



***MACKENZIE VALLEY
FIVE-YEAR ACTION PLAN
(2004-2009)***

***Conservation Planning
For Pipeline Development***

October 31, 2003

Prepared by NWT Protected Areas Strategy Secretariat

Table of Contents

<i>Table of Contents</i>	1
<i>Executive Summary</i>	2
<i>1.0 Introduction</i>	4
<i>2.0 Why Action is Required to Increase Protection for Lands in the Mackenzie Valley</i>	5
2.1 Cultural and Ecological Importance of the Mackenzie Valley	5
2.2 Hydrocarbon Development in the Mackenzie Valley	5
<i>3.0 Achieving Balance of Conservation and Development</i>	8
3.1 The Importance of Protected Areas	8
3.2 Federal and Territorial Commitments to Completing Protected Areas.....	9
3.3 How Are Areas Protected in the NWT?	9
<i>4.0 Vision for NWT Protected Areas Strategy Action Plan: 2004-2009</i>	12
4.1 Five-Year Goal.....	12
4.2 Objectives	13
4.3 Planning Assumptions	13
<i>5.0 Action Plan: 2004-2009</i>	16
5.1 Enhancing Protected Areas Planning	16
5.2 Building Capacity	21
5.3 Improving Information for Candidate Areas	24
5.4 Increasing Communications.....	25
<i>6.0 Costing Summary</i>	27
6.1 Costing Analysis	27
6.2 Costing Breakdowns	28
6.3 Annual Estimates: 2004-2009.....	31
6.4 Annual Planning Activities, 2004-2009	32
<i>Literature Cited</i>	33

Executive Summary

Conserving lands that have ecological and cultural significance for the residents of the Northwest Territories (NWT) is a key policy commitment of both the federal and territorial governments. The Department of Indian Affairs and Northern Development (DIAND) and the Government of the NWT (GNWT) have committed to sustainable natural resource management and development (*Federal "North of 60 Action Plan" for Sustainable Development 1997, GNWT Sustainable Development Strategy and Non-Renewable Resource Development Strategy 1999*). As well, there are specific policy commitments for the protection of culturally and ecologically significant areas (*Northwest Territories Protected Areas Strategy 1999*), and for the provision of increased regulatory certainty to industry interested in the development of the NWT's natural resources (*Improving the Northern Operating Environment 2001*).

With the increasing pace and scale of development in the NWT, it is becoming more challenging to meet the federal and territorial governments' commitments to developing our northern resources in a sustainable manner. In particular, the Mackenzie Valley is under increasing development pressure. The proposed Mackenzie Valley Pipeline is moving closer to becoming a reality and, if approved, will be the largest energy development project in the Northwest Territories and one of the largest in Canadian history. The environmental and regulatory process has begun and a formal application to construct a pipeline is expected in 2004. Completion of this process and pipeline construction is anticipated to be finished within five years.

This development presents both major challenges and opportunities for the conservation of ecological and cultural values. To achieve a long-term balance of ecological, cultural and economic values in the Mackenzie Valley, a network of culturally significant and ecologically representative protected areas must be reserved prior to or concurrently with the development of the pipeline. To meet this objective and work within a timeframe that is relevant to communities, Aboriginal and regulatory decision-makers, governments and industry, immediate planning and action must occur. There is a unique, although time-limited opportunity, in the Mackenzie Valley to maintain the ecological integrity and natural connections that still exist.

The Northwest Territories Protected Areas Strategy (NWT-PAS) provides an effective community-based tool for advancing culturally and ecologically significant areas to long-term protected status. The NWT-PAS Five-Year Action Plan (Action Plan) describes the strategic enhancement needed over the next five years to identify, review, establish interim protection and evaluate a network of protected areas in the Mackenzie Valley. The Action Plan focuses resources to meet the timeline of the proposed Mackenzie Valley Pipeline and provides increased capacity to the communities within the Mackenzie Valley to help meet their long-term conservation goals such as those identified in community conservation plans, land use plans, interim measures and land claims.

This Action Plan is part of the general implementation of the NWT-PAS. The Action Plan conforms to the overall vision, goals and principles of the NWT-PAS, and respects the precedence of Aboriginal and Treaty land claims and rights. Advancement of sites under this Action Plan will follow the eight steps set out in the NWT-PAS which details an extensive planning process for protected areas establishment. As annual resources permit, general implementation of the NWT-PAS will continue throughout the NWT.

Anticipating the number of sites that will be advanced in the next five years in the Mackenzie Valley is challenging, as the planning process is dependent on capacity and the conservation goals of the communities. For the purposes of the Action Plan, an estimate of sixteen (16) sites is being used. This estimate is based on the number of ecoregions that are directly impacted by the anticipated pipeline route and associated hydrocarbon development areas in the Mackenzie Valley (Map #1).

Key objectives of the Action Plan:

- **Enhance Protected Areas Planning** in the Mackenzie Valley by mapping ecologically representative areas, completing non-renewable resource potential mapping, and achieving cooperative implementation of the NWT-PAS at a regional level. Anticipated completion of this objective is March 2005.
- **Building Capacity** to ensure that community and regional organizations have the ability to participate, including promoting and supporting candidate protected areas, and ensuring the NWT-PAS Secretariat is able to provide appropriate technical and administrative coordination. This objective will be ongoing, beginning in April 2005.
- **Ensuring Candidate Area Information Requirements** are met for advancing sites. This objective will be ongoing as candidate areas are assessed through the NWT-PAS.
- **Increasing Communications** with communities, stakeholders, government, industry and the scientific community on the goals of the NWT-PAS. This objective must be initiated in 2004-2005, but will be ongoing.

The estimated total cost to the NWT-PAS for establishing protected areas in the Mackenzie Valley over the next five years is roughly \$17.8 million (see Table 1). The majority of the anticipated costs are related to the technical requirements to carry out coordination, research and analysis for advancing candidate areas. A significant percentage of these costs are also related to building capacity to carry out the Action Plan at the community, regional and territorial level. The estimated cost for enhancing the NWT-PAS in 2004-05 is \$940,000. From 2005 to 2009 the annual estimated cost for enhancing the NWT-PAS is \$4,163,750*.

Based on these estimates, a cost-sharing arrangement will be determined by the NWT-PAS stakeholders (federal and territorial government, Aboriginal organizations, non-governmental organizations, and industry).

Table 1: Summary of Estimated NWT-PAS Action Plan Costs

Action Objective	Cost
Enhancing Protected Areas Planning	\$1,460,000.00
Building Capacity	\$7,810,000.00
Improving Information Requirements for Candidate Protected Areas	\$8,000,000.00
Increasing Communications	\$475,000.00
Total Estimated Five-Year Cost	\$17,745,000.00

*Two Bi-annual forums will be an additional cost in 2006 and 2008 (\$75,000/forum)

1.0 Introduction

The Northwest Territories Protected Areas Strategy (NWT-PAS) 2004-2009 Action Plan (herein referred to as the Action Plan) has been prepared by the NWT-PAS Secretariat to enhance the implementation of the NWT-PAS specifically within the Mackenzie Valley over the next five years, at the request of the NWT-PAS Implementation Advisory Committee (PASIAC)¹.

This document outlines the critical path for enhancement of the NWT-PAS in the Mackenzie Valley including protected areas research, planning, capacity and communications requirements.² Extensive consultations with the PASIAC, Government of the Northwest Territories (GNWT) and the federal government contributed to the development of the scope, content and direction of the Action Plan.

It is important to note that this is a specific Action Plan for the Mackenzie Valley and is part of NWT-PAS implementation. General implementation of the NWT-PAS will continue throughout the NWT as annual resources permit.

The Action Plan contains six sections. Following the introduction, Section 2 outlines the rationale for this Action Plan, providing an overview of the cultural and ecological importance of the Mackenzie Valley, the proposed Mackenzie Valley Pipeline, and federal and territorial commitments to environmental protection and sustainable development. Section 3 examines conservation efforts in the NWT, with a discussion on current land use planning processes and the role of the NWT-PAS for land management in the North. Section 4 provides an overview of the vision, objectives and planning assumptions that provide the foundation for the Action Plan. Section 5 outlines the details of the Action Plan, including an overview of the required tasks, timelines, lead agencies and estimated costs. Section 6 supplies additional information on costing over the planning horizon and a general timeline for each task.

Mackenzie Valley - *For the purposes of this document, the Mackenzie Valley is defined as the 16 ecoregions that are directly impacted by the anticipated pipeline route and associated hydrocarbon development areas (see Map 1). Pipeline development and ancillary exploration and development will likely proceed either concurrently or follow shortly thereafter. Therefore, this Action Plan targets the 10 ecoregions (Yukon Coastal Plain, Tuktoyaktuk Coastal Plain, Great Bear Lake Plain, Fort McPherson Plain, Norman Range, Mackenzie River Plain, Franklin Mountains, Horn Plateau, Hay River Lowland, Northern Alberta Uplands) that the pipeline directly impacts plus 6 additional ecoregions (Dease Arm Plain, Mackenzie Delta, Peel River Plateau, Colville Hills, Sibbeston Lake Plain, Hyland Highland) with identified hydrocarbon development areas.*

¹ NWT Protected Areas Strategy Implementation Advisory Committee consists of representatives from the Inuvialuit Regional Corporation, Gwich'in Tribal Council, Sahtu Secretariat Incorporated, Deh Cho First Nation, Dogrib Treaty 11 Council, Akaitcho Treaty 8 Tribal Council, Northwest Territories Metis Nation, North Slave Metis Alliance, NWT and Nunavut Chamber of Mines, Canadian Association of Petroleum Producers, Canadian Parks and Wilderness Society – NWT Chapter, World Wildlife Fund Canada, Government of the Northwest Territories, Government of Canada.

² While the NWT-PAS recognizes there are development pressures in other areas of the NWT, such as the Slave Geological Province, the scope of this Action Plan is limited to the oil and gas pressures in the Mackenzie Valley. Future action plans may be developed at the direction of the PAS IAC.

2.0 Why Action is Required to Increase Protection for Lands³ in the Mackenzie Valley

This section highlights the ecological and cultural importance of the Mackenzie Valley to northerners (Section 2.1) and reviews the existing development context in the area (Section 2.2).

2.1 Cultural and Ecological Importance of the Mackenzie Valley

Over twenty-five years ago, the Berger Inquiry brought national attention to the fact that the Mackenzie Valley or ‘Northern Frontier’ was also a critical ‘Northern Homeland’ for indigenous people and wildlife. The Mackenzie River continues to be an important cultural connection between the people of the Deh Cho, Gwich’in, Sahtu and Inuvialuit, as well as a vital hunting, trapping and fishing ground that supports northern traditions.

Of equal importance, is the national ecological significance of the Mackenzie Valley. The Mackenzie Valley contains one of the world’s last great free-running river systems. The Mackenzie River is the longest in Canada and the Mackenzie Delta is the largest in Canada with the second largest wetland in Canada. The river transports over half of the freshwater flowing north in Canada and carries the most sediment in the circumpolar north to the Arctic Ocean. This discharge of freshwater and energy into the Arctic Ocean plays a significant role in regulating the circulation of the world’s oceans and climate systems. The Mackenzie River Valley is a major North American migratory corridor for waterfowl breeding along the arctic coast and is rich in wildlife.

Within the NWT, the Mackenzie River and the valley are essentially in a natural state, where most wildlife species are intact in terms of population and movement. Ensuring a sustainable future for northern people and wildlife requires that ecosystems remain healthy and do not become progressively fragmented and degraded by industrial development. The goal for any new development should be to add to the quality of life for the people of the NWT, without detracting from the values which healthy wildlife populations and landscapes provide.

2.2 Hydrocarbon Development in the Mackenzie Valley

Historically, this rich cultural and ecological region has been a focus for oil and gas exploration and geophysical drilling. Activities remained localized up until the 1970s and 80s. During this period, exploration was at its peak, with intense activity in the Mackenzie Valley, Mackenzie Delta and the near shore area of the Beaufort Sea. A Mackenzie Valley pipeline was originally proposed at this time. However, with declining oil and gas prices, and based on the recommendations from the Berger Inquiry, the federal government largely ceased land dispositions in the Mackenzie Valley and placed a moratorium on oil and gas exploration in the Mackenzie Delta. With the removal of the moratorium in the late 1980s, the continuing

³ The word “land” is used in this document in an Aboriginal context, which encompasses all aspects of the natural environment, including water and wildlife.

settlement of land claims in the Mackenzie Valley, and increasing natural gas prices, there has been a rapid surge in oil and gas exploration and natural gas development in the Mackenzie Delta and in the southern part of the NWT.

Mackenzie Valley Pipeline

The Mackenzie Gas Producers (MGP) submitted a Preliminary Information Package (PIP) in June 2003 outlining their interest in building a pipeline to transport natural gas from reserves in the Mackenzie Delta to northern Alberta. The Mackenzie Valley Pipeline project is a partnership venture with Imperial Oil Resources Ventures Limited, ConocoPhillips Canada (North) Limited, ExxonMobil Canada Properties, Shell Canada Limited and the Aboriginal Pipeline Group (collectively the Mackenzie Gas Producers).

The development effort will be phased in over several years and includes five components: three natural gas fields, a gathering system and the transmission system (pipeline and associated infrastructure). Development will include the natural gas fields at Niglintgak, Taglu and Parsons Lake and construction of a gathering system and transmission systems (including a natural gas liquid pipeline from Inuvik to Norman Wells and a transmission pipeline system from Inuvik along the Mackenzie Valley to connect to the existing natural gas pipeline system in northwestern Alberta). Each component of the project will require permits for water and land use. The footprint on the surrounding landscape will include, at various stages: construction equipment, drilling rigs, fuel, airstrips, barge landing sites, camps, quarry sites, stockpile and staging sites, compressor stations, line heaters and the access roads/bridges to develop these sites (MGP, 2003).

In August 2003, the proponents applied for selected land use permits for this project from the Mackenzie Valley Land and Water Board to trigger the regulatory process in the Mackenzie Valley. In combination with the filing of the PIP, these two actions have triggered what is projected as a three-year environmental assessment (EA) and regulatory review. The review process is outlined in the Cooperation Plan for the environmental impact assessment and regulatory process (Northern Pipeline Environmental Impact Assessment and Regulatory Chairs Committee, 2002). Construction of the pipeline is expected to be complete by 2008 (MGP, 2003).

The proposed Mackenzie Valley Pipeline and associated infrastructure will pass through more than 1,500 km of boreal forest, with a portion that may follow the existing pipeline right-of-way from Norman Wells (MGP, 2003). The gathering systems will cross the Yukon Coastal Plain and Tuktoyuktuk Coastal Plain ecoregions. The transmission systems will cross eight ecoregions: Great Bear Lake Plain, Fort McPherson Plain, Norman Range, Mackenzie River Plain, Franklin Mountains, Horn Plateau, Hay River Lowland, Northern Alberta Uplands. Within these ecoregions, the proposed project will intersect several sensitive areas: the Kendall Island Bird Sanctuary, which overlaps the Taglu and Niglintgak gas fields, the Travaillant Lake Conservation Zone, and the Edehzhie Candidate Protected Area. In the Deh Cho, the pipeline will also cross several areas of ecologically and culturally important lands through a pipeline study corridor.

Hydrocarbon Development Areas and Associated Development

The proposed Mackenzie Valley Pipeline and associated infrastructure will be developed for additional gas developments in the Mackenzie Delta and along or adjacent to the Mackenzie Valley area. An “Open Season Expression of Interest” was held in 2002 to determine a rough estimate of current and future pipeline use – over twenty companies provided responses. There are also currently significant hydrocarbon development areas in or near Colville Lake, Peel Plateau, Norman Wells, Cameron Hills and the Liard Valley (see Map #1). The anticipated pipeline will likely make development of these areas more viable. As well, to off set the high cost of development and exploration for the pipeline, there will likely be increased efforts to find additional viable gas deposits. Eventually new gas sources will be required to keep the proposed Mackenzie Valley Pipeline at capacity (Gartner Lee, 2003; MGP, 2003).

To aid hydrocarbon development, the federal government invested \$7 million in two major projects: enhancing geoscience information for exploration companies and completing an assessment of energy potential in the Mackenzie Valley. There is also a plan for valve access points along the proposed Mackenzie Valley Pipeline to enable community access to the natural gas. Additional feeder lines, and associated transportation, distribution, metering, processing and other facilities to bring the gas to the communities would be needed (MGP, 2003).

Further, the Government of the NWT has developed a proposal to construct hydroelectric dams on several rivers, including the Great Bear River, in part to provide power to pipeline compressor stations. An all-weather highway has been proposed by the Government of the NWT, which could open up previously inaccessible areas to further oil and gas exploration, forestry and/or mining. The result is a tremendous potential for industrial development and economic growth.

A Need for Balance

The proposed Mackenzie Valley Pipeline would be the largest industrial development project in NWT history, and one of the largest in Canada. The development would bring inevitable cumulative impacts to the NWT’s ecosystems and socio-cultural environment: destruction of habitat, fragmentation of migration routes and displacement of wildlife, as well as the potential disruption to the subsistence harvest and northern traditions. These impacts are well documented in such areas as British Columbia and Alberta where intensive exploration and development have occurred for many years.

Northerners are aware of these impacts and have voiced their concern. Community consultations were conducted in 2002 for a biophysical gaps study (currently in draft) commissioned by DIAND’s Pipeline Readiness Office to identify concerns about pipeline impacts and gaps in ecological information. Consistently concern over habitat loss and fragmentation arose from community members. Specific concerns included climate change, changes in wildlife movement, migration, health, contamination and species presence (Gartner Lee, 2003).

The proposed Mackenzie Valley Pipeline will create significant pressures on the natural environment of the Mackenzie Valley. In order to achieve a balance of conservation and development, major conservation elements must be incorporated into the planning and decision-making process of the proposed Mackenzie Valley Pipeline.

3.0 Achieving Balance of Conservation and Development

The proposed Mackenzie Valley Pipeline presents both major challenges and opportunities for the conservation of ecological and cultural values. The following is a discussion of the role of protected areas (Section 3.1), federal and territorial commitments to establishing protected areas (Section 3.2) and an examination of current conservation efforts and how the NWT-PAS fits within the broader context of land use planning in the NWT (Section 3.3).

3.1 The Importance of Protected Areas

Protected areas play an important role in the overall environmental management framework in the NWT. Together with buffer zones and connecting wildlife corridors, a network of protected areas in the Mackenzie Valley will:

- safeguard culturally important areas,
- adequately represent the diversity of habitats and landscapes,
- maintain the ecological integrity of NWT ecoregions,
- ensure the viability of wide ranging species such as caribou, bears, wolves, wolverine and migratory birds,
- maintain a well-connected natural landscape, and
- act as reference sites to provide a crucial benchmark to properly monitor, assess and mitigate impacts of the proposed Mackenzie Valley Pipeline and associated industrial development. This is an important precaution due the complex relationship between development and environmental change and the related potential cumulative impacts.

A network of protected areas, managed in conjunction with other conservation mechanisms such as land use plans, cumulative impact monitoring and management, and a strong environmental management regime, will help maintain the cultural and ecological landscape values that currently exist in the Mackenzie Valley. As well, incorporating proper conservation planning will ensure greater certainty regarding access to the land base for exploration and development for the long term.

Securing Canada's Natural Capital: A Vision for Nature Conservation in the 21st Century, a recent report on the state of conservation⁴ in Canada by the National Round Table for the Environment and the Economy (NRTEE), found that conservation planning has generally not kept pace with development pressures on the Canadian landscape. The report underscores the importance of parks and protected areas as reservoirs for natural capital and that there is a significant potential in the North for conservation planning, including the establishment of new protected areas. In particular, it was recognized that in the Mackenzie Valley there is a unique and time-limited opportunity to plan proactively *prior* to any major development. Of the

⁴ NRTEE Definition of Conservation: The maintenance or sustainable use of the Earth's resources in a manner that maintains ecosystems, species and genetic diversity and the evolutionary and other processes that shaped them. Conservation may or may not involve the use of resources; that is, certain areas, species or populations may be excluded from human use as part of an overall landscape/ waterscape conservation approach. The term has been adapted from: Environment Canada, *The State of Canada's Environment—1996, Glossary of Selected Terms*, www.ec.gc.ca/soer-ree/English/SOER/1996report/Doc/1-10-1.cfm (Adapted from Federal–Provincial–Territorial Biodiversity Working Group 1995).

recommended actions, it was specifically stated that the federal government should require conservation planning prior to issuing permits in the Mackenzie Valley (NTREE, 2003: Chapter 6 – Conservation Planning for Whole Landscapes). This type of targeted approach enables governments and stakeholders to focus resources strategically and protect intact ecological and cultural areas.

3.2 Federal and Territorial Commitments to Completing Protected Areas

Over the last two decades, the federal government has made numerous commitments, both internationally and nationally, regarding sustainable development, with specific references to the establishment of a network of protected areas across the country. International commitments include the *Convention on Biological Diversity* (1992), and the *Inuvik Declaration* (1996). National commitments include *Canada's Green Plan* (1990), the *Tri-Council Statement of Commitment* (1992), the *Whitehorse Mining Initiative* (1994), the *Joint Federal-Territorial Task Force on Northern Conservation* (1994) and the *Minerals and Metals Policy* (1996). The *Mackenzie River Basin Transboundary Waters Master Agreement* (1997) signed by Canada, British Columbia, Alberta, Saskatchewan, the NWT and the Yukon, promotes cooperative, sustainable management and advocates for the maintenance of ecological integrity within the entire Mackenzie Watershed.

In the NWT, both DIAND and GNWT have committed to sustainable natural resource management and development, which includes initiatives regarding the protection of a network of culturally and ecologically significant areas, and policy commitments for increased regulatory certainty to industries interested in the development of the NWT's natural resources. The *NWT-PAS* (1999) is the most direct, relevant example, however, others include the *Federal "North of 60 Action Plan" for Sustainable Development* (2001), *GNWT Sustainable Development Strategy* (1993) and *Non-Renewable Resource Development Strategy* (1998), and *Improving the Northern Operating Environment* (2001).

3.3 How Are Areas Protected in the NWT?

Conservation efforts in the NWT have been built upon Northerners' intimate connection to the land – the land sustains all life, defining who we are and what we do. This sentiment is reflected in words often heard across the north, "the land takes care of us and we take care of the land."

Over twenty-five years ago, the Berger Inquiry heard Northerners' concerns and found that a Mackenzie Valley pipeline should not proceed until some key conditions were satisfied, notably:

- Land claims should be settled;
- There should be adequate planning for all northern conservation areas before proposals for new large-scale frontier projects are advanced;
- Conservation is itself an important land use and areas should be identified and set aside while the options are still open; and
- Withdrawal of land from any industrial use will be necessary in some instances to preserve wilderness, wildlife species and critical habitat.

Some significant progress has been made since Berger submitted his recommendations in 1977. With the exception of the Deh Cho region (where an interim measures agreement is now in place), land claims in the Mackenzie Valley have been settled and regions are now undertaking land use planning.

Land Use Planning

Land use planning provides an integrated process for managing resources and conservation planning is an important part of this process. Various land-use planning processes are ongoing within the Mackenzie Valley. Through each process, sensitive cultural and ecological areas are identified, with varying degrees of protection.

Under the Inuvialuit land claim, there are a number of legislated protected areas. As well, communities within this region have prepared community conservation plans that recommend terms and conditions for land use. The land use plan in the Gwich'in Settlement Area has recently been approved and conservation and heritage conservation zones have been withdrawn (surface and subsurface) for an interim period of five years. A number of special management areas have also been identified which have specific regulations and guidelines for development activities. The Sahtu Land Use Planning Board released a draft land use plan in the spring of 2003 containing conservation areas, special management areas, and multi-use areas. The Deh Cho Land Use Planning Committee is currently in the early stages of developing a land use plan. Through the Deh Cho Process (land claim negotiations), a network of culturally and ecologically important lands were withdrawn in August, 2003 for a interim period of five years, pending land claim negotiations and the land use planning process.

Conservation areas or zones identified in land use plans may be withdrawn for an interim period of time or may be recommended for long-term legislated protection through other conservation planning processes, such as the NWT-PAS. The land use plans are reviewed and updated on a regular basis, usually every five years.

NWT Protected Areas Strategy

The NWT-PAS is a complementary, community-based tool that communities may use to meet their long-term conservation objectives in the Mackenzie Valley.

The NWT-PAS was forged in the 1990's by representatives from communities, Aboriginal organizations, government, industry, and environmental organizations to facilitate the community-based development of a network of protected areas throughout the NWT. The NWT-PAS process addresses the crucial link between protection and development by providing a more clearly defined context for resource development and by helping to alleviate concerns that future resource development will compromise the protection of special natural areas. This will help to ensure resource-based industries and tourism interests obtain greater clarity about land status, land use access and development options (NWT-PAS,1999:4,5).

Implementation of the NWT-PAS is a joint responsibility of DIAND and the GNWT. The NWT-PAS outlines roles for funding and implementation partners, including other government agencies, Aboriginal organizations, environmental organizations and industry. The process is community-based and provides a flexible framework for advancing culturally and ecologically

significant areas to long-term legislated protected status⁵. This innovative partnership approach works towards two primary goals, protecting special natural and cultural areas and protecting core representative areas within each ecoregion. It provides an eight-step planning process that uses existing legislation to protect NWT lands.

The NWT-PAS provides a framework for creating protected areas in the NWT, but it is not mandatory. Various other processes already existed prior to the implementation of the NWT-PAS such as those used by Parks Canada, Environment Canada and the GNWT. Pages 27 to 45 of the NWT-PAS provide an overview of the protected area designations and associated legislation/policy that can be used in the NWT. The decision to advance an area through the NWT-PAS depends on a number of factors, such as existing protected areas designations and land use plans, conservation objectives and the values being protected. The circumstances may be such that communities may choose to advance an area through a specific territorial, federal or international process and not through the NWT-PAS. An example of this is the expansion of Nahanni National Park Reserve which is being advanced through the Parks Canada process.

Why Action is Needed Now

Despite the progress that has been made since Berger's recommendations, no new permanently protected areas have been established in the Mackenzie Valley. However, many areas of high ecological and cultural significance have been identified in community mapping exercises and planning processes.

Therefore the NWT-PAS Secretariat, working together with stakeholders through the NWT-PAS process, have developed this Action Plan to enhance conservation efforts in the Mackenzie Valley, as outlined in the following section. It builds upon the conservation goals of the communities in the Mackenzie Valley and is guided by the territorial and federal government's commitment to balanced development.

⁵ Two sites of high cultural and ecological value have already proceeded through the NWT-PAS process to interim protection – Sahyoue/Edacho (5,670 km² in the Sahtu region), and Edézhíe (25,000 km² in the Deh Cho-Dogrib regions). In both cases, the five-year withdrawal from industrial development provides a crucial window of time to complete more detailed cultural, ecological and non-renewable resource assessments.

4.0 Vision for NWT Protected Areas Strategy Action Plan: 2004-2009

This section outlines the primary goal and objectives of the Action Plan and identifies planning and costing assumptions.

4.1 Five-Year Goal

This Action Plan was developed, in partnership and through consultation, with members of the PASIAC, in response to the PASIAC resolution, discussed and unanimously passed October 29, 2002 in Inuvik:

“The PASIAC supports the conservation first approach taken by Aboriginal groups in their land use planning and interim measures agreements. The PASIAC requests that the federal government commit to \$4 million a year for a period of 3 years to identify and advance sites in a timely manner through the PAS process.”

To support community conservation goals, the primary goal of the Action plan is to enhance the implementation of the NWT-PAS by increasing resources and capacity to identify, review, establish interim protection and evaluate areas for protection in the Mackenzie Valley. Specifically, the Action Plan has been developed to enhance identification of protected areas and withdraw these areas for an interim period of five (5) years in order to complete detailed non-renewable, ecological, cultural and renewable resource evaluations, as set out in Step 5 of the NWT-PAS. However, to ensure ecological integrity is maintained, it is important that the protected areas are planned and managed as a network and not as isolated 'islands' of nature (NWT-PAS, 1999:16,17). Therefore, where possible these areas will be connected through existing special management areas, cultural areas and other conservation zones already designated under various land use planning processes occurring throughout the Mackenzie Valley.

The Action Plan conforms to the overall vision, goals and principles of the NWT-PAS, and respects the precedence of Aboriginal and Treaty land claims and rights. Advancement of sites under this Action Plan will continue to follow the eight steps set out in the NWT-PAS which details an extensive planning process for protected areas establishment (NWT-PAS, 1999:12-17).

Predicting the number of candidate sites that will be advanced through the NWT-PAS in this time period is challenging, as site advancement is dependent on the capacity and desired conservation processes of both community and regional-based claimant organizations⁶. For example, a number of conservation zones have been identified through the various land use planning processes in the Mackenzie Valley, and some may be advanced through the NWT-PAS.

⁶ As discussed in Section 3.0, sites are advanced through the NWT-PAS primarily as a result of community-based goals and objectives for protecting areas of both cultural and ecological significance. Regional or community-based organization may choose to protect sites for an interim basis through a land use planning authority as provided through land claim agreements and the Mackenzie Valley Resources Management Act, Interim Measures Agreements, or alternative mechanisms not currently recognized by the PAS (e.g. Tribal Parks).

For planning purposes, an estimate of sixteen (16) sites is used (Map#1). This estimate is based on the number of ecoregions that are directly impacted by the anticipated pipeline route and associated hydrocarbon development areas in the Mackenzie Valley.

4.2 Objectives

To meet this goal, the following action objectives have been identified:

- Objective 1: To **enhance protected areas planning** in the Mackenzie Valley.
- Objective 2: To **build adequate capacity** at the community, regional, organizational and government (NWT-PAS Secretariat) level to adequately manage the enhanced process.
- Objective 3: To ensure detailed **information requirements for candidate protected areas** are met for advancing sites through the NWT-PAS process.
- Objective 4: To enhance **communications** with communities, stakeholders, government, science partners and industry.

4.3 Planning Assumptions

The total amount of resources required by the NWT-PAS stakeholders for this Action Plan has been calculated to illustrate the partnership approach used in implementing the NWT-PAS, as well as to provide a true estimate of the total cost of protected areas establishment in the Mackenzie Valley over the next 5 years. Estimates are based on enhancing the already existing funding base for the NWT-PAS. The cost-sharing arrangement has yet to be determined by all NWT-PAS implementation partners (federal and territorial government, Aboriginal organizations, non-governmental organizations, and industry).

The following planning assumptions were used to guide human resource and technical capacity requirements for the Action Plan.

- A majority of NWT-PAS work is influenced by the geo-political decisions made by the claimant groups in the NWT⁷. The Action Plan is specific to the Mackenzie Valley, and therefore for planning purposes, estimated costs have been calculated only for those claimant groups in the Mackenzie Valley – the Deh Cho, Sahtu, Gwich'in and Inuvialuit Settlement Areas. However, general implementation of the NWT-PAS will continue throughout the NWT as annual resources permit.

⁷ Claimant groups include the Inuvialuit Regional Corporation (IRC), Gwich'in Tribal Council (GTC), Sahtu Secretariat Inc (SSI), Dogrib Treaty 11, Deh Cho First Nation (DCFN), Akaitcho Territory Government, NWT Metis Nation and North Slave Metis Alliance.

- It is anticipated that the workload of the NWT-PAS Secretariat and stakeholders, including Aboriginal groups and environmental non-government organizations (ENGOS) will increase two-fold.⁸
 - NWT-PAS Community Coordinators will need to be hired in the Mackenzie Valley as candidate areas are nominated. The average cost to hire full-time NWT-PAS Community Coordinators is approximately \$50,000.00 per person year (salary only).
 - The cost to government to staff technical and management positions required to work on NWT-PAS initiatives in the Mackenzie Valley averages \$100,000.00 per person year, for both the Federal and Territorial government in the NWT. This includes salary, benefits, housing, relocation and associated operations and maintenance costs.
 - Environmental non-government organizations (ENGOS) will also need to ensure that they have the capacity to work on NWT-PAS initiatives, and estimate they will need \$100,000.00 per person year, which includes salary, travel, and associated operations and maintenance costs. The ENGOS will raise their own staffing funds and will contribute additional funds to the Action Plan. Funds raised by ENGOS for the implementation of this action plan will be directed to support community-based protected areas proposals.
- An increase in the number of candidate areas being advanced through the NWT-PAS will increase the number of detailed ecological, non-renewable, cultural, and renewable assessments required. This will affect the level of technical capacity needed to carry out the evaluations (ecological, cultural and non-renewable) and to generate the information for each candidate site.

Every site is unique, therefore estimating an “average” cost for resource assessments under the NWT-PAS is difficult. For costing projection purposes an average was used from the Sahyoue/Edacho and Edehzhie candidate area evaluations - approximately \$500,000 was applied.

- Additional resources will be required to acquire and analyze data sets in support of the identification of representative areas, including both traditional and scientific knowledge. Where possible, data will be compiled from existing programs and studies.
- The cost of holding regional workshops is estimated at \$60,000 each. Where possible, Treasury Board guidelines for travel in the NWT have been used to project meeting costs. High meeting costs reflect the high costs of doing business in the NWT (air travel, per diems, accommodation).
- An evaluation to improve the process within the existing eight steps may be required to meet the timelines set out in the Action Plan. For example, a re-evaluation of governance

⁸ The role of governments, Aboriginal groups, and stakeholders (including ENGOS) in implementing the NWT-PAS are set out in section 3 of the NWT-PAS document.

respecting the management of candidate area working groups in land claim regions will be required. Contractors may need to be hired to undertake such evaluations.

As a next step in this strategic planning process, the NWT-PAS Secretariat will commit to looking at a phased approach, identifying where possible, incremental costs over the five-year planning cycle. Currently, the planning assumptions assume all regions in the Mackenzie Valley will be engaged in the PAS by April 2004.

5.0 Action Plan: 2004-2009

This section contains an overview of the projects and initiatives the NWT-PAS Secretariat and stakeholders will undertake over the next five years to meet the primary goal of enhancing the number of candidate areas advanced through the NWT-PAS. It is organized into the four major action objectives identified in Section 4.2:

Objective 1:	Enhancing Protected Areas Planning
Objective 2:	Building Capacity
Objective 3:	Improving Information for Candidate Protected Areas
Objective 4:	Increasing Communications

For each objective, key tasks are described with specific information on the lead agency, timeframes for completion and estimated costs.

Detailed estimated costs for Section 5 can be found in Section 6.

5.1 Enhancing Protected Areas Planning

Since its inception, the NWT-PAS Secretariat has worked with interested communities to identify potential protected areas. Areas currently being considered by the communities fit most appropriately under the first goal of the NWT-PAS, “to protect special natural and cultural areas.”

With a proposed Mackenzie Valley Pipeline on the horizon, the identification and protection of areas representative of the natural habitats in the NWT prior to development is required to meet the second goal of the NWT-PAS, as well as improve the northern operating environment for industry, and ensure that development occurs in a responsible and environmentally sensitive manner. In preparation for further northern development, more efforts need to now be directed towards the second goal of the NWT-PAS, “to protect representative core areas within each ecoregion”.

This objective outlines specific tasks to enhance planning: preliminary identification of high ecological and non-renewable resource values in the Mackenzie Valley, presentation and integration of non-renewable, ecological and cultural information at the regional level, and a policy review to determine ways to enhance the eight steps of the NWT-PAS to improve efficiency and effectiveness.

**Detailed estimated costs for Section 5.1 can be found in section 6.2.1*

Task 1 – Preliminary Ecological and Non-Renewable Resource Mapping

There is a gap in basic ecological and non-renewable resource knowledge for the Mackenzie Valley. As part of preliminary planning, a general ecological and non-renewable resource

evaluation will be completed to identify potential areas of high ecological value and areas of high economic value. This information will then be integrated to see where potential representative protected areas could be established. Where possible, protected area proposals will give priority to areas of low commercial value (Economic Opportunities – Principle ‘k’ of the NWT-PAS)

A: Mapping ecologically representative areas in the Mackenzie Valley

The second goal of the NWT-PAS is to protect areas representative of the biodiversity of each of the 42 ecoregions. Inherent in the second goal is that a system of protected areas representing the biodiversity of the NWT will be based on biophysical land units defined within the *National Ecological Framework for Canada* (1996), a Canada-wide ecological land classification framework. This approach has been advocated by ecologists and geographers because detailed information on species and communities is often lacking, and elements of the landscape (landforms, soils, water and climate) can be used to approximate biodiversity.

The NWT-PAS has subdivided the ecoregions of the National Ecological Framework for Canada into smaller biophysical units called landscape units that are based on the 1:1 million Soil Carbon Digital Database of Canada, a layer of soil landscape (SLC) polygons within the Canadian Soil Information System (CanSIS). Landscape units reflect the broad landscapes within NWT ecoregions. Representative core areas should contain a wide variety of these landscape units to ensure the protection of biodiversity within the ecoregions of the NWT. The representation of landscape units can be viewed as a first coarse filter approach in the selection of core representative areas in NWT ecoregions.

In an effort to protect the biodiversity of NWT ecoregions prior to pipeline development, the NWT-PAS Secretariat proposes that by March 2005 a map be prepared showing options for potential representative core areas in the NWT, with priority given to the ecoregions of the Mackenzie Valley.

To achieve this, the NWT-PAS will focus its immediate efforts on adding an ecological component to the Ecological Framework of Canada SLC polygons. Analysis of existing vegetation classification data and interpretation of vegetation patterns from enhanced Landsat 7 satellite imagery will support this effort.

A re-evaluation of the NWT landscape units will also be required, largely with a view to further amalgamate the landscape units to reduce their number. The revised landscape units in combination with the vegetation descriptions added to the SLC polygons will not only provide a more reliable coarse filter to select initial core representative areas but would also be a first broad-scale attempt to define an NWT ecological land classification that fits within the national Ecological Framework for Canada.

Final area selection, however, should not rely entirely on a coarse filter approach (landscape unit representation). Where other ecological data layers are available or can be generated or purchased at a reasonable cost, they will be analyzed to supplement the coarse filter approach.

Together, the above efforts will provide a sound and defensible method for objectively identifying potential core representative areas as part of an overall network of protected areas in the Mackenzie Valley and ultimately in all of the NWT.

Lead: Government of the Northwest Territories
Partners: NWT-PAS Stakeholders
Priority: HIGH
Timeline: Complete by March 2005
Estimated Costs: \$190,000

B: Non-renewable resource potential mapping in the Mackenzie Valley

The NWT-PAS calls for a detailed evaluation of non-renewable values, which includes the assessment of mineral, petroleum and natural gas resource potential in each candidate protected area, called the Non-renewable Resource Assessment (NRA).

The NRA is consistent with *Canada's Minerals and Metals Policy* (1996), which states that the mineral potential of an area should be taken into account before a final decision to create a protected area on federal lands is taken. The overall evaluation of candidate protected areas under the NWT-PAS, reflects the spirit and intent of the *Whitehorse Mining Initiative Leadership Accord* signed in 1994, by ensuring that final selection of protected areas takes into account economic, environmental and social information.

In an effort to uphold the principles of the NWT-PAS in assessing and determining the boundaries of protected areas, the NWT-PAS Secretariat proposes that non-renewable resource potential mapping be completed for the Mackenzie Valley. This exercise is not intended to be an exhaustive NRA of the entire Mackenzie Valley. Rather, this exercise is intended to aid in the identification of areas of interest that will contribute to an ecologically representative network of protected areas.

The following methodology will be used to determine the oil and gas potential:

- Key geological information (government, academic, industry reports etc.) will be examined and assessed.
- All known petroleum occurrences will be compiled from existing information, and categorized on the basis of production, reserves/resources for economic deposits.
- From the geological and petroleum occurrence information the petroleum potential will be assessed using a ranking criteria similar to that established in the NRA methodology.
- The spatial analysis of petroleum potential will be a knowledge-based approach rather than purely data driven. This will allow for the consideration and incorporation of additional various data sets at different scales and resolutions. Analysis of selected seismic, geophysical and remote sensing data will contribute to the resource potential studies.
- GIS spatial analysis will be combined with knowledge-based integration of data in three dimensions to outline surface polygon areas of very high to very low potential.

The following methodology will be used to determine the mineral potential:

- Key existing geological information (Government and industry maps, reports etc.) will be compiled into a digital product in the form of a map at a regional scale.

- All known mineral occurrences will be compiled from existing database information and a review of assessment reports, consultation with industry, academia, etc. The mineral deposit information will be categorized/evaluated based on mineral deposit type, commodity and development stage, etc.
- From the geological and mineral occurrence information the mineral potential will be assessed using GIS spatial analysis based on mineral deposit models.
- Other levels of information will also be collected and analyzed such as geochemistry, geophysics and remote sensing images to be used as ancillary tools in the determination of mineral potential, to either confirm or counter results from the GIS methodology.
- Integration of Mineral Deposit Models with geologic data.

These proposed methodologies and products are recommended based on the time constraints and the expected use of the information. The resource potential mapping would by no means be exhaustive but would be a useful planning tool to support balanced decision-making.

Lead: CS Lord Northern Geoscience Centre
Partners: NWT-PAS Secretariat
Priority: HIGH
Timeline: Complete by March 2005
Estimated Costs: \$200,000

Task 2 - Achieving cooperative implementation of the NWT-PAS at a regional level

The intended outcome of this task is to coordinate the identification of protected areas at the regional level. Community participation and involvement, however, is essential in the advancement of candidate protected areas. Therefore, advancement of these areas at a regional level will require significant coordination, both at the NWT-PAS Secretariat and community level. Information from Task 1, as well as other relevant existing data, will be freely shared with communities to aid in the identification of protected areas within established community and regionally-based planning initiatives.

To achieve this task the NWT-PAS Secretariat proposes the following:

- Develop a workshop format in preparation for regional and community-based NWT-PAS meetings.
- Meet with regional land use planning organizations (Sahtu Land Use Planning Board, Gwich'in Land Use Planning Board, Deh Cho Land Use Planning Committee, Metis organizations) to establish regional PAS Implementation Plans.
- Hold community-based meetings as required following discussions with the regional land use planning bodies. Technical staff would work with community coordinators to identify NWT-PAS goals at a community level from the regional PAS Implementation Plans.
- Coordinate consultations/workshops where possible with proposed Mackenzie Gas Pipeline initiatives, such as regulatory consultations, Mackenzie Gas Producers Group visits or DIAND Pipeline Readiness Office community workshops.

Lead: NWT-PAS Secretariat

Partners: NWT-PAS Stakeholders
Priority: MEDIUM/HIGH
Timeline: Projects and regional workshops complete by March 2005.
Site-specific coordination will be ongoing through March 2009 (Details under Section 5.2 and 5.3).
Estimated Costs: \$970,000

Task 3 - Policy Review

The timeline for completing the eight steps within the NWT-PAS has been site specific. With an increase in the number of candidate protected areas being advanced through the NWT-PAS, there will be a need to review and modify the planning process to be more efficient in meeting the assessment and consultation requirements. To accomplish this task, the following is proposed:

- Conduct an evaluation of the NWT-PAS to see where there are opportunities to enhance the process within the eight planning steps. For example, currently candidate area working groups have been established for each candidate area. Should a number of candidate protected areas be advanced in one region, there may be the opportunity to develop a regional candidate area working group rather than one for each area.
- Conduct a policy review of innovative legal mechanisms and models for land conservation in the NWT. The number of areas estimated to be advanced in the next 5 years would put an undue burden on agencies with legislative capacity to reserve and protect lands.

Lead: NWT-PAS Secretariat
Partners: All NWT-PAS Partners
Priority: MEDIUM/HIGH
Timeline: Complete by March 2005
Estimated Costs: \$100,000

5.2 Building Capacity

It has been recognized in the costing assumptions developed for this Action Plan, that an increase in the number of candidate areas being advanced through the NWT-PAS will have significant implications on human resource requirements. An increase in the number of candidate areas will affect the level of technical capacity required to carry out the evaluations (ecological, cultural, non-renewable and renewable) of each candidate site. It is estimated that an increase in resource assessments will likely double the workload of the NWT-PAS Secretariat and partnering organizations. The roles of governments, Aboriginal groups, and other stakeholders in implementing the NWT-PAS are set out in Section 3 of the NWT-PAS (pgs 12-17).

As per the timeline detailed in Section 6.4, staffing is anticipated to begin in 2005. Therefore, all costing estimates for staffing are based on a four-year time span rather than five.

**Detailed estimated costs for Section 5.2 can be found in Section 6.2.2*

Task 1 - Ensure participating regions have NWT-PAS capacity

Capacity is required for communities to participate effectively in decision-making related to land use and conservation planning. While the NWT-PAS sets out an overall framework for identifying and establishing protected areas in the NWT, the NWT-PAS also states that the task of developing concrete proposals should actively involve communities, regional organizations and/or land claim bodies (Steps 1 through 3, NWT-PAS). Therefore, local and regional participation is essential in the advancement of candidate protected areas under this Action Plan.

The NWT-PAS Secretariat proposes the following steps to ensure that the participating regions have NWT-PAS capacity:

- Make funding available for regional NWT-PAS community coordinator positions. These positions will be responsible for gathering local information, compiling existing data from other agencies, and communicating and consulting with regional organizations and community members on protected area initiatives. These individuals will be in regular communication with the NWT-PAS Secretariat, and
- Ensure that training and technical support is available to meet the needs of the community coordinators.

Lead:	NWT-PAS Secretariat
Partners:	NWT-PAS stakeholders
Priority:	MEDIUM/HIGH
Timeline:	Ongoing, 2005 - 2009
Estimated Costs:	\$850,000

Task 2 - Ensure NWT- PAS Secretariat capacity

The Secretariat is responsible for the overall implementation of the NWT-PAS. It monitors and reports on progress and acts as a point of contact for the general public. The Secretariat also provides coordination, funding, technical and administrative support to communities and regional organizations engaged in the NWT-PAS process. An increase in the number of candidate protected areas being advanced through the NWT-PAS will increase pressure on the ability of the Secretariat to provide administrative and technical coordination support for each site, as well as continue to ensure that all stakeholders are actively engaged in the process.

- DIAND: two additional NWT-PAS Secretariat staff will be required to provide planning and analytical support, and
- GNWT: two additional NWT-PAS Secretariat staff will be required to provide planning and analytical support.

Lead: NWT-PAS Secretariat
Priority: MEDIUM/HIGH
Timeline: Ongoing, 2005 - 2009
Estimated Costs: \$1,600,000

Task 3 - Enhance technical support

In addition to the administrative and coordination support required to enhance the NWT- PAS, there will be an increased demand for ecological, geo-physical, GIS, renewable resource and conservation planning expertise. Currently, implementation of the NWT-PAS is supported by technical specialists from various stakeholders, including the territorial and federal governments, as well as from environmental non-government organizations (ENGOS).

The following is the proposed increase in technical support needed:

- DIAND: two additional staff to increase technical capacity related to non-renewable resource assessment;
- GNWT: two additional staff to increase ecological and GIS capacity related to candidate area identification;
- Environment Canada: two additional staff to increase technical and administrative capacity in relation to their role as a sponsoring agency, and
- ENGOS: six additional staff to increase planning and technical capacity related to working with communities to advance conservation planning and protected area establishment.

In total, twelve additional technical support staff will be required to support enhancement of the NWT-PAS related to non-renewable resource assessment, ecological assessment and other technical assistance as required.

Lead: NWT-PAS Secretariat
Partners: Environment Canada, World Wildlife Fund, Canadian Parks and Wilderness Society – NWT Chapter, Ducks Unlimited Canada
Priority: MEDIUM/HIGH
Timeline: Ongoing, 2005 - 2009
Estimated Costs: \$4,800,000

Task 4 - Building an effective team structure

To achieve our goals, the NWT-PAS requires an effective team structure, including all the NWT-PAS stakeholders – government agencies, regional organizations, environmental non-governmental organizations and industry. To build an effective NWT-PAS implementation team structure, the following are required:

- NWT-PAS Secretariat and funding partners monthly meetings;
- Building community team capacity – two annual meetings for training and capacity building for community coordinators with respect to the NWT-PAS; and
- NWT-PAS regional meetings – annual meetings to deal with regional initiatives and build partnership opportunities.

Lead: NWT-PAS Secretariat
Partners: NWT-PAS stakeholders
Priority: LOW/MEDIUM
Timeline: Ongoing, 2005 - 2009
Estimated Costs: \$560,000

5.3 Improving Information for Candidate Areas

The NWT-PAS outlines a series of eight steps for the planning and establishment of protected areas, one of which (Step 5) calls for a detailed evaluation of the area's ecological, cultural and economic values. Guidelines have been developed in consultation with the NWT-PAS stakeholders for the assessment of ecological and non-renewable resources. Cultural and renewable resource assessment guidelines are currently being developed.

**Detailed estimated costs for Section 5.3 can be found in Section 6.2.3*

Task 1 - Conduct evaluations for each candidate protected area

Experience with NWT-PAS implementation to date has proven that a time commitment of at least two years is required to advance an area of interest from the identification stage to the evaluation stage (Step 5 as noted above). Based on the planning assumption that sixteen new areas may be advanced in the next 5 years, there will be a potential requirement to conduct sixteen ecological, cultural and non-renewable and renewable resource evaluations.

While every area of interest is unique in composition, for costing projection purposes an average from the Sahyoue/Edacho and Edehzhie candidate area ecological, cultural and non-renewable resource assessments was used (approximately \$450,000). The cost for the renewable resource assessment had to be estimated since this type of evaluation has not been conducted (approximately \$50,000). The approximated total estimated cost for the evaluations is \$500,000.

The preliminary ecological and non-renewable resources mapping for the Mackenzie Valley described in Section 5.1, Task 1 provide crucial planning information but further detail will be required for individual sites to properly define boundaries and determine management requirements.

It is not anticipated that candidate protected area evaluations will begin until after preliminary planning (Section 5.1, Task 1 and 2) has been completed.

Lead:	NWT-PAS Secretariat – coordinating lead
Partners:	NWT-PAS stakeholders
Priority:	HIGH
Timeline:	Ongoing, 2005 - 2009, in response to the advancement of candidate areas.
Estimated Costs:	\$ 8,000,000

5.4 Increasing Communications

It is the role of the NWT-PAS Secretariat to provide balanced information to the public on the NWT-PAS and its implementation. Since its inception, the NWT-PAS Secretariat has worked to build awareness of the NWT-PAS with communities, industry, federal, territorial and Aboriginal governments and the general public. In anticipation of and in preparation for accelerated northern development, communicating the five-year goal of the NWT-PAS in the Mackenzie Valley will be a key factor in the success of the enhanced implementation.

**Detailed estimated costs for Section 5.4 can be found in Section 6.2.4*

Task 1 - Review and improve NWT-PAS communications strategy

The objective of this task is to ensure the NWT-PAS Secretariat has the proper tools to communicate the vision for the Action Plan in the next five years to all stakeholders.

The NWT-PAS Secretariat will review, revise and implement an enhanced communications strategy:

- Provide recommendations with respect to working with radio and television media, and
- Enhancing newsletters, webpages and other print and visual arts media.

Lead: NWT-PAS Secretariat
Partners: NWT-PAS stakeholders
Priority: HIGH
Timeline: Completed by March 2005, with implementation by March 2006.
Estimated Costs: \$100,000

Task 2 - Enhance communication initiatives with industry, science and regulatory groups

Implementation of the NWT-PAS has clearly shown that there is much we can learn from each other's goals, values, skills, technology, and experience. The NWT-PAS Secretariat will continue to enhance communication initiatives with industry, science and regulatory groups, in order to build positive relationships and partnerships.

To achieve this objective, the NWT-PAS Secretariat will:

- Ensure communication on a regular basis with the Mackenzie Gas Producers (proponents of the Mackenzie Valley Pipeline),
- Plan a workshop with key industry and regulatory stakeholders involved in the Mackenzie Valley to ensure there is a comprehensive understanding of this Action Plan and the NWT-PAS process in general, and
- Continue to participate in industry, regulatory and scientific forums such as the Northern Geoscience Forum, the Inuvik Petroleum Show, and the Canadian Council for Ecological Areas.

Lead: NWT-PAS Secretariat
Partners: NWT-PAS stakeholders
Priority: MEDIUM/HIGH
Timeline: Ongoing, 2004 - 2009
Estimated Costs: \$225,000

Task 3 - NWT-PAS Forum

Holding annual forums, which was committed to in the NWT-PAS, is necessary to promote implementation of the NWT-PAS, to monitor progress, and to enhance communication among communities, regional organizations and land claim bodies undertaking NWT-PAS initiatives. To date, the NWT-PAS Forums have been held bi-annually at the recommendation of the PAS IAC.

Lead: NWT-PAS Secretariat
Partners: NWT-PAS stakeholders
Priority: MEDIUM/LOW
Timeline: Over next five years, 2 NWT-PAS Forums will take place.
Estimated Costs: \$150,000 (two Forums)

6.0 Costing Summary

The following provides an overview of the estimated costs for each task outlined in the Action Plan. Section 6.1 provides an overall costing summary. Section 6.2 details the breakdown of estimated costs for each objective. Section 6.3 describes estimates for annual implementation. 6.4 outlines the anticipated timeline for implementation of the Action Plan. Costs were determined based on the planning and costing assumptions outlined in section 4.3.

6.1 Costing Analysis

The estimated total cost to the NWT-PAS to develop a network of protected areas in the Mackenzie Valley over the next five years is roughly \$17.8 million (see Table 1). The majority of the anticipated costs are related to the technical capacity required to carry out the coordination, research and analysis necessary to substantiate protected area proposals. A significant percentage of costs are also related to building capacity to carry out the Action Plan at the community, regional and territorial level.

As discussed in previous sections of this Action Plan, it is difficult to determine at what pace or level of dependence regional claimant organizations will utilize the NWT-PAS in the five-year planning window. The Action Plan assumes that there will be full implementation of the NWT-PAS in the Mackenzie Valley. As such, identified resources may, in reality, be phased in over a five-year period. At this point in time, it is difficult to anticipate the exact allocations.

Table 1: Summary of Estimated NWT-PAS Action Plan Costs

Action Objective	Cost
Enhancing Protected Areas Planning	\$1,460,000.00
Building Capacity	\$7,810,000.00
Improving Information Requirements for Candidate Protected Areas	\$8,000,000.00
Increasing Communications	\$475,000.00
Total Estimated Five-Year Cost	\$17,745,000.00

6.2 Costing Breakdowns

The following is a breakdown of costs for each task identified in Section 5 for the period 2004/05 to 2008/09.

6.2.1 Enhancing Protected Areas Planning

Task 1: Preliminary Ecological and Non-Renewable Resource Mapping

A: Mapping ecologically representative areas in the Mackenzie Valley

- Add ecological component to landscape units/ecosystem classification
 - Visual interpretation of sample Landsat 7 imagery \$20,000
 - Assessment of Mackenzie Valley imagery and data sets \$70,000
- Landscape unit revisions and descriptions
 - GIS and ecological analysis \$50,000
- Assessment of additional data layers
 - Ecological support and analysis \$50,000

Sub-total **\$190,000**

B: Non-renewable resource potential mapping in the Mackenzie Valley

- Oil and gas and mineral data collection and analysis \$100,000
- Technical analysis \$100,000

Sub-total **\$200,000**

Task 2: Achieving cooperative implementation of the NWT-PAS at a regional level

- Prepare workshop framework \$10,000
- Conduct workshops with four claimant groups/regions (60K/4 regions) \$240,000
- Conduct community consultations and candidate area working group meetings (15K/16 sites/3yrs) \$720,000

Sub-total **\$ 970,000**

Task 3: Policy Review

- Enhance within the NWT-PAS process where necessary to meet time constraints \$50,000
- Analyse innovative mechanisms for protecting lands \$50,000

Sub-total **\$ 100,000**

Total Estimated Cost for Enhancing NWT-PAS **\$1,460,000**

6.2.2 Building Capacity

Task 1: Ensure participating regions have NWT-PAS Capacity

- Community-based NWT-PAS Coordinator salaries (50K/4 regions/4 years) \$800,000
- Development of training/orientation materials \$50,000

Sub-total **\$850,000**

Task 2: Ensure NWT-PAS Secretariat Capacity

- Hire 2 additional INAC NWT-PAS Planners/Advisors in 2004 (2/100K/4yrs) \$800,000
- Hire 2 additional GNWT NWT-PAS Planners/Advisors in 2004 (2/100K/4yrs) \$800,000

Sub-total **\$1,600,000**

Task 3: Ensure NWT-PAS Technical Support

- GNWT, DIAND - 2 additional mineral and petroleum geologists (2/100K/4yrs) \$800,000
- GNWT - 2 additional positions (2/100K/4yrs) \$800,000
 - 1 GIS
 - 1 wildlife/habitat technician
- Environment Canada - 2 additional Ecological analyst (2/100K/4yrs) \$800,000
- WWF, CPAWS -NWT, DUC - 6 Conservation Planners (6/100K/4yrs) \$2,400,000

Sub-total **\$4,800,000**

Task 4: Building an effective team structure

- Building Community Team Capacity
 - 2 Regional / Community Team meetings/year (40K/2mtgs/4yrs) \$320,000
- NWT-PAS Annual Regional/Community Coordinator meetings (60K/4yrs) \$240,000

Sub-total **\$560,000**

Total Estimated Cost for Building Capacity **\$7,810,000**

6.2.3 Information Requirements

Task 1: Conduct detailed evaluations for each candidate protected area

• Non-renewable resource assessments (16sites/300K)	\$4,800,000
• Ecological assessments (16sites/100K)	\$1,600,000
• Cultural assessments (16sites/50K)	\$800,000
• Renewable Resource assessments (16sites/50K)	\$800,000
<i>Sub-total</i>	<i>\$8,000,000</i>

Total Estimated Cost for Information Requirements **\$8,000,000**

6.2.4 Communications

Task 1: Review and improve NWT-PAS communications strategy

• Media Strategy	\$50,000
• Newsletters, print materials	\$50,000
<i>Sub-total</i>	<i>\$100,000</i>

Task 2: Enhance communications initiatives with industry, science and regulatory groups

• NWT-PAS Secretariat attendance at industry, regulatory forums (average 4/year)(5K/2reps/4forums/4yrs)	\$160,000
• Industry/Regulatory Workshop (Summer 2004) and ongoing consultations	\$65,000
<i>Sub-total</i>	<i>\$225,000</i>

Task 3: NWT-PAS Forum

• Bi-Annual Forum 2004-2009 (75K/2forums)	\$150,000
<i>Sub-total</i>	<i>\$150,000</i>

Total Estimated Cost for Communications **\$475,000**

6.3 Annual Estimates: 2004-2009

2004-2005

- Mapping ecologically representative areas \$190,000
- Non-renewable resource potential mapping \$200,000
- Achieving cooperative implementation at regional level \$350,000
(workshop framework, four regional workshops, streamlining and legal mechanisms studies)
- Ensure participating regions have NWT-PAS Capacity \$50,000
(develop training materials)
- Review and improve communications strategy, develop media strategy and communications material. \$100,000
- Industry / regulatory workshop \$50,000

Estimated Annual Costs: 2004 - 2005 **\$940,000**

2005-2009

- Community consultations \$180,000
- Community coordinator salaries \$200,000
- NWT-PAS Secretariat Analyst/Planner Salaries (GNWT/Canada) \$400,000
- NWT-PAS Technical Support \$1,200,000
- Building effective team structures \$140,000
- Conduct resource assessments for each candidate area \$2,000,000
- Attendance at industry/regulatory meetings \$40,000
- Ongoing Industry/regulatory consultations \$3750

Estimated Annual Costs: 2005 - 2009 **\$4,163,750***

***Two Bi-annual forums will be an additional cost in 2006 and 2008 (\$75,000/forum)**

6.4 Annual Planning Activities, 2004-2009

Tasks - PAS Action Plan	Estimated Timeframes																			
	2004-2005				2005-2006				2006-2007				2007-2008				2008-2009			
	Apr-Jun	July-Sept	Oct-Dec	Jan-Mar	Apr-Jun	July-Sept	Oct-Dec	Jan-Mar	Apr-Jun	July-Sept	Oct-Dec	Jan-Mar	Apr-Jun	July-Sept	Oct-Dec	Jan-Mar	Apr-Jun	July-Sept	Oct-Dec	Jan-Mar
Enhance Protected Areas Planning	Preliminary Mapping																			
	- Produce ecological significance map																			
	- Finish mineral and petroleum potential mapping																			
Regional Workshops - Data integration and development of PAS Implementation Plans																				
Policy Review - Modify within NWT-PAS process to address enhancements																				
Building Capacity	Community Capacity - implement requirements																			
	PAS Secretariat - implement requirements																			
	Technical Capacity - implement requirements																			
	Hold Community Workshops - community coordinator training and partnership building																			
Candidate Area Detailed Evaluations	Site Assessments - detailed evaluations as set out under Step 5 of the NWT-PAS.																			
	-ecological																			
	-cultural																			
	-non-renewable																			
-renewable																				
Communications	Revise PAS Communications Strategy																			
	Ongoing Communications (Mackenzie Gas Producers, Industry/Science Forums)																			
	Hold PAS Forum (2006, 2008)																			
Notes:																				
(1) Advancement of sites is ongoing. Estimated that 16 new candidate sites will be advanced at various stages of the PAS between 2004 - 2009																				
(2) Capacity requirements are ongoing. Capacity requirements include funding for communications (industry, governments) regional coordination requirements, orientation and support, team building																				
(3) Assessments of sites will be ongoing as sites are advanced through the PAS																				
<div style="display: flex; justify-content: center; align-items: center; gap: 10px;"> <div style="width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></div> ongoing or as required </div> <div style="display: flex; justify-content: center; align-items: center; gap: 10px; margin-top: 5px;"> <div style="width: 15px; height: 15px; background-color: lightgreen; border: 1px solid black;"></div> one-time/discrete projects </div>																				

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1. Arctic Council. 1996. Inuvik Declaration. Ottawa, ON.
Reaffirmed Canada's support for the Convention on Biological Diversity and the priority to develop a Circumpolar Protected Area Network.
2. Berger, Thomas R. 1988. *Northern Frontier, Northern Homeland – Report of the Mackenzie Valley Pipeline Inquiry (Revised Edition)*. Canada: Webcom.
Thomas Berger led Canada's largest ever Royal Commission, which explored the issues related to developing a northern gas pipeline, focusing on routes through the Yukon and the Northwest Territories, and specifically through the Mackenzie Valley.
3. Department of Indian Affairs and Northern Development. 1984. *Joint Federal-Territorial Task Force on Northern Conservation*. Ottawa, ON.
The report advocated conservation planning, and made recommendations to achieve a balance between conservation and development, including establishing a network of protected areas where necessary to maintain cultural resources and unique ecosystems.
4. Department of Indian Affairs and Northern Development. 2001. *An Enhanced Policy Base for Natural Resource Management: Improving the Northern Operating Environment*. Ottawa, ON.
Improving the Northern Operating Environment (NOE) is a federal policy administered by DIAND which addresses, to the extent that is compatible with the Department's legal and policy obligations, the concerns of the mineral industry regarding their investment in the NWT. One of industry's primary concerns includes regulatory certainty respecting rights issuance and land and water management. The NWT-PAS contributes significantly to this policy objective by providing industry with increased certainty regarding areas that are being considered for protection in the NWT.
5. Department of Indian Affairs and Northern Development. 2001. *Federal "North of 60 Action Plan" for Sustainable Development*. Ottawa, ON.
DIAND has made several legislative and policy commitments to the establishment of protected areas to ensure sustainable development decisions are made regarding northern resources. The *North of 60 Action Plan* for sustainable development highlights the requirement for protected areas including actions that seek to preserve economic, social and natural capital in order to ensure a continuing legacy for the future.
6. Environment Canada. 1990. *Canada's Green Plan*. Ottawa, ON.
The plan included specific commitments to protect unique ecological areas and threatened species by protecting 12% of the land base, completing the national park system and preserving historic sites.
7. Environment Canada. Ecological Stratification Working Group. 1996. *National Ecological Framework for Canada*. <http://www.ec.gc.ca/soer-ree/English/Framework/>
This Canada wide classification document includes the methodology used to construct the ecological framework, descriptions of each ecozone and ecoregion, their linkages to various data sources, examples of applications of the framework, and a list of contributors and collaborating agencies.
8. Ecological Monitoring and Assessment Network. 2003.
<http://www.ccea.org/ecozones/tp/wildlife.html> - Description of the Taiga Plains Ecozone.

9. Gartner Lee. 2003. *DRAFT Identification of the Biophysical Information and Research Gaps Associated with Hydrocarbon Exploration, Development and Transmission in the Mackenzie Valley: BACKGROUND PAPER REPORT*. GLL 22-649

This draft study was commissioned by DIAND's Pipeline Readiness Office. It was developed through extensive literature research and consultation with communities and provides a good examination of the oil and gas cycle in the NWT, an outline of future oil and gas development scenarios, including anticipated seismic work, impacts by oil and gas and gaps in information related to the pipeline development. It also covers a review and brief evaluation of resources and land uses, including harvesting and protected areas, climate change, and the possible cumulative effects related to ongoing and potential hydrocarbon development.

10. Heritage Canada. 1992. *Tri-Council Statement of Commitment to Complete Canada's Network of Protected Areas*. Ottawa, ON.

A joint commitment made by Canadian Parks Ministers' Council, Canadian Council of Ministers of the Environment and the Wildlife Ministers' Council of Canada to complete Canada's networks of protected areas by the year 2000, identify and protect critical wildlife habitat and adopt frameworks, strategies and time frames for the completion of the protected areas networks.

11. *The Mackenzie River Basin Transboundary Waters Master Agreement*. 1997. <http://www.mrbba.ca/>

Signed by Canada, British Columbia, Alberta, Saskatchewan, the NWT and the Yukon. The Mackenzie River Basin Board was created out of this the Agreement which sets out a foundation for the various governments to work towards cooperative, sustainable management and the maintenance of ecological integrity within the entire Mackenzie Watershed.

12. Mackenzie Gas Producers (MGP). 2003. *Mackenzie Gas Project - Preliminary Information Package, Volume 1: Project Description and Volume 2: Project Maps*.

Volumes 1 and 2 provide the scope and description of the proposed Mackenzie Valley Pipeline. The development of the gas fields, gathering system and transmission systems are detailed.

13. Natural Resources Canada. 1994. *The Whitehorse Mining Initiative: Leadership Council Accord Final Report*. Ottawa, ON.

Mining Association of Canada put forward the initiative that was developed by a multi-stakeholder process to advise the industry on the development of a new strategic framework for sustainable mining in Canada. One of the principles of the Accord states "protected area networks are essential contributors to environmental health, biological diversity, and ecological processes, as well as being a fundamental part of the sustainable balance of society, economy and environment." Signatories to the Statement of Commitment, including the Government of Canada, are to promote the accord with constituents to develop action plans to give effect to the Accord and support individual actions consistent with the Accord.

14. Natural Resources Canada. 1996. *The Minerals and Metals Policy of the Government of Canada: Partnerships for Sustainable Development*. Ottawa, ON.

This policy incorporates many of the principles of the Whitehorse Mining Initiative. The policy seeks to reconcile the need for the minerals sector to have access to the widest possible land base with the commitments to complete a network of protected areas in Canada's 39 terrestrial natural areas.

15. National Round Table on the Environment and the Economy: 2003. *Securing Canada's Natural Capital: A Vision for Nature Conservation in the 21st Century, Chapter 3 - The State of Conservation in Canada*.

(http://www.nrtee-trnee.ca/eng/programs/Current_Programs/Nature/Nature-SOD-Report/chapter3_e.htm)

The NRTEE reviews the importance of conservation, the state of conservation in Canada, and provides a set of recommendations aimed at furthering conservation on our working landscapes.

16. Northern Pipeline Environmental Impact Assessment and Regulatory Chairs Committee. June 2002. *Cooperation Plan for the Environmental Impact Assessment and Regulatory Review of a Northern Gas Pipeline Project through the Northwest Territories.*

The Cooperation Plan details coordination among the regulatory authorities in the event of a pipeline application and contains a cooperation framework, details on timelines, and guidance for the preliminary information package for the proposed Mackenzie Gas Pipeline.

17. Resources, Wildlife and Economic Development, GNWT. 1993. *GNWT Sustainable Development Strategy.* (<http://www.gov.nt.ca/RWED/plc/policy.htm>)

The Government of the Northwest Territories recognizes that Environmental conservation is essential to long term economic prosperity while at the same time economic development can contribute significantly to the achievement of conservation goals. This interdependence between conservation and development is officially recognized by the Government of the Northwest Territories through the application of the concept of Sustainable Development to all its decisions and actions related to natural and heritage resources in the Northwest Territories.

18. Resources, Wildlife and Economic Development, GNWT. 1999. *NWT Protected Areas Strategy – A Balanced Approach to Establishing Protected Areas in the Northwest Territories.*

The NWT-PAS was forged in the 1990's by representatives from communities, Aboriginal organizations, government, industry, and environmental organizations to facilitate the community-based development of a system of protected areas throughout the NWT. Implementation of the Protected Areas Strategy is a joint responsibility of the Department of Indian Affairs and Northern Development (DIAND) and the Government of the Northwest Territories (GNWT). The NWT-PAS outlines roles for funding and implementation partners, including other government agencies, Aboriginal organizations, environmental organizations and industry.

19. Resources, Wildlife and Economic Development, GNWT. 2000. *Towards A Better Tomorrow A Non-Renewable Resource Development Strategy for the Northwest Territories.* (<http://www.gov.nt.ca/RWED/iea/reports/nrrds1.pdf>).

Sustainable Development is one of four key principles that underpin this Strategy, by promoting exploration, development and use of non-renewable resources in ways that provide lasting social and economic benefits, as well as maintaining natural processes and environmental protection. Specifically, strategy #11 supports protected areas establishment as a key strategy in managing development effectively. However, the strategy recognizes that communities do not have the current capacity to consider and protect important areas, and will not be able to respond to the scale and pace of the proposed pipeline development in the Mackenzie Valley.

20. United Nations Environment Programme. 1992. *Convention on Biological Diversity.* New York. <http://www.biodiv.org>

The three goals of the convention include promoting the conservation of biodiversity, the sustainable use of its components and the fair and equitable sharing of benefits arising out of the utilization of genetic resources. The Government of Canada was the first industrialized country to ratify the Convention, which, among other things, committed the federal government, to establish a system of protected areas.