

1.0 INTRODUCTION

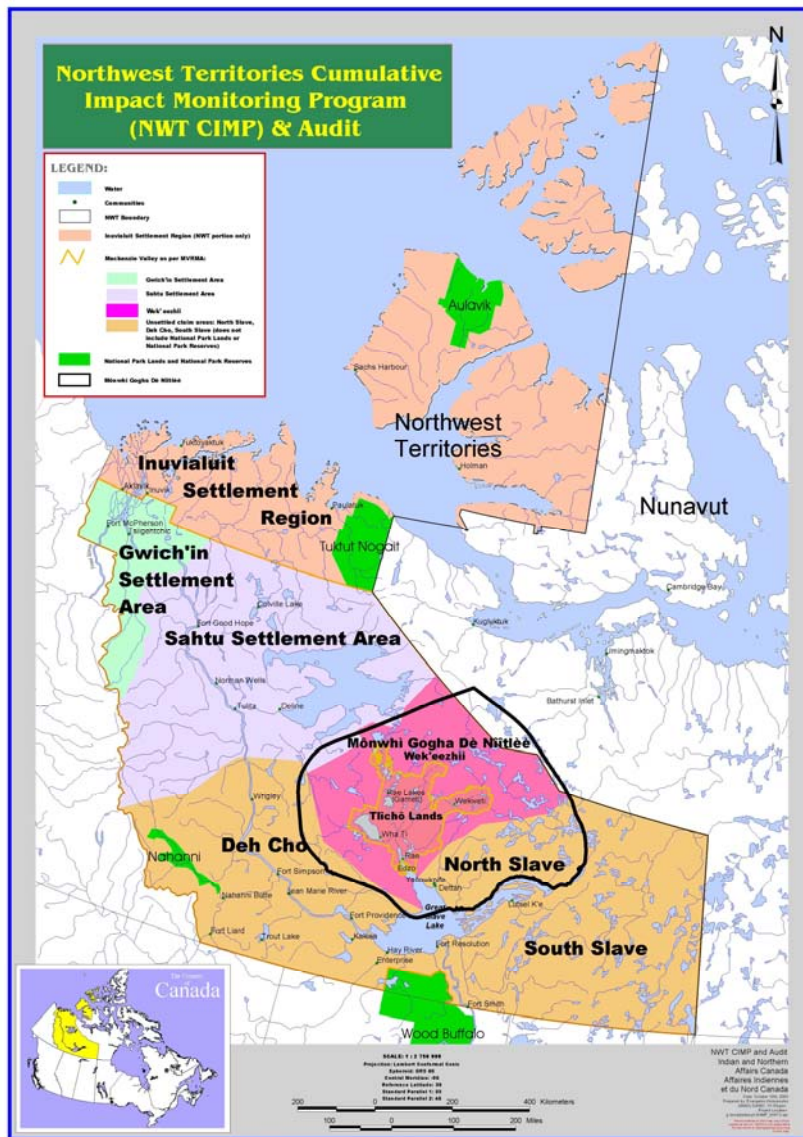
With a land mass of 1.3 million square kilometres, Canada's Northwest Territories (NWT) is roughly equivalent in size to Alberta and Saskatchewan combined. In contrast, the total population of these provinces is more than 100 times greater than that of the NWT. A map of the NWT and its regions is shown in Figure 1.1-1.

The vast geographic expanse of the NWT is accompanied by remarkable environmental and ecological diversity. From south to north, the boreal forest gradually transforms into the taiga, the tundra and ultimately the arctic coast. These environments are home to a tremendous variety and abundance of wildlife. Peary caribou, muskoxen, polar bears, arctic hares and beluga whales are among the mammals that inhabit the far north. Vast herds of caribou, including the 187,000-strong Bathurst caribou herd, traverse the barren lands on their annual migration. The Mackenzie Mountains are home to woodland caribou, Dahl's sheep, grizzly and black bears, lynx, martens, golden eagles and a variety of small birds and mammals. The Mackenzie River delta provides important habitat for muskrats and nesting waterfowl. In the southern boreal forest or taiga, moose, wolves, woodland caribou, lynx, red foxes and several types of weasel are found. Vast networks of lakes and rivers contain numerous fish species including trout, pike, whitefish and many others.

The NWT is also home to a diverse human population that originates from across Canada and around the World. While many residents of the NWT have made the north their home relatively recently, approximately half of the population has a connection to the NWT that is much older. Dispersed in communities across the NWT, the Aboriginal population is far from being a homogeneous group; instead, it represents a wide array of cultures and histories that are reflective of the varied environments their descendants have inhabited for thousands of years. Although differences do exist, the Aboriginal people of the NWT have one particularly important attribute in common: a profound connection to the land. Despite major lifestyle changes over the past 50 years, many Aboriginal households continue to spend part of each year on the land and "traditional foods" form a significant part of their diets. Not surprisingly, the land is at the centre of Aboriginal culture, spirituality, tradition and identity. The role of the environment in the lives of Aboriginal people cannot be overstated.

The modern economy of the NWT has been dominated by activities in the non-renewable resource sector. While some efforts are being made to diversify into other sectors, it is likely that non-renewable resources will continue to underpin the economy of the NWT for decades. Interest in the NWT's resources is substantial and current activity has all the hallmarks of a major resource boom. Two world-class diamond mines have come into production over the past eight years and a third will follow in the near future. Strong commodity markets are likely to

**FIGURE 1.1-1
 NORTHWEST TERRITORIES AND ITS REGIONS**



stimulate ongoing interest in the development of other mining prospects throughout the NWT including diamonds, gold, uranium and base metals. The same can be said for the hydrocarbon reserves of the territory. Active oil and gas exploration is underway in several areas of the NWT and a pipeline to transport natural gas in the Mackenzie delta to southern markets is currently undergoing environmental assessment.

In the eyes of many Northerners and the rest of Canada, the NWT's natural resources can serve as a platform for northern "development". The need for change is undeniable, above all for Aboriginal people facing a daunting set of economic and social challenges. Within Aboriginal communities, levels of basic literacy and educational attainment are well below national averages. At the same time, unemployment levels and the incidence of drug and alcohol abuse, domestic violence and gambling are significantly higher than in non-Aboriginal populations.

Given the current context and the broad scope of the NWT environment, this Status of the Environment report covers seven major components of the NWT environment:

- atmospheric environment (including air quality, climate and climate change);
- freshwater aquatic environment;
- marine environment;
- terrestrial environment;
- permafrost, ground ice and snow;
- human health; and
- socio-economic and community wellness.

In conducting the Status of the Environment report, as a starting point we assessed environmental trends using valued components (VCs) identified in the INAC report, *A Preliminary State of Knowledge of Valued Components for the NWT Cumulative Impact Monitoring Program* (NWT CIMP) and Audit. Key VCs within each VC grouping and key indicators of change for the selected VCs were then identified and carried forward through the study. For these key indicators of change, trends in environmental quality were assessed for the Mackenzie Valley, the Inuvialuit Settlement Region and the NWT as a whole.

In assessing trends, previously completed studies were relied upon extensively, particularly where these studies had assessed trends in environmental quality. Where required, these studies were supplemented with original data analysis; however, conducting original research was not within the scope of the Status of the Environment reporting. In carrying out the review, the specialists used a range of information sources and contacted various individuals as appropriate for the Valued Component being assessed.

For each of the key indicators, available data were analyzed and assessed to identify: trends; potential contributing factors to any changes in the environment; the significance of any trends identified; the likely impact of the trends; activities to mitigate the factors/emissions that are causing the observed trends, and, data gaps. It should be noted that in several instances throughout the review it was difficult to determine the current condition of an environmental component or evaluate trends due to a lack of adequate baseline data for the NWT. It is recommended that the CIMP be used to fill these important data gaps.

Large scale resource development and economic activity can lead to significant social, cultural and environmental changes. With exploration and development intensifying, this Status of the Environment report provides an overview of the current conditions in the major components of the NWT environment and identifies areas where further research, monitoring, or action is required.