and income
- those that may be adversely affected, e.g., social indicators, such as health and wellness conditions and services

1.8.2 Data and Indicators

Accurate descriptions of existing baseline conditions, and monitoring of possible project effects, depend on empirical indicators of the conditions that may be affected. Unfortunately, no perfect indicators exist. All indicators, both

quantitative and qualitative, are vulnerable to distortion. The following are some exceptions:

- quantitative, statistical data include administrative statistics, e.g., health care treatments, police, child welfare and suicide, and data from the census and special surveys. Administrative data may vary because of:
 - changes in policies, e.g., health care, police, child welfare policies
 - how individual practitioners interpret or implement policy
 - the care with which data is recorded
- census and other survey data is flawed by under-enumeration. Particular difficulties occur in census taking in the Northwest Territories because many people leave communities to hunt, fish or visit. Attempts to reach them by telephone and repeated visits to small, outlying communities can fail. The Government of the Northwest Territories (GNWT) Bureau of Statistics conducts a special survey in every census year to estimate census under-enumeration.
- qualitative data refers essentially to generalizations about past and current conditions, and expected trends obtained from knowledgeable community residents. These include service delivery personnel, i.e., health, police, education and social services, personnel, and residents of local communities. Each group may not have previously shared their information with the other groups.

Where inconsistencies existed in the data collected, the data validity, i.e., the truth value, issues were dealt with by collecting added quantitative and qualitative information, and looking for convergence in the data. This process led to identifying the key indicators used in the issues-focused approach.

1.8.3 Limitations of Low-Frequency Data

Many of the communities in the study area are very small, including five with fewer than 100 residents. Statistics Canada suppresses low-frequency data for confidentiality reasons as publication of low frequencies could result in identification of those individuals to whom the data refers.

Statistics Canada randomly rounds frequency data to zero or five. When such rounded and imprecise frequencies are converted to percentages, the totals of these percentages sometimes do not sum to 100%. When the rounded low-frequency data for very small populations is converted to percentages, the total is commonly higher or lower than 100%, depending on the distortions caused by the rounding.

For most of the small communities, creating community-specific socio-economic indicators based on statistical tabulations might not produce reliable results. In these situations, the qualitative data collected in recent interviews with knowledgeable individuals is often critical in clarifying the significance of available data and making valid interpretations.

Any problems associated with interpreting data for small community populations can be avoided by aggregating the data for such communities when they share similar characteristics. For example, Sachs Harbour, Paulatuk, Tsiigehtchic and Holman have very small populations. As a result, public agencies sometimes pool data for these communities, reporting data only for the combined ISR and GSA, identified as the Beaufort Delta Region (BDR). Some GNWT administrative data is also only available in this form. In some of the ISR and GSA sections in this volume, BDR data is presented because region-specific data is not available. This aggregation is appropriate. All BDR communities have similar characteristics and are influenced by their dependence on the Inuvik regional centre.