

A Critical Review of the Northwest Territories Protected Areas Program

by

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A Thesis Submitted to the Faculty of Social and Applied Sciences
in Partial Fulfillment of the Requirements for the Degree of

Master of Arts

In


Environment and Management

Royal Roads University

Victoria, British Columbia, Canada

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October, 2015

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Acknowledgements

I am indebted to a number of people who have helped me through this journey. First, I would like to thank my employer, the Government of the Northwest Territories, Department of Environment and Natural Resources, for facilitating this incredible opportunity. My project would not have been possible without the guidance, wisdom, and extreme patience of my thesis supervisor Judy Walters. Judy believed in my project and was always there for me whether by phone or countless emails with valuable suggestions and insight. I am very thankful for the interview participants who contributed their time and thoughts to my research. I will not forget the kindred camaraderie of the MEM 2013 gang who helped pull me through to new personal and academic heights. I appreciate my friends for their tolerance and understanding of “Can’t, I’ve got school”. Finally, I would like to express my deepest gratitude to my wife Karin – my editor, my partner, my love – whose patience, understanding, and cheerleading helped keep me calm and taught me to take things one day at a time until I completed this rewarding endeavour.

I would like to dedicate my thesis to my baby girl, Norah. She is the sunshine on my face, the joy in my heart and the dance in my feet. I want her to understand that learning is a lifelong event. It’s never too late to take on something new and if you give it your best, you’ll be amazed at what you can do.

Abstract

In 1999, the Minister of Indian and Northern Affairs Canada and the Government of the Northwest Territories (NWT) Minister of Resources, Wildlife and Economic Development jointly signed the NWT Protected Areas Strategy (PAS). The federal and territorial governments, in partnership with Aboriginal organizations and industry and environmental organizations, created the PAS to develop an overall framework and set of criteria to guide the work of identifying and establishing protected areas in the NWT. The research question this thesis looks at is how effective has the NWT PAS been as a mechanism for protecting key natural and cultural places? The objectives of this research inquiry are to examine what success the PAS program has had in achieving its two main goals, to identify any problem areas in implementation, and to use the results from interviews to create recommendations for program modifications to improve effectiveness in establishing new protected areas. Research was conducted using the current PAS program as a case-study for comparison with other Canadian protected area programs. Data were gathered by conducting interviews with key individuals who have had years of experience in implementing the current PAS program. Data collected revealed what worked well and what needs to change in order to develop an improved protected area program suited to the NWT. This research identified a protected area process for establishing protected areas that provide the foundation for a sustainable environment and that will serve the long-term interests of NWT residents and all Canadians.

Chapter 1 - Introduction

The primary research question of this study is how effective has the Northwest Territories Protected Areas Strategy (NWT PAS) been as a mechanism for protecting key natural and cultural places? By undertaking a detailed review of the existing PAS process I gained a better understanding of who is responsible for gathering information, educating others and for advancing the proposed protected area through the multiple stages of planning. I undertook a critical literary review to understand how ecological and cultural conservation are defined and how they are implemented, and I provide some examples from other jurisdictions across Canada where it has been done and is being undertaken now. I also researched the benefits of collaborative protected area planning and provide examples of collaborative ecological and cultural projects currently underway across Canada

Research Methods and Analysis

The research methods for this study primarily take the form of a retrospective, qualitative case-study. By interviewing individuals who have prior experience with the PAS process I was able to look back at events that already have taken place to see if they have any relationship with the current condition of the program. I began by reading all the existing foundational documents and NWT PAS guidelines to completely understand the details of the process. I also read the scientific research papers written by PAS staff around the science of ecological protection needs. I determined that a case-study approach would be the best for this research because it focuses on understanding the dynamics present within single settings, can involve single or multiple cases, combines data collection methods such as archives, interviews and observations and can utilize qualitative data (Eisenhardt, 1989, p. 534). All these characteristics are aspects of my research. I would be learning about a complex process through the descriptions individuals provide of past

personal experiences. To further my understanding of the PAS process, I held face to face and semi-structured interviews by telephone with individuals who have first-hand past experience with the PAS program and strategy. I asked interviewees how they would describe their experience with the PAS program; I asked what aspects of the program are working well and if any areas need improvement. I also asked what changes they would suggest, if any, to make the program more effective in key areas including timelines, data collection, public involvement, funding, and the Territorial and Federal Government's approval processes.

After collecting interview data, I used reduction and thematic analysis to analyze the data. Each interview transcript was reduced to summary points. Through reduction, key words and phrases began to alert me to possible ways to sort the data. When comparing the summarized information from each interview, themes and ideas began to form patterns in the data. Organizing information under each theme helped identify which themes were more prevalent than others and helped link the information from separate interviews (Braun & Wilkinson, 2003, p. 30).

Inquiry Results and Contribution

Ultimately I used the results of semi-structured interviews and comparisons with other conservation programs across Canada to develop recommendations for a new NWT conservation planning program that improves upon the existing PAS. I see land conservation and protected area planning as an important societal responsibility and society's best response to maintaining biodiversity and ecosystem integrity. My hope is that this research provides important feedback to land use planners responsible for establishing protected areas and helps advance the development of a protected areas network that provides the foundation for a sustainable environment and serves the long-term interests of NWT residents and all Canadians.

Inquiry Background

In this chapter I provide the background information needed to understand the uniqueness of protected area planning in the Northwest Territories. To begin, I offer a brief overview of the importance of ecosystem biodiversity and how protected areas are the best means for maintaining biodiversity. Then, in an effort to more fully establish context, I provide descriptions of the physical environment, as well as the socio-cultural and economic details of the NWT. I then give a brief history of the development of the PAS program, describing its vision and goals and finally, I provide information on the recent change in governance of land management in the NWT.

Importance of Biodiversity

Loss of biodiversity, or the variety of life or living organisms, is occurring rapidly throughout the world (McAllister, 1991, p. 4). Incredibly, one in every eight birds, one in every four mammals, and one in every three amphibians and gymnosperms is facing a high to extremely high risk of extinction in the near future (Baillie, Hilton-Taylor & Stuart, 2004, p. 6). Most of the world's protected areas are smaller than 10,000 hectare (ha) and while small parks have significant local importance, research suggests that only parks greater than 10,000 ha have the potential to slow long-term species loss (Naughton-Treves, Holland, & Brandon, 2005, p. 226). One third of the world's land has already been transformed to agriculture or urban areas, with projections that an additional one third could be converted in the next 100 years (Naughton-Treves et al, 2005, p. 226). Increasing pressure on the existing natural habitats and the biodiversity within them is likely to intensify from population growth, resource consumption, civil conflict, climate change and food demand (Naughton-Treves et al, 2005, p. 226-227). Although not the only means of conservation, protected areas are viewed as perhaps the most

critical tool in efforts to mitigate the ongoing loss of ecosystem biodiversity (Lovejoy, 2005, p. 329). If properly designed, protected areas can protect intact habitats and ecosystems and maintain ecological communities and processes (Schwartz, 1999, p. 99).

NWT Physical Environment

The NWT covers an area of 1,355,672 square kilometres, close to 14 percent of Canada's land mass. Landscapes here are defined by living relationships that link geology, topography and climate to plants, animals and microbes in associations called ecosystems. Ecosystems in the NWT range from a single lichen on a boulder or tree trunk to immense expanses of forests, wetlands and tundra across the plains, uplands and mountains. Over the millennia, NWT's sensitive ecosystems have become highly adapted to their own unique conditions and do not adapt well to immediate, invasive disturbances brought on by development (Ecosystem Classification Group, 2013, p. iii).

NWT Socio-cultural Aspects

The NWT has a total population of 40,845 residents with 20,903 of these being Aboriginal (including Indian, Inuit and Métis peoples). There are 33 separate NWT communities. Approximately half the NWT's population, 19 940 people, resides in the capital city of Yellowknife. Outside Yellowknife the average community size is 730 residents, with the Aboriginal population making up the large majority in each (NWT Bureau of Statistics, 2015, para. 2).

With half the population being Aboriginal, people of the NWT have a deep rooted connection to the land. The land is recognized as the primary source of spiritual inspiration, education, legend, history and economic well-being. For many northerners the land is an integral part of who they are and how they define themselves. A common

perspective shared across the north is that “the land takes care of us; we take care of the land” (NWT PAS Advisory Committee, 1999, p. 7).

In Canada, increased natural resource extraction has created a concern that industrial pressures and defacement of the landscape will lead to the loss of Aboriginal culture through the progressive and cumulative degradation of land, resulting in Aboriginal people’s inability to practice their traditional way of life (Caine, 2013, p. 341). Susan Buggy defined cultural landscapes as a place valued by an Aboriginal group (or groups) because of their long and complex relationship with the land. It expresses their unity with the natural and spiritual environment. It embodies their traditional knowledge of spirits, places, land uses and ecology. Physical objects linking the area to an Aboriginal group may be evident, but often will be minimal or absent (Buggey, 1999, p. 30). Aboriginal people of the NWT have firsthand knowledge of how development changes a landscape, community and a culture. Northern cultures are at the centre of Aboriginal history and historic places, or cultural places, hold special links to their past. Elders teach that stories and the land are like parts of the same map. The stories are mapped onto the land and the land helps people to remember the stories. Leroy Andre, Manager, Deline Lands Corporation, put it this way, “To protect our culture the land must also be protected because the places on the land where the stories are told give the stories their meaning. Without these places to give the stories their meaning, the value of the stories would be lost” (NWT Department of Education, Culture and Employment, 2007, p. iii). This perspective indicates a complex relationship between the people and the land, and underlines the importance of protecting lands for the people of the NWT.

NWT Economic Situation

The NWT's economy relies heavily on natural resource extraction. In 2014 the NWT's GDP was 3.8 billion with 1.1 billion coming from the mining, oil, and gas extraction sector alone (NWT Bureau of Statistics, 2014). Currently, there are three operating diamond mines, with a fourth finalizing construction in 2016. In combination these mines have a total workforce of approximately 2,600 full time employees and 2,000-2,500 contractors. The NWT has a high potential for oil and gas found in shale rock formations in the central Mackenzie Plain, west of Great Bear Lake. About 146 billion barrels of oil are estimated for the Canol field and 46 billion for Bluefish field, and several companies have been actively investigating in the area in recent years, with 14 exploration licences being granted and \$628 million in work commitments since 2010 (Weber, 2015, para. 6, 8). The resource industry will always have time periods of high and low extraction intensities based on commodity prices. The NWT like other jurisdictions has experienced those highs and lows. But regardless of whether current commodity prices are high or low industry will always view the NWT as an area of continued natural resource potential.

International Union for Conservation of Nature's Guidelines

In an effort to protect both biological and cultural landscapes, numerous jurisdictions and organizations across Canada and around the world have developed conservation or protected area strategies in some form or another. Several Canadian examples are identified in more detail in Chapter 2 of this thesis. Perhaps the best example of a protection strategy is the International Union for Conservation of Nature's (IUCN) "Guidelines for Protected Area Management Categories" which has been applied in 170 countries around the world, including Canada (Canadian Council on ecological areas, 2008, p. 1). The NWT PAS has adopted the IUCN's

definition of a protected area as “an area of land or sea especially dedicated to the protection and maintenance of biological diversity, and its associated natural and cultural resources, managed through legal or other effective means,” and recognizes the definition embraces a wide variety of scientific and cultural reasons for establishing protected areas in the NWT (NWT PAS Advisory Committee, 1999, p. 2).

Development of the NWT Protected Areas Strategy

From 1999 to 2014, the NWT PAS identified the process for the identification, establishment and monitoring of protected areas in the NWT. In 1999, Aboriginal governments and organizations, the federal and territorial governments, non-governmental conservation organizations, and industry stakeholders convened to develop the PAS. The PAS is a guide designed to promote balanced decisions in identifying, establishing and protecting significant natural and cultural areas using the best available knowledge and best practices. The final PAS was signed by both federal and territorial ministers, making it a shared responsibility for both governments to implement. It is a community-driven partnership and the partners work together to protect the unique environmental, geological, cultural or historic features of land and water in the NWT (NWT PAS Advisory Committee, 1999, p. 7).

The PAS partners include:

- All NWT communities
- Government of Canada
- Government of the NWT
- Inuvialuit Regional Corporation
- Gwich'in Tribal Council
- Sahtu Secretariat Incorporated
- Dehcho First Nation
- NWT Metis Nation
- North Slave Metis Alliance,
- Tlicho Government

- Akaitcho Tribal Council
- Canadian Parks and Wilderness Society
- Ducks Unlimited
- Nature Canada
- World Wildlife Fund
- Canadian Boreal Initiative
- NWT Chamber of Mines
- Canadian Association of Petroleum Producers

(NWT PAS Advisory Committee, 1999, p. 93-94).

Ensuring that the NWT land remains healthy for future generations is a priority of the PAS partners and this includes protecting biodiversity for current and future generations.

PAS Vision

The vision of the PAS is to support northerners' strong ties with the land through a community-driven, partnership approach for identifying and establishing protected areas in the NWT. Communities, Aboriginal governments and organizations, regional organizations and/or land claim bodies, the federal and territorial governments, and non-government stakeholders' work together to help protect the ecological quality and integrity of special areas of land and water. The PAS envisions a prosperous future for northerners and future generations by promoting a balanced approach to land use that incorporates the best available traditional, ecological, cultural and economic knowledge. (NWT PAS Advisory Committee, 1999, p. 7).

PAS Goals

The PAS developed an overall framework and set of criteria to guide staff when identifying and establishing protected areas in the NWT. The PAS has two goals, each intending to address specific elements or issues. The first goal is to protect special natural and cultural areas and the second is to protect Core Representative Areas within each ecoregion of the NWT

(NWT PAS Advisory Committee, 1999, p. 8-9). Core Representative Areas are defined as permanently protected areas that best represent the biological diversity of an ecoregion and contribute to the conservation of the entire diversity of life forms and their habitats (Gah, Witten, Korpach, Skelton & Wilson, 2008, p. 3). Ecoregions are subdivisions of the ecozone characterized by distinctive large order landforms or assemblages of regional landforms, small order macro- or mesoclimates, vegetation, soils, water, and regional human activity patterns/uses (A National Ecological Framework for Canada, 1995, p. 4). These goals provide flexibility in how protected areas are identified and managed. For example, depending on location, one protected area may include a variety of cultural values and represent multiple ecoregions. Other areas may be identified on the basis of a single value. The NWT PAS is based on the National Ecological Framework for Canada ecoregions (Ecological Stratification Working Group 1996) which were the best available data in 1999 when the PAS was written. Complementary regional networks of protected areas are intended to serve as the foundation for a sustainable environment that serves the long-term interests of NWT residents and all Canadians.

PAS Establishment Process

Once an area of interest has been sponsored by government, its ecological, cultural, and economic values, both renewable and non-renewable, are assessed by a working group consisting of community, and territorial and federal governmental representatives. These assessments are contracted to third party specialists and their final reports are ultimately made available to the public. Based on the values and information contained in the assessments the working group then uses this information to inform and substantiate recommendations that are finalized in a Findings Report about the purpose and vision for the candidate protected area, boundaries, designation, and management objectives. The working group's Findings Report is then

submitted to the sponsoring government for broader public consultation, for approval and final establishment agreement.

NWT Land Management

Since the Northwest Territories entered the Canadian Confederation in 1870, the Government of Canada has been responsible for public land management in the NWT. But on June 25, 2013 the Government of Canada, the GNWT and five Aboriginal governments signed the Northwest Territories Lands and Resources Devolution Agreement (Government of the NWT, 2015, para. 1). This agreement devolved Canada's responsibility, as represented by the Minister of Indian Affairs and Northern Development, for the administration and control of public lands, resources, and rights in respect of waters in the NWT to the Government of the NWT (GNWT). At the time of signing both Canada and the GNWT agreed that no significant land use or management decisions that permanently alienate land in the NWT would be made prior to implementing the Devolution Agreement. Effectively, the PAS was caught up in the "pause" and PAS activities were put on hold. Communication of the pause on land use and management decisions was shared with Aboriginal parties. At the time of the pause, Aboriginal parties understood the significance of the Devolution Agreement and reluctantly agreed to the freeze on land use and management decisions for the time being. However, they fully expected the completion of planning for and the establishment of sites to commence again immediately after the Devolution Agreement was implemented.

The Devolution Agreement came into effect on April 1, 2014 (Northwest Territories Lands and Resources Devolution Agreement, 2013, p. v). Since implementation the GNWT has been communicating, both internally and externally, that the transfer of land management responsibilities now gives the GNWT a unique opportunity to create their own "made in the

north” solution to land conservation which strives for increased local participation in and accountability for management of conservation areas.

The GNWT’s 2012 Land Use and Sustainability Framework is a vision document that sets out the government’s thinking about land use in the NWT. It lays out where the GNWT wants to go as it transitions to their new role as a land owner and responsible land manager. The framework embraces the spirit and intent of sustainability and stewardship and identifies three ways in which land use is sustainable:

1. If it meets present needs without compromising the ability of future generations to meet their own needs.
2. If it has a capacity to ensure that current and future economic, social and cultural needs are met.
3. If it maintains ecosystem integrity and biological diversity (NWT Department of Lands, 2012, p. 2).

Although the GNWT’s Land Use and Sustainability Framework references the need for conserving lands, a year after the signing of the Devolution Agreement the GNWT was struggling with the creation of its own new northern solution to land conservation. It is hoped that this research will help influence the content of that change.

Chapter 2 – Literature Review

In this chapter it is disclosed that practitioners in the field of ecosystem conservation recognize ecosystem preservation as the preferred method for maintaining species and habitat diversity. Amongst practitioners, cultural conservation at the landscape level is understood to be a fairly new approach to maintaining a local community's spiritual and cultural connection to the land and my research shows that across Canada there are some excellent examples of provincial protected area programs that focus on protecting both ecological representation and cultural landscapes. Another concept discussed in this chapter is that the advantages of involving community members in a more collaborative conservation planning approach are being actively pursued by provincial governments across Canada, and that the benefits of doing so are being identified in some key planning processes.

Why is ecosystem conservation important?

Maintaining representation of a full range of ecosystem types is a widely accepted strategy to conserve biodiversity in protected areas (Wells, Bunnell, Haag, & Sutherland, 2003, p. 2141). There is a growing understanding of the need to plan and manage for the maintenance of viable populations and functioning ecosystem processes across appropriately large regions (Hawkins & Selman, 2002, p. 223). Most species and functions, but especially those for which knowledge is sparse or absent, are best sustained by ensuring that an adequate portion of each distinct ecosystem type is represented in a relatively unmanaged state. For example, natural disturbances can occur that would otherwise be suppressed or reduced in managed areas. Unmanaged areas are an ecological safeguard against the inevitable errors that occur during management. Natural areas act as a precautionary buffer against errors in human efforts intended to sustain species in the managed landscape. (Wells et al., 2003, p. 2141). Planning for

the maintenance of landscape functions and species across broad areas is particularly important in regions such as the Canadian North, where ecosystem richness and productivity are maintained through large-scale disturbance regimes (e.g. fire, insect infestations, climate change) and other natural processes. Additionally, in systems with relatively low productivity such as boreal forests and tundra, some species, grizzly bear, caribou, and wolf, for example, have evolved strategies dependent on extensive landscapes to meet seasonal and annual needs for food and breeding. Habitat fragmentation puts these species at greater risk (Cardillo, Mace, Gittleman, & Purvis, 2006, p. 4157). Maintaining ecologically effective populations of these species may be key to sustaining community dynamics and ecosystem complexity over the long term (Berger, Stacey, Bellis, & Johnson, 2001, p. 948).

Another often-cited guiding principle for conservation planning and management aims to account for both the unpredictability of natural systems and known environmental change. The “precautionary principle” proposes that this uncertainty be explicitly acknowledged and that managers should make every effort to err on the side of caution (deFur & Kaszuba, 2002, p. 154). To be effective, conservation goals must be set such that ecosystems can remain as resilient as possible to the impacts of natural and human-caused disturbance. A resilient ecosystem will be able to absorb change and reorganize its processes and structures after a disturbance event in order to maintain crucial ecosystem functions (Peterson, Allen, & Holling, 1998, p. 9). A final function of protected areas in the landscape is to provide an ecological baseline against which effects of human activities can be compared (Arcese & Sinclair 1997, p. 587). These general principles take on special meaning in the North where impacts of climate change are already apparent.

As noted above, the fundamental purpose of conservation areas is to protect biodiversity. Preserving natural ecological processes, providing opportunities for education about the natural world, establishing natural benchmarks against which anthropogenic and other changes can be measured and assessed, maintaining resilience to change through the protection of healthy ecosystems, providing refuge from the effects of industrial development, and enabling species at risk recovery strategies are among the many ecological reasons for establishing and maintaining permanently protected natural areas. The World Conservation Union through the World Commission on Protected Areas, the Convention on Biological Diversity, and the Canadian Biodiversity Strategy are central to biodiversity conservation within Canada and internationally. Goal two of the NWT PAS is “establishing core representative protected areas in NWT ecoregions will contribute to the conservation of the entire diversity of life forms and their habitats in the NWT” (NWT Protected Areas Strategy Advisory Committee 1999, p. 9-10) and therefore, contributes to national biodiversity conservation and helps Canada fulfill its international biodiversity conservation obligations.

Ecosystem Conservation Principles

Conservation scientists recommend that all planning processes start with clearly articulated goals (Noss, Carroll, Vance-Borland, & Wuerthner, 2002, p. 896) and several scientists have developed widely adopted guidelines for establishing conservation and management goals. Noss and Cooperrider (1994) propose four objectives of regional conservation that should be satisfied to achieve the overarching goal of maintaining biodiversity and ecological integrity. These are:

- Represent, in a system of protected areas, all native ecosystem types and serial stages across their natural range of variation.

- Maintain viable populations of all native species in natural patterns of abundance and distribution.
- Maintain ecological and evolutionary processes, such as disturbance regimes, hydrological processes, nutrient cycles, and biotic interactions.
- Design and manage the system to be resilient to short-term and long-term environmental change and to maintain the evolutionary potential of lineages (p. 89).

Through the protection of core representative areas in the PAS process all four of these goals can be achieved. Against these criteria, the PAS is therefore a well-designed conservation strategy for maintaining biodiversity and ecological integrity.

Ecosystem Conservation Practices

At a regional scale, contemporary systematic conservation planning efforts typically employ four complementary types of information to build robust representative protected areas networks:

- Coarse filter ecosystem representation analyses (terrestrial and freshwater),
- Fine filter analyses targeting special elements (unique, rare, or sensitive features),
- Focal species analyses often considered part of the fine filter approach, and;
- Explicit consideration of how species genetics and demographics and ecosystem processes are connected across the landscape (Hoctor, Carr, & Zwick, 2000, p. 987).

Based on the ecological classification system of the National Ecological Framework for Canada's broad mapping of ecosystem types, the PAS uses a coarse filter method that identifies areas that represent landscapes at a coarse scale.

In order to be more robust the terrestrial coarse filter analysis results, which are based on physiographic units, landscape units, and vegetation type data, should be used as part of a

conservation planning process in collaboration with other types of information including traditional knowledge, other development interests, fine filter information (i.e. rare plants, mineral licks, caribou crossings), and other scientific information to help identify and refine boundaries for protected areas (Gah, Witten, Korpach, Skelton, & Wilson, 2008, p. 60).

Cultural Conservation and Cultural Landscapes

Aboriginal cultural landscapes are expressions of a worldview that sees land in essentially spiritual rather than material terms and regards humans as an integral part of the land, inseparable from its animals, plants, and spirits (Andrews & Buggy, 2008, p. 63). In Canada, an Aboriginal cultural landscape is formally recognized by Parks Canada as “a place valued by an Aboriginal group (or groups) because of their long and complex relationship with the land. It expresses their unity with the natural and spiritual environment. The landscape embodies their traditional knowledge of spirits, places, land uses and ecology” (Buggy, 1999, p. 30).

Key expressions of cultural value include oral traditions, traditional practices, and intense interactions with living and nonliving components of the environment; natural growth and change are integral to these living landscapes and their cultural value (Andrews & Buggy, 2008, p. 63). Indigenous peoples around the world value the land and what is most critical to the heritage value of Aboriginal cultural landscapes lies in a people's relationship with the land (Andrews & Buggy, 2008, p. 65). Manifested through customs and traditions, Aboriginal cultural landscapes are often examples that sustain communal life by linking it to the ancestral past (Andrews & Buggy, 2008, p. 64). In terms of the World Heritage Convention, Aboriginal cultural landscapes may be seen primarily as associative cultural landscapes, characterized by "powerful religious, artistic or cultural associations of the natural element rather than by material cultural evidence, which may be insignificant or even absent” (Andrews & Buggy, 2008, p. 63).

Across the NWT there are areas of land and water with special natural and cultural values. These areas are important mainly to the local people. The PAS formally recognizes Aboriginal ties to the land and establishes a community led process for identifying and protecting areas that are culturally significant to them.

Canadian Examples of Ecosystem and Cultural Conservation

Every jurisdiction in Canada has its own protected areas program. The following are some examples from Canadian jurisdictions where ecosystem and cultural conservation programs involving Aboriginal peoples are being applied today.

Newfoundland and Labrador

The government of Newfoundland and Labrador designates wilderness and ecological reserves using the *Wilderness and Ecological Reserves Act (2006) (WER Act)*. The *WER Act* allows the public to participate in how reserves are established and managed and its high level of protection ensures that the protected areas will always keep their unique natural qualities. They are designed to help preserve wilderness, wildlife, and biodiversity for future generations. Eighteen wilderness and ecological reserves have been created in the province since the *WER Act* was passed in 1980.

In addition to the WER Act and associated regulations, the Newfoundland's Parks and Natural Areas Division's Wilderness and Ecological Reserves program is guided by this vision:

“To protect, in an unimpaired condition, large wilderness areas, representative areas of all provincial ecoregions, and areas that contain rare natural phenomena, in order to preserve the diversity and distinctiveness of the Province's rich natural heritage and to support an ecologically sustainable future for the benefit of present and future generations” (Dept. of Environment and Conservation, 2015, para. 10).

Nova Scotia

The Government of Nova Scotia designates parks and protected areas under the *Environmental Goals and Sustainable Prosperity Act (2007)*. Nova Scotia's 2013 "Our Parks and Protected Areas Plan" provides the specific direction for achieving the province's conservation targets. The first goal of the Our Parks and Protected Areas Plan is to ensure protection of Nova Scotia's natural and cultural heritage. The plan confirms that protecting nature is the primary purpose of their wilderness areas, nature reserves, and provincial parks and that some are primarily established to protect the ecosystems that support sensitive species or other important wildlife, while others protect a range of historic, cultural, and archaeological sites. The plan's associated action for this goal is to ensure maintenance of ecological integrity and, as feasible, implement ecological restoration measures to restore lands and biodiversity within parks and protected areas (Nova Scotia Department of Environment, 2013, p. 19)

The fourth goal of Our Parks and Protected Areas is to collaborate with the Aboriginal people, the Mi'kmaq, of Nova Scotia. This is achieved through the existing Mi'kmaq–Nova Scotia Protected Areas Selection and Management Technical Advisory Group which is established to develop new approaches for Mi'kmaq involvement in the management of parks and protected areas (Nova Scotia Department of Environment, 2013, p. 22).

The Nova Scotia Government recognizes the importance of the land to Aboriginal people and that through the protection of lands Aboriginal cultural values are preserved. The Our Parks and Protected Areas plan commits to the protection of cultural values by protecting lands that are important to the Mi'kmaq of Nova Scotia. These lands are important for hunting, fishing, and other traditional activities and some have special cultural and spiritual significance. The province commits to working with the Mi'kmaq to develop options relating to the Mi'kmaq use of and

involvement in the management of parks and protected areas in a manner consistent with legislative protection requirements, and in keeping with the Mi'kmaq concept of sustainability. (Nova Scotia Department of Environment, 2013, p.12)

Ontario

The *Provincial Parks and Conservation Reserves Act*, (2006) (*PPCRA*) designates protected areas in the province. The purpose of the *PPCRA* is: “To permanently protect a system of provincial parks and conservation reserves that includes ecosystems that are representative of all of Ontario’s natural regions, protects provincially significant elements of Ontario’s natural and cultural heritage, maintains biodiversity and provides opportunities for compatible, ecologically sustainable recreation”(Section 1). The *PPCRA* states that the first objective establishing and managing provincial parks is to permanently protect representative ecosystems, biodiversity and provincially significant elements of Ontario’s natural and cultural heritage and to manage these areas to ensure that ecological integrity is maintained (Section 2).

Ontario’s Protected Areas Planning Manual guides all aspects of protected area management planning. It identifies that Aboriginal community involvement in protected area management planning is important, given many communities have an intrinsic connection to the land that includes social, cultural, spiritual, economic and ecological aspects. The manual also states that Aboriginal communities may have important information about the values and pressures in protected areas. The manual goes on to say that government can gain a better understanding of Aboriginal community interests and protected areas by working with individual communities to develop approaches to involve each community that are respectful of local knowledge, values and science, and that recognize a community’s available financial and human resources. Information and advice (e.g., Aboriginal traditional knowledge) contributed by

Aboriginal communities can be used to inform management decisions throughout planning. Ontario recognizes that respectful involvement of Aboriginal communities will further develop relationships and will provide the foundation for stewardship efforts during implementation, monitoring, and operations of protected areas (Ontario Ministry of Natural Resources, 2014, p. 33).

Manitoba

The goal of Manitoba's Protected Areas Initiative is to create a network of protected lands that represents the biodiversity in each of Manitoba's 16 ecoregions. According to the province's Action Plan for Manitoba's Network of Protected Areas, a network of protected areas that conserves ecosystems and maintains the biodiversity found within the province are created by applying ecological criteria in selecting and designating new protected areas. These areas are to be designed using science-based criteria derived from the principles of ecological representation and integrity (Manitoba's Protected Areas Initiative, 2003, p. 2).

On March 5, 1998, the Manitoba government signed a Memorandum of Understanding with Manitoba First Nations that would ensure their participation in the establishment and management of new protected areas (Manitoba's Protected Areas Initiative, 2003, Appendix C, p. 10). The first order of business after the signing was to establish a working group consisting of First Nations representatives and Manitoba officials to co-ordinate the consultation process and to identify and establish new areas to be protected. It was agreed by the working group that new protected areas would be identified and designated only after full consultation with any affected First Nation(s). The Government of Manitoba position is to reach consensus regarding the establishment and management of a protected area with any First Nation(s) likely to be directly affected before designating a site as protected. Through the Memorandum of

Understanding it was agreed that establishment of protected areas would not infringe upon any existing Aboriginal or treaty rights of First Nation peoples and Manitoba would provide financial resources to help initiate the consultation process (Manitoba's Protected Areas Initiative, 2003, Appendix C, p. 10).

British Columbia

The Province of British Columbia is actively working with Aboriginal peoples to foster a common understanding of their important, non-archaeological historic places. Through the Heritage Strategy for British Columbia, Our Heritage, Historic Places, (British Columbia. Ministry of Forests, Lands and Natural Resources Operations, Heritage Branch, 2013, p. 5) the province outlines a need to strengthen the relationship with Aboriginal peoples around the identification and management of their cultural landscapes and built environments integral to achieving this goal. Through a focused effort to build inclusive, respectful processes, the Province seeks to continue its work with Aboriginal peoples to more effectively recognize their historic places as a key component in British Columbia's heritage British Columbia (Ministry of Forests, Lands and Natural Resources Operations, Heritage Branch, 2013, p. 5).

Collaborative Protected Area Planning

Based on the five jurisdictional examples outlined above, ecosystem conservation designed to protect ecological integrity and maintain biodiversity looks to be a common Canadian approach for conservation planning. Protecting cultural identity through the conservation of lands containing significant cultural values is also a priority as shown above.

Day, Gunton and Frame (2003) conclude that it requires the integration of science into a collaborative process that engages all relevant stakeholders in principled negotiation to develop plans that achieve the public interest. It was observed that environmental sustainability is

fundamentally a question of reconciling diverse values and interests that expert-driven processes, based on science alone, can neither adequately identify, nor reflect (p. 9).

Modern conservation strategies like the PAS recognise multiple values, are more inclusive, encompass the interests of local communities and indigenous peoples, and craft collaborative management approaches that involve all key stakeholders (NWT PAS Advisory Committee, 1999, p. 17). These changes reflect a number of broader trends, including an expanded understanding of values of protected areas, both tangible and intangible (Rössler, 2006, p. 334). In particular, recognition of the cultural value of landscapes has refined the relationship of nature and culture, enhanced the conservation value of lived-in landscapes and broadened the potential stakeholder base for conservation efforts (Rössler, 2006, p. 334). There is also a growing recognition of the importance of partnerships and community engagement (Rhodes & Andrade, 2012, p. 1). The idea of stewardship, of engaging people in taking care of places they value, puts communities in a leadership role in conservation (Brown & Mitchell, 2000, p. 70). The PAS was designed as a community driven process where communities identified areas of interest, provide input on the ecological and cultural values of the areas and are expected to participate in the management of the areas once established (NWT PAS Advisory Committee, 1999, p. 6).

Collaborative management can be a frustrating experience (Ansel & Gash, 2007, p.553). An inability to manage a diversity of worldviews and conflicting interests can contribute to misunderstandings, feelings of mistrust, and this in part has resulted in the failure of several collaborative processes such as the legislative amendment of the NWT *Wildlife Act* and management of the NWT barren ground caribou herds. Community concerns and negative perceptions of each other and of the situation, if improperly handled, may also result in conflict

(Alberta Agriculture and Rural Development, 2001, p. 18). Open communication in such efforts is vital to exposing different interests, values, and beliefs. Carbaugh (1996) describes communication as the basic social process through which our natural ways and cultural meanings are being exercised socially (p. 40). It is generally agreed that fostering open dialogue among stakeholders helps to create a shared understanding of ideas, values, and interests to avoid misunderstandings and find consensus in collaborative management initiatives. The PAS process established multi-stakeholder working groups that helped facilitate the discussion between Aboriginal, government, industry and environmental non-governmental organizations.

Von Kutzschenbach and Brønn (2006, p. 305) conclude that having an accurate picture of the other parties' perceptions of the issues under consideration further promotes effective communication. The diversity of interests involved in sustainable development efforts make cross-sectorial dialogue especially necessary to help develop alternatives and to understand these different points of view (Driscoll, 1996, p. 165). An expanding body of research indicates that sense of place, understanding how perceptions are formed, and how people frame conflict are important constructs to understanding how people react to land use and resource planning controversies (Bott, Cantrill, & Myers, 2003, p. 100). Working collaboratively is a challenging task unto its own without the complicating influence of conflicting values, attitudes, and beliefs, complications that all too often result in misunderstandings. Therefore, successful collaboration relies on open communication to promote a clear understanding of ideas, values, and interests and to avoid misunderstandings (Frame, Gunton, & Day, 2004, p. 73). It is possible for opposing interests to have similar objectives. During the meetings of the PAS multi-stakeholder working groups there was opportunity for participants express the various interests and values each party brought to the planning table.

One approach for involving communities in protected area planning is referred to as the protected landscape approach. This approach links the conservation of nature and culture, and fosters stewardship by people living in the landscape through awareness that protected areas contain multiple values based on the interactions of people and nature (Harmon, 2006, p. 90). The protected landscape approach recognizes that the cultural and natural values of landscapes are inextricably linked, and embraces the central role of communities as stewards of these landscapes. It puts communities at the heart of management of these protected areas, sharing in the benefits and responsibilities of conservation. It is an inclusive approach, relying on participatory processes and partnerships that link a diverse array of stakeholders in stewardship and sustainability (Harmon, 2006, p. 90).

Day, Gunton and Frames (2003) analyzed the effectiveness of collaborative planning when involving the public of British Columbia in helping develop new management practices in forestry. Clear-cutting, overcutting, and the detrimental effects of logging and other resource sector industries had adversely affected natural values such as biodiversity, fish and wildlife habitat, water quality, scenic landscapes, and the sustainability of timber supplies. Public outcry over the system of resource allocation and management intensified and the discontent grew from mistrust of centralized decision making, absence of meaningful public participation, and concerns over increasing resource scarcity (p. 2) Government resource plans and decisions appeared arbitrary to many; they lacked coordination and followed independent and often contradictory objectives (p. 2). The government recognized that a new direction in resource management was necessary to resolve the current strife, to help avoid future disputes, to restore faith in government, and to correct ever widening rifts in resource-based communities (p.2).

The British Columbian Government decided to try resolving planning disputes through a system of collaborative planning involving a high level of collaboration and involvement of stakeholders (p. 3). It was thought that agreements developed through collaborative planning would be more likely to resolve conflict among competing stakeholders than other planning processes because they identify solutions that meet the mutual interests of all parties. They are also considered easier to implement, and more durable, because they are less likely to generate opposition (p.3).

The research on collaborative approaches showed that stakeholders' perceptions were relatively positive:

- 64% of stakeholders expressed satisfaction with the collaborative planning process outcomes.
- 69% found that collaborative planning was the best way to prepare land use plans.
- 76% felt that the CP process resulted in improved relationships among stakeholders.
- 86% concluded that they had gained valuable skills by participating in the process.
- 93% of stakeholders supported the concept of public involvement in land use planning.
- 73% would be willing to participate in another collaborative planning process. (p. 7-8).

Further support for involving communities in conservation planning comes from the research of Andrade and Rhodes (2012). They studied 55 published protected area case studies from developing countries and determined that the level of compliance of local communities with protected area regulations was most influenced by the level of local community participation in protected area management (p. 5). In general, they found that the higher the level of local community participation, the higher the level of compliance with protected area policies. This suggests that greater inclusion of local communities in management should be a

key strategy for ensuring the stewardship of protected areas. When people are well connected in groups and networks and when their knowledge is sought, incorporated, and built upon during planning and implementation of conservation and development activities, they are more likely to sustain stewardship and protection over the long term. (Pretty & Smith, 2004, p. 632) The inclusion of local communities in protected area decision-making processes may promote a sense of ownership, where locals cooperatively protect reserves from outsiders and also regulate their own use of natural resources (Pretty & Smith, 2004, p. 636). The participatory approach works because it is based on the creation of a cooperative relationship with all stakeholders and building relationships based on voluntary compliance rather than strict enforcement (Lane, 2001, p. 665).

Collaborative Ecological and Cultural Protection Projects in Canada

The following are some Canadian examples of collaborative conservation planning:

Great Bear Lake Watershed Special Management Plan

The Great Bear Lake Watershed Management Plan (GBLWMP) (Nesbitt, 2005, p. 1) was a planning initiative driven by the Déline Land Corporation, Déline First Nation and Déline Renewable Resources Council in the NWT. The GBLWMP was developed by the Great Bear Lake Working Group (Working Group) by consensus from 2002-2005. The Working Group was a coalition of community organizations, government, co-management boards and other organizations.

The GBLWMP provided a wealth of information about Déline's vision for the management of the land. Many other elements of the much larger Sahtu Land Use Plan were significantly shaped by the GBLWMP – the vision and goals, and many of the Conformity Requirements, Actions and Recommendations. Much of the direction initially developed for the

Great Bear Lake watershed was eventually applied throughout the Sahtu Settlement Area as a result of community discussions and common values.

The GBLWMP defines a vision, goals, policies, conditions and prohibitions for all aspects of land use within the Great Bear Lake watershed. In particular, the GBLWMP emphasizes the maintenance of ecological and cultural integrity of the watershed in its vision. The Déline people were explicit about the need for Great Bear Lake to be kept clean and bountiful and that the pristine quality of the water be maintained for all time. The plan also requires that activities in the watershed protect and promote the existing and future social, cultural and economic well-being of residents of the watershed, while also having regard to the interests of all Canadians. (SLUP, 2013, p. 15.)

Ontario's Far North Land Use Strategy

The *Far North Act*, 2010 is the legislative foundation for planning at the community level in the far north of Ontario and for a Far North Land Use Strategy to help guide that planning (Ontario Ministry of Natural Resources, 2015, para. 2). The Strategy provided guidance on how to apply existing policy and legislation in a land use planning context in northern Ontario. Ontario is working jointly with Aboriginal peoples to prepare community based land use plans as part of the Far North Land Use Planning Initiative. The land use plans will consider economic, environmental and social/cultural interests and describe how land and water will be used while sustaining the people and the resources into the future. The plans will also identify dedicated protected areas designed to help protect the unique ecology and boreal environment of the region.

The community based land use planning approach builds upon a respectful working relationship between First Nations and Ontario, using consensus-based decision-making and

final plans that will be jointly approved by First Nations and Ontario (Ontario Ministry of Natural Resources, 2015, p. 8). The goal of the plans are to ensure the region's resources contribute to a more prosperous, healthy and sustainable future for its communities (Ontario Ministry of Natural Resources, 2015, p. 38).

Whitefeather Forest Cultural Landscape

The Whitefeather Forest is a Canadian Indigenous Cultural Landscape of Pikangikum people (“A Cultural Landscape”, n.d. para. 1). The 1.3 million hectares of boreal forest in north-western Ontario, delineated as the Whitefeather Forest Planning Area, is the social-ecological setting for this project. The community of Pikangikum First Nation is nestled in the centre of the Whitefeather Forest Planning Area and the knowledge, practices and beliefs of the people of Pikangikum have, over the generations, cultivated the cultural landscape which continues to evolve as the shared journey between people and the land (“The Whitefeather Forest”. n.d., para 1).

In 2006, Pikangikum community members working cooperatively with the Ontario government created a land use planning framework for the Whitefeather Forest Planning Area that supports their elder’s vision for responsibly managing traditional lands. The document is titled, *Keeping the Land: A Land Use Strategy for the Whitefeather Forest* (Whitefeather Forest Initiative, 2006, p. 2). *Keeping the Land* provides the strategic framework for continuing the stewardship tradition of Pikangikum, while providing a means for resource based economic development and employment opportunities for the Pikangikum people. *Keeping the Land* provides direction for several land use intents, including commercial forestry, non-timber forest products, mineral development, tourism, recreation, strategic access, and dedicated protected areas. It is the intention of Pikangikum First Nation in the Whitefeather Forest Initiative to

provide economic opportunities for their members while protecting the rich ecological and cultural heritage of their ancestral forests. Keeping the Land ensures that the Pikangikum way of life will continue as it should and that the land will continue to be kept.

Summary

In the field of ecosystem conservation, ecosystem preservation is the preferred method for maintaining species and habitat diversity. Cultural conservation at the landscape level helps maintaining a local community's spiritual and cultural connection to the land and across Canada there are some excellent examples of provincial protected area programs that focus on protecting both ecological representation and cultural landscapes. The advantages of involving community members in a more collaborative conservation planning approach are also being actively pursued by provincial governments across Canada and that the benefits are being identified in some key planning processes. In the following Methodology chapter, I discuss case study methodology, my research methods and the value of qualitative versus quantitative research for this subject matter.

Chapter 3 – Methods

Introduction

The purpose of this research is to take a critical look at the effectiveness of the PAS as a mechanism for protecting key natural and cultural places. The objective of this research inquiry is to examine what success the PAS program has had in achieving its two main goals: (1) identify any problem areas in implementation and (2) recommend program modifications to improve the effectiveness in establishing new protected areas. The first step I took in preparing myself for the research was to fully familiarize myself with the 1999 PAS foundational document, *Northwest Territories Protected Areas Strategy, A Balanced Approach to Establishing Protected Areas in the Northwest Territories* (NWT PAS Advisory Committee, 1999) and its associated technical reports, action plans, annual reports and other publications (a listing of these documents can be found in Appendix 1). This research provided the conceptual framework that guided the thematic basis for the questions developed for the semi-structured interviews used as the principal method for this inquiry. A literature review was conducted to gain knowledge of current issues related to protecting ecological representation and cultural landscapes and examples of how this protection was being put into practice. Lastly, I held semi-structured interviews with individuals who have firsthand experience with the PAS and asked them to respond based on their experience with the program. Qualitative interviews are a very useful method to gain research participant perceptions (Patton, 2002, p. 53). Overall, questions focused on the PAS process, the roles of the various participants, awareness of relationships at the working group level, and determining protection tools and what aspects of the process did and did not work well.

Land conservation and protected area planning is an important societal responsibility and society's best response to maintaining biodiversity and ecosystem integrity. This research provides important feedback to land use planners responsible for establishing protected areas in the NWT and helps advance the development of a protected areas network that provides the foundation for a sustainable environment and serves the long-term interests of NWT residents and all Canadians. There are now over 100,000 protected areas worldwide, covering over 12% of the Earth's land surface. These areas represent one of the most significant human resource use allocations on the planet and represent the main approach for conserving biodiversity (Chape, Harrison, Spalding, & Lysenko, 2005, p. 443).

Qualitative Research

As discussed, my research inquiry is qualitative. Qualitative research explores the meanings, concepts, definitions, characteristics, metaphors, symbols, and description of things and often includes observations and interviews (Berg, 2004, p. 3). Qualitative research is about "understanding the lived experience of other people and the meaning they make of that experience" (Seidman, 2006, p. 9). Qualitative research seeks to answer questions through social setting examinations with individual inhabitants (Berg, 2004, p. 7). Central to the qualitative paradigm is the belief that people assign meaning to the objective world, that their valued experiences are situated within a historical and social context, and that there can be multiple realities (Benoliel, 1984, p. 4). Therefore, as this research is focused on stakeholder perceptions a qualitative method was utilized for data collection through semi-structured participant interviews. In contrast, quantitative research is primarily associated with counts and measures of things and can be used for statistical analysis, while qualitative research is framed in terms of using words rather than numbers (Creswell, 2013, p. 4). Quantitative research strategies may

involve conducting experiments and collecting data on instruments with intent to be able to generalize and replicate the findings (Creswell, 2013, p. 4). The semi-structured interview process I used was intended to assess participant opinions and gather their stories based on individual experiences. I did not use a quantitative approach because opinions and stories are not aspects which lend themselves well to statistical analysis. Instead, I chose a qualitative approach because of the depth to which interview explorations are conducted and rich descriptions of the situation are written.

Case Study Research Methodology

Choosing a methodology involves “preparing a strategy of inquiry that effectively and elegantly addresses the research question at hand, but also effectively gives a voice to our research participants and the criteria by which we feel we can proclaim authority for our data” (Palys, 2003, p. 71). A research methodology that can do that is the qualitative case study. There are several good reasons why a case study was chosen for my research. To begin with, case-studies allow a researcher to reveal the multiplicity of factors which have interacted to produce the unique character of the entity that is the subject of study (Yin, 1989, p. 82). Case-studies represent a method of learning about a complex process through description and contextual analysis (Corcoran, Walker & Wals, 2007, p. 9) and the case-study approach allows the researcher to ‘go deep’, to learn what works and what does not (Corcoran et al. 2007, p. 10).

Defined generally by their purposes, three types of case study methodology fall within the framework of qualitative research. These are; the descriptive case study, the interpretive case study and the evaluative case study (Merriam, 1988, p. 28). Useful in areas of government programing where little formal research has been done, the descriptive case study attempts to present a detailed account of the phenomenon under study. My research project can most

appropriately be described as descriptive case study. As a descriptive case study, my research represents an investigation into the ways in which people associated with the PAS describe and act on their understandings of current federal and territorial protected areas programming. Among the strengths of case study research are that it “has proved particularly useful for studying educational innovations, for evaluating programs, and for informing policy” (Merriam, 1988, p. 33).

Three criteria are suggested as a test for the appropriateness of case study research. First, a case study can be considered when the desired or projected objectives of an organization’s efforts focus on humanistic outcomes or cultural differences. Secondly, a case study fits when the information obtained from participants is not subject to truth or falsity, but “can be subject to scrutiny on the grounds of credibility”. Third, case study research is appropriate when it is used to examine a unique situation (Kenny & Grotelueschen, 1980, p. 3-4)

This research inquiry satisfies all three of the above conditions. Humanistic outcomes such as the need to maintain traditional Aboriginal lifestyles of hunting and gathering, as well as significant concerns about the preservation of Aboriginal culture emerge clearly from the data. Secondly, protected area planning documents are not constructed on the basis of truth or falsity, but rather in response to community need and intentions. They are generally responsive in nature and as a result the extent to which they accurately reflect human need is based on the believability of those providing the information. Furthermore, this research has utilized key informant interviews. Interview participants were selected because of their long-standing experience with the PAS program adding to their credibility. In respect to the third criteria, the PAS represents a unique conservation planning process. It is unique in that it is a community led process with a main goal of protecting significant cultural areas.

Ethical Considerations

While conducting this research I adhered to the ethical standards outlined in the Royal Roads University Research Ethics Policy (Royal Roads Academic Council, 2011). On September 10, 2014, Royal Roads University Research Ethics Board gave clearance for my research project (Appendix 2). The board's letter confirmed that clearance was granted, pending any additional clearances required by the sponsoring organization or any other organization. In combination with my ethics approval I also received a NWT Scientific Research License (Appendix 3). All participants voluntarily agreed to be part of the research and no deceptive techniques were used. Participants will be given a copy of the final report.

Scientific Research License

Research that does not fall under Wildlife or Archaeologist legislation requires a Scientific Research Licence under the NWT Scientists Act Administration Regulations. This license is obtained through Aurora Research Institute (ARI) in Inuvik, NWT.

According to the Scientists Act, researchers issued licences must provide a summary report for each year of their research. Accordingly, upon completion of my 2015 field work in the Northwest Territories, I am to provide a 200-word (maximum) non-technical summary of my research findings to the ARI via www.nwtresearch.com/polar. In addition, ARI requires a copy of my thesis as it pertains to research conducted under this licence.

On September 04, 2014 I submitted my application and on December 05, 2014 I received Scientific Research Licence #15559 from ARI and was able to undertake my interviews (see licence attached).

Interview Participants

The interview participants were selected from the membership of the PAS Steering Committee. The mandate of the PAS Steering Committee is: to guide and facilitate the implementation process, to provide a forum for information exchange, and to provide strategic advice to the territorial and federal Ministers on the implementation of the PAS, including PAS Action Plans (PAS Secretariat, Indian and Northern Affairs Canada, Government of the Northwest Territories, 2011, p. 2). Membership on the Steering Committee consists of:

Eight Aboriginal Groups or Governments

- Akaitcho Territory Government
- Dehcho First Nation
- Gwich'in Tribal Council
- North Slave Metis Alliance
- Northwest Territory Metis Nation
- Sahtu Secretariat Incorporated
- Tlicho Government

Two Industry Groups

- Canadian Association of Petroleum Producers
- NWT and Nunavut Chamber of Mines

Two Environmental Non-Government Organizations

- Canadian Parks and Wilderness Society
- Ducks Unlimited Canada

The Federal and Territorial Governments

- Government of Canada
- Government of the NWT

Many of the representatives have been serving long term on the Steering Committee and are well informed of the PAS process and have experienced first-hand the challenges and opportunities the PAS program has encountered over the past 15 years. I asked all 13 groups represented on the Steering Committee to participate in the interviews and 11 groups agreed. Two of the Aboriginal groups had new representatives on the Steering Committee and did not feel they had the necessary background or experience to participate in the interviews. I was also unable to contact the former members for either of these two Aboriginal groups. When emailed to participate, many of the interview candidates responded enthusiastically. Some sample responses were “Absolutely” and “I would very much like to provide input, thanks for the opportunity.” One of the Aboriginal chiefs gave me great encouragement with her email response, “What you are doing is of great importance and I wish you all the best in your studies. Mahsi [Thank you] for choosing the area of PAS for your research.”

Inquiry Steps/ Data Collection

I initially began by sending an introductory email containing a Letter of Invitation (Appendix 4) to all the members of the PAS Steering Committee. The Letter of Invitation introduced myself, gave a brief description of the intent of my thesis research and asked if they were interested in participating. For some I followed up with another email and/or phone call and others I spoke to directly face to face and tried to encourage their involvement. In total, eleven representatives agreed to an interview. Included in the eleven were five from Aboriginal groups or governments, two representing industry, both environmental non-governmental organizations a Federal representative and a Territorial government representative. I believe the

interview participants represented a balanced representation of the broader steering committee. Prior to the one-on-one interview, each participant signed a letter of consent, committing to this research (Appendix 5). This letter of consent identified the title and type of project, identified myself and my royal Roads University affiliation, provided a clear statement of the research purpose, the nature and duration of the participant's involvement, the type of questions that I will ask, and assured them they were free not to participate and had the right to withdraw at any time. I have used quotes from the interview transcripts, keeping them anonymous by identifying the participant through numbers 1-11 following each quote. The identification numbers were randomly attributed to each participant to further ensure anonymity. See Table 1 that outlines the data types and dates of interviews completed. No data will be stored on the internet. All hard copy data will be stored in a locked file cabinet and the computer I use and USB flash drive are both password protected.

Table 1 Interview data presenting coding used to protect the identity of participants, the data form (transcription from audio recordings or written responses), and date of interview.

Interview Code Number	Type of Data	Date
P1	Transcription	21/01/2015
P2	Transcription	19/03/2015
P3	Transcription	27/01/2015
P4	Transcription	03/03/2015
P5	Transcription	27/01/2015
P6	Transcription	02/03/2015
P7	Transcription	11/02/2015
P8	Transcription	13/03/2015
P9	Transcription	17/02/2015
P10	Written Answers	02/03/2015
P11	Written Answers	21/03/2015

Interviews were held between January 20, 2015 and March 21, 2015. The interviews took place in three different forms. Six of the interviews were done separately face-to-face but in the same private, quiet location enabling an intimacy and level of comfort for the conversation. Three other interviews took place over the phone due to geographic distances and/or scheduling conflicts and the last two interviewees submitted written responses to my questions because they were not comfortable with an oral interview or had technical/telecommunication problems.

The interviews were semi-structured lasting between 45 minutes to an hour and a half. I created 21 guiding questions (Appendix 6) that could loosely be divided into 5 distinct sections. The first set of questions was intended to understand their personal values of the need for protecting culturally and ecologically sensitive areas and how effective they thought the PAS program was in achieving what it set out to accomplish. The second set of questions explored the roles of the various stakeholders in the process and the third set looked at the relationships between these stakeholders as proposed areas advanced through the process. The fourth set of questions looked at development in proposed protected areas and the effectiveness of the PAS tools to manage these areas and lastly, the final question asked if there was any additional information about the program they felt was important to my research. All interviews followed this format but probes and prompts were used when necessary to get the interviewee to expand on a response or when I believed they have more to say. There was also space for flexibility to veer off course at times should the interviewees want to share any specific stories that came to mind, thus allowing for an added richness to the data.

Data Analysis

The interviews were digitally recorded and transcribed as the first step in collection and analysis. To gain the full richness and integrity of the study I chose to manually sort the data rather than using computer coding software.

I began my analysis by reading the transcripts many times in order to further familiarize myself with the responses. To begin the analysis, text must first be broken down into manageable units. When reading the transcripts I made notes in the margins that summarized the key point or points in the response. In an attempt to reduce the amount of information I had to continually reference, after each transcript I created a listing of all the summarized points each interviewee provided. This process is called reduction (Clarke & Braun, 2013, p. 121). Physically reducing the amount of information collected during interviews means sorting, categorizing, prioritizing, and interrelating data according to emerging schemes of interpretation. Once I read over the transcripts the repetition of key words and phrases alerted me to possible ways to sort the data (Clarke & Braun, 2013, p. 121).

When comparing the lists of summarized points, I identified common themes and ideas that surfaced in the interviews, searching for recurring themes and ideas that emerged as being relevant. Thematic analysis is a widely-used qualitative analytic method for identifying, analyzing, and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail (Braun & Clarke, 2006, p. 83).

I used these themes as headings and began placing associated quotes from each interview under the heading that best described the content of the quote. I mapped each theme on a sheet of paper and from each of these I identified all the relevant contextual quotes provided in each interview. As I categorized applicable quotes under each theme it became more and more obvious which themes were more prevalent than others and eventually the process allowed for an

emergent identification of linkages and patterns between interviews. The benefit of this technique is its ability to easily communicate research findings and interpretations to others.

Summary

The case study method was selected for this study and individual semi-structured interviews were the data collection method of choice. These interviews proved very valuable in gaining an understanding of the unique experiences of the various stakeholders involved in the PAS program. I chose a qualitative research approach because it is best for analysing subjective perspectives not conducive to mathematical rigour. I also benefited from a case study method because it allowed me to look at the multiple variables that defined the PAS experience. In the following Results chapter, five significant themes emerged from the interviews.

Chapter 4 - Results

Introduction

This chapter presents the findings from the questions posed in the one-on-one interviews. The interview participants were selected from the membership of the PAS Steering Committee and represent a cross-section of stakeholders involved in the program. All participants are well informed of the PAS process and have experienced first-hand the challenges and opportunities that the PAS program has encountered over the past 15 years. The questions provided to the participants related to my research question: How effective is the PAS as a mechanism for protecting key natural and cultural places? Overall, questions focussed on the PAS process, roles of the various participants, relationships at the working group level, determining protection tools and what did and did not work well from their experience. The objectives of this research inquiry were to examine what success the PAS program has had in achieving its two main goals, to identify any problem areas in implementation and to recommend program modifications to improve the effectiveness in establishing new protected areas.

From the interviews conducted, five significant themes emerged:

1. There is an agreed value in protecting culturally and ecologically significant areas;
2. The 8-step PAS process is a good process for planning and establishing sites but there are some criticisms;
3. Although the program did fail to achieve its vision of creating a network of protected areas it still accomplished many valuable things;
4. The government's lack of support for the PAS is responsible for the program not achieving its vision;

5. Some development within protected areas should be allowed. Discussed in Chapter 5 (pages 61-63 and 68-71).

The establishment process is long and costly with many different stakeholder perspectives to accommodate, but among the interviewees there remains considerable support for the PAS program and a strong desire to see the program finalize the establishment of protected areas in the NWT. If the NWT is to succeed with a protected areas program, the GNWT needs to fully support the program and be willing to make difficult land management decisions that may negatively impact on industry's ability to develop northern resources.

Value of Protecting Culturally and Ecologically Significant Areas

There was almost unanimous agreement from all participants that it is important to protect culturally and ecologically significant areas. When speaking to the importance of protecting ecologically important areas it was generally expressed that there was an importance for maintaining species and ecosystem biodiversity. But more specifically, some participants felt society had a responsibility to future generations as stewards of this planet to protect the environment. As one person put it, "as stewards of our world we have the responsibility to ensure that we all have opportunities for clean water, fresh air and natural experiences, and that our kids do and their kids do" (P1). Another said "We've got a vested interest; the entire world has a vested interest in protecting ecosystems" (P4). Participants felt a very personal connection to protecting lands. As another participant explained, "there are values in certain areas that as a society we say are important for one reason or another, and we decide as a society that those things are important to safe guard for the long term. That would be a societal decision that there are some things worth protecting" (P8).

Several participants stated that it was important to protect cultural areas as a way of maintaining the history and lifestyle of the people of the north. They stated that if culturally important areas were to be disrupted or to disappear then the Aboriginal people would lose that connection with the land that came from generations of living on and in harmony with the land. Aboriginal people use these culturally important areas to help teach youth and others valuable life lessons. As one participant put it, “The land is part of Aboriginal culture in the North. You always want to protect the land so our culture stays healthy, so everybody can use it and learn from it” (P9).

What are interesting are the linkages that people made between culturally and ecologically important areas. It was emphasized that in the NWT with such a large Aboriginal population and an Aboriginal culture so closely tied to the land, the two goals of protecting ecological and culturally significant areas actually complement each other. More than one participant pointed out the connection. “I think there’s actually a lot overlap between ecologically important and cultural areas. I think that cultural areas are often important to communities or are cultural areas because of their ecological importance. I think the first thing I would say is that they’re often one and the same and often important for the same reasons” (P8). Traditionally, people lived or hunted where the wildlife was plentiful and where there is plenty of wildlife is where the ecology is most important. This overlap between populous wildlife and important ecology was expressed by another two participants. “We’re talking areas where people have followed the watersheds and traditional trails, hunting grounds, and they’re often areas of high biodiversity, high cultural use and cultural value in the same places” (P3). “Then the areas that emerged out of the process as being put for protection were generally those with extremely high ecological value. The fact that they were high ecological value meant that they

were highly desired historically as areas of cultural use. They ended up aligning quite consistently” (P6). These observations demonstrate how it was very easy for the Aboriginal communities of the NWT to relate to the PAS goal of protecting natural and culturally important areas.

Although most participants agreed, there was one participant who saw things differently. He scoffed at the need to protect areas and stated there was no need for a protected areas program in the NWT. “I think the whole concept of setting aside specific areas, even if they can be moved as sacrosanct ecosystems is not a valid concept. I think we should be dealing with ecosystems on a threatened case basis. If we see that for whatever reason, development or even natural causes are resulting in stress on an ecosystem then we should look at it. We don’t have an awful lot of stress, at least man-made stress on ecosystems... “(P4). He went on to question what pressures were on ecosystems to the extent that it required areas being set aside for protection. “There is not much development in the NWT so what are we protecting these areas against? The ecosystems and culture in the NWT are safe without setting aside protected areas because we don’t have development pressures like they do in the south” (P4).

8-Step PAS Process

Overall, participants described the 8-step PAS process for establishing a protected area as well thought out and very thorough. Although the process is fairly complex, the 8-steps were seen as logical and necessary for making sound land management decisions. Given the potential outcomes resulting from the process it was not difficult to entice affected stakeholders to participate. One participant described it as, “a pretty impressive, multi-stakeholder process” (P3). Step 5, evaluate candidate area, requires multi-stakeholder working groups be established. These working groups were composed of Aboriginal groups, industry, non-government

environmental organizations and government. Participants recognized that their decisions were going to have impacts on others and that it was necessary for everyone to be involved in the decisions. “It's important that most of the players that could be affected by your actions are at the table so that everybody's clear on whether we're going to have a deal” (P7).

Working group participation.

Interviewees realized that their recommendations on protecting lands had the potential to impact many different stakeholders and if they wanted to build consensus on establishment the parties impacted needed to be at the table. People recognized the significance of what the PAS program set out to accomplish and it was not hard to get people involved. Industry's perspective was, “We bought into it. We realized that it was going to happen regardless. Our philosophy was to buy into it and try to influence it in our favor as much as possible” (P4). Others also made note of industry's involvement, “They (industry) were quite active participants so I think it (the process) was quite inclusive” (P6).

Aboriginal communities on the other hand have a limited budget and staff available so it's not always easy for them to participate in government led exercises. Recognizing this, the PAS program provided funding for Aboriginal communities to pay their representatives to participate on the working groups and the government PAS staff worked closely with communities to help improve understanding and facilitate the process. Thanks to these efforts, capacity issues concerning the ability for Aboriginal representatives to participate were dealt with effectively resulting in the community's ability to contribute constructively. “First Nation's ability to participate in the PAS process and bring their issues to the table I think was reasonably well done; their input was meaningful and it was well enough resourced for their interest to be brought to the table” (P6). Another interviewee summed up his perspective on the working

groups by saying, “I think through the working group’s structure and the fact that all the “stakeholders” were invited to participate and those that didn’t have the resources, particularly the community, were provided with resources to be able to participate. I can say it was a reasonably well resourced process and everybody contributed to it” (P6).

Respect amongst working group members

Another common observation by the interviewees was that there was a good degree of respect for each other around the working group table. This respect for one another probably helped sustain the high level of participation from what can sometimes be confrontational stakeholder groups. Respect is not always easy to maintain but as one participant pointed out, “I think when you start in those arrangements you have to respect other people's views. I think, for me, that's a given. If you're going to invite people to the table, then you have to respect their view” (P7). Another participant strongly endorsed the working group format, “I think that it all went very smoothly actually, as far as the relations between the various groups that were around the table” (P4). One participant gave credit for the openness and respect to the unbiased facilitation by one of the working group chairs. “It was good. I think it was very well done. I think that our last chair that we had from the petroleum producers, he did a very, very excellent job of not coming in strong as a pro development industry type person. It was very important to have a good chair who allowed open discussion. Talking helps people maintain respect for each other.” (P5).

Criticisms of 8-step Process

Although there was plenty of support for aspects of the 8-step PAS process there were many interviewees that were critical of the overall process and thought that there needed to be changes made. It was criticized for being too collaborative and too ambitious in that it tried to be

all things to all people and that it set out to protect too much land while not having consideration for how this may impact the economy of the NWT. The fact that the process took so long was another criticism. “Something that goes on too long, you lose your continuity of people involved and knowledge and when they leave it impacts the group’s corporate knowledge and history on decision making” (P5). “It was very time consuming to have to go through all those steps. It was very time consuming and costly to get all the required assessments done” (P6). It was thought that the process was too rigid and maybe not all steps should be required for each proposed site, “I don't think it's flexible enough. Maybe not all assessments need to be done for each site. ...as a whole we got bogged down in process” (P8).

Another of the major criticisms of the process expressed by several interviewees was that the all or nothing approach to protection planning failed. By working groups insisting the entire area of each site required both surface and subsurface protection and that development was not permitted in proposed protected areas stalled out the decision makers. Working groups put forward final recommendations to government that stated development should not be permitted in the proposed protected area. Government was not prepared to agree to recommendations that did not allow for some development but recognized the negative political fallout if they did not agree with the final recommendation report. Therefore, the government said nothing and refused to make a decision. “If I had to do it over again, I would certainly avoid the all or nothing approach, and that’s unfortunately what the PAS was keen on. It was full protection or no protection and if you have that fight with government, you are going to lose” (P1). Government was also not happy with how large the proposed sites were. The fact that proposed protected areas were so large was another critical mistake in the process, “The big hunks of land did not work in favour of the PAS” (P5). The federal and territorial governments could not agree with

the working groups that such large areas should be removed from the productive economic land base and set aside as protected areas.

The criticisms continued with participants lamenting that the process raised community expectations too high and that it was not made clear to community members what the final end product might look like. Areas were identified and recommendations were put forward on their management by community members and others but in the end government had the final say on approval. “I do think that the aboriginal involvement is critical, but I do believe that on a whole we set up false expectations in the communities. I think that there needs to be a lot of caution moving forward about how to be really realistic about what can be offered and not asking for their support and investment in terms of time and energy unless we're really prepared to follow through with things” (P8). Community members on the working group did not want to compromise what they wanted to see protected versus other values that needed to be considered in the planning process. Community members were focused on full protection. The values they prioritized were cultural and ecological interests and were not interested in excluding high valued natural resources from the planning areas. “I think one of the main reasons we expanded the study area so big was so there could be a give and take. It's hard to make sure that people really understand the trade-offs that had to happen down the road. I don't think they understood that enough, and that there would need to be trade-offs and that never washed well ever” (P5).

The final criticism of the 8-step process has to do with the non-renewable assessment that's required for determining potential mineral resources within the study area. Step 5 of the process requires that ecological, cultural, socio-economic and non-renewable assessments be completed for helping in determining final boundary recommendations. Of these four assessments, only the non-renewable assessment had elicited strong discontentment from

participants. Interviewees complained the non-renewable assessment was the most costly and took too much time to complete compared to the other assessments and that it was weighted more heavily in decision making. “You end up working around the mineral assessment. All of a sudden, the mineral assessment becomes the thing that determines the boundary and we didn't like that” (P2). It was also observed that industry benefits from the information gathered and the assessment actually works against the PAS. Communities entered into the PAS process to protect their cultural values.

However, industry used the results of the non-renewable assessments to put pressure on government to carve the high valued mineral areas out of the culturally important areas proposed for protection. These high valued areas then became the focus for mining exploration companies for drilling; potentially impacting the very cultural values the communities wanted to protect. “We had a huge area knowing it was going to be reduced, but the bad side of that, having this huge area is that they did a mineral study in this huge area so they know what's there now” (P2).

Failure to Achieve Vision

100% of the interview participants agreed that over the past 15 years the PAS program failed to achieve its vision of creating a network of protected areas to serve as the foundation for a sustainable environment. To sum it up, as one participant put it, “I think they wasted a lot of our time. I know a lot of us sat in a lot of that stuff, provided input over the years and really it came to naught in the end” (P4).

That's not to say that no good came from the exercise. Interviewees identified a number of benefits that stemmed from the work done by the PAS program. With the NWT being so vast and with little human population there are huge gaps in information about the landscape. One person thought, “I think one of the best things to come out of that is increased geographic

knowledge of the NWT” (P4). Another person added, “At the end of the day, having all those assessments, having all that research done was valuable in terms of making final decisions. The information was certainly very valuable for the communities” (P6). Over the years a benefit stemming from the PAS program was that it got people talking about conservation. It helped raise awareness. It raised the profile of protected spaces. “Everybody knows about the PAS. All the communities have been very engaged. When you look at a map, it’s coloured with areas of interest, so as far as the success I think it’s been amazingly successful as far as getting people in different groups together to talk about areas, to identify ecological values, cultural, non-renewable resource values, amazing information has come out, so hugely successful in that way” (P5). Another participant echoed a similar response, “It did definitely raise awareness of important areas across the territory either for cultural reasons or ecologic reasons or both. I think it did do an effective job of that, and I think that is part of the vision” (P8).

The program was also seen as a success based on the relationships it fostered. Having worked together respectfully for so many years the program helped develop relationships and trust between communities and government and industry. “If you measure the Protected Areas Strategy in terms of what it achieved in protected areas, it’s a failure. It’s not the question, but if you measure it in terms of the knowledge that are gathered and the support that are built, the networking that was done, the operational level of good relationships that were formed, it is a success” (P1). The program gave communities a voice and an opportunity to share their knowledge about the landscape and their culture and it was appreciated. “I think it’s been quite effective. We’ve developed at the working group level, we’ve developed very good relationships with community people, and we’ve developed trust because we’ve gone to the communities. We’ve drank tea and sat with people and talked with people, in some cases we’ve

gone on the land to areas that are important to them. It takes a long time to develop trust and relationships” (P5).

Government to blame for failure of PAS

One hundred per cent of participants interviewed had negative things to say about how government, both federal and territorial, led to the PAS program not being successful. Despite both governments being praised for initiating the program, allocating tremendous financial contributions, assigning talented, qualified staff and contributing tons of background information and research, in the end, government failed to fulfill their promises.

Although government staff was participating wholeheartedly at the working group level, at the political level government did not support the recommendations put forward by the working groups. “I will just say it flat out. I honestly think that there has been and probably still continues to be an utter lack of political will to protect areas both on behalf of the federal and the territorial government at different points in time for different reasons” (P8). This criticism was further supported by another interviewee, “Things were going smoothly right up to the point really where there was a draft recommendation reports for those areas. At which point, the decisions then became more at the political level and at that point things stalled quite dramatically and then government actually became a hindrance as opposed to a support” (P6). And echoed again by another, “Where we had these wonderful working groups and great relationships and did all this stuff, everybody was on the same page but the politicians and the people who made decisions weren’t” (P5). And still another criticism, “Government was and still is the weak link in getting these things done. It’s the reluctant partner” (P1).

Government was criticized for its inability to make a decision. “The worst part was once you have all the information, nobody being able to make a decision what to do with it. That right

there was when everything fell apart. It's become too political" (P5). At the final step in the 8-step process, participants observed government getting cold feet and lacking the political will when it came time to support the working group recommendation reports. "The delay has been in not the work that was done by the communities, not the working group, not the research that was done. Where the biggest delays have been is actually from the government trying to decide whether or not they're willing to implement what it is that was recommended or what arose from the process that was established and that's been frustrating" (P6).

Participants thought that the government's unwillingness to approve final recommendations came from a fear that if these protected areas were established they would have too big of a negative impact on the resource based economy of the NWT. "The process identified more candidate areas than the political complications could handle. The potential for serious impacts to the NWT economy became an issue" (P11). Government saw more land proposed for protection than what was being developed. And much of the land selected for protection was virgin territory, lands unexplored by the mining and oil and gas industry. They were not prepared to give up these lands. "I do think also that so many areas were identified maybe was a detriment as well because it looked really scary to politicians who maybe weren't necessarily totally pro conservation. Like people who did not see that as a balance. It was really easy to say this isn't a balanced approach, this is way too focused on protection" (P8).

This lack of action by government in approving working group final recommendations for proposed protected areas has led to a breakdown in the relationship between communities and government. Aboriginal governments and NWT Members of the Legislative Assembly have written letters to the Premier and the Minister of Environment and Natural Resources expressing their frustration with GNWT's indecisiveness and criticizing the government for not following

through on commitments. Communities put a lot of time and effort into the planning for these areas and are frustrated by government's inaction. "I think that setting false community expectations contributed to a lack of trust" (P8). Interviewees felt double-crossed by government and expressed strong feelings of resentment. "They want it all. They just don't like the idea of having to share anything with aboriginal people. They want the land, resources, everything. They want it all. They never did look at us as equal partners" (P2). These strong feelings show no signs of diminishing with time and this has led to continued political pressure on government to listen to the people and resolve the establishment of the proposed protected areas. "I don't think communities are going to change their minds. I don't think their interests are going to shift and there needs to be serious effort by the government of the day to get these things done or they're going to drag it around with them for years" (P3).

Some Development in Protected Areas OK

About half of the participants interviewed thought that some forms of development in a protected area should be considered. One interviewee commented, "It is a site specific issue. There are many protected areas around the world where some forms of resource development are permitted, so why not in the NWT" (P11). Although development was supported, people did speak to the need for some criteria or conditions to be in place to determine whether or not the development should proceed. Two interviewees thought that if it could be shown there would be no impacts on the high values in the protected area then the development should likely proceed. One said, "I wouldn't shut the door to development. I would say this. I would say this is the important value in this area. If you want to have a development in here, you have to demonstrate to us how you would mitigate any impact to this important value, and then we'll have to make a judgment on whether that's acceptable or not" (P5). The other said, "If it can be demonstrated

that the values for which the area is being protected are not going to be at risk because of whatever kind of development is being proposed, then I think that probably it would be really smart to allow it because then that is a winner” (P8). Another thought that if all impacts were underground or out of sight then these types of development might be permissible. “It may be underground mining. It doesn’t have a surface effect but you can control that surface effect. Maybe something like that might be able to happen. That might be permissible” (P7). A different participant thought, “Development should be permissible if the right technology and best management practices are used with more stringent terms and conditions and more monitoring of the development at the ground level” (P10).

Two other participants thought that only renewable resource development should be permitted in protected areas. The first commented, “The communities that I worked for essentially supported renewable resource development. Would accept some form of non-extractive or renewable resource development but were not supportive of non-renewable resource development in Protected Areas” (P6). The second participant was a little more specific to the type of renewable development permitted. “In some areas to a certain degree, some sustainable forestry practices would be appropriate” (P3).

There were also participants who thought that from their experience communities did not want any development permitted in a protected area and that this meant no surface or subsurface disturbances should be allowed. “The communities believed there were certain areas of community of land that regardless of their non-renewable resource values need to be protected for cultural and ecological reasons. That those values outweigh any non-renewable resource value in the same area” (P6). These participants say their position on development as quite straight forward. “Just draw a boundary around it and it’s going to be protected, and no

development in that area. If there is any mineral potential at all, tough luck” (P2). And, “There needs to be areas where there’s no industrial development. I don’t see where there’s room for industrial development of protected area, I mean it’s in or it’s out, really” (P3).

Summary

The interviews identified five clear themes. Everyone agreed there was value in protecting culturally and ecologically important areas, the 8-step PAS process accomplished many valuable things and is a good process for planning and establishing sites, the government’s lack of decision making and support for the PAS has led to the program not achieving its vision and that some level or types of development within protected areas should be permitted. In Chapter 5, I’ll discuss these results using the quadruple bottom line approach and hold the PAS program accountable for its social, environmental, political and economic performance.

Chapter 5 Discussion

Introduction

Several key findings result from this research about the effectiveness of the NWT PAS as a mechanism for protecting key natural and cultural places. I have decided to format my discussion of these results using the quadruple bottom line approach and hold the NWT PAS program accountable for its social, environmental, political and economic/ financial performance. Today, society expects more from organizations and they hold programs accountable for their quadruple bottom line performance. The NWT PAS program is no different. In these four key performance areas the data says the following.

Social – There's a high level of community commitment to the program and protection of conservation areas is critical to maintaining Aboriginal people's relationship to the land.

Environmental - Some form of development may be permissible in some portions of a conservation area at some times, subject to specific and stringent terms and conditions.

Financial/Economic – Through natural capital accounting, the value of the NWT maintaining its pristine natural environment by establishing protected areas far exceeds the financial return from depleting the NWT's natural resources.

Political - Lack of political will within the GNWT to commit to the establishment of protected areas is the primary delay and barrier for the establishment process.

It is possible for programs to perform well in all four areas. When designing and operating programs, it is critical that the quadruple bottom line be the criterion against which change is conceived, implemented, and evaluated. Only if this is done can the GNWT and their

protected areas program perform in ways that warrant support by the society that creates them and allows them to exist. Ideas on how to balance these concerns are discussed below.

Social

Research showed that at the working group level there was a high degree of community participation and commitment to the program. People want to be part of the program. The PAS establishment document describes the process as being a “community-driven, partnership approach for identifying and establishing protected areas in the NWT” (A Balanced Approach, p. 7, 1999). In North America, as in other regions of the world, conservation strategies are becoming more inclusive, recognizing multiple values, encompassing the interests of local communities and indigenous peoples, and relying on collaborative planning approaches that involve diverse stakeholders. Collaborative planning is an effective way to mitigate conflict when dealing with multi-use resources because it identifies solutions that meet the mutual interests of all parties. Agreements developed using collective planning is also considered easier to implement, and more durable, because they are less likely to generate opposition (Day, Gunton, & Frame, 2003). In addition to preventing conflicts, collaboration often leads to innovation solutions. Creative production results from a linking of connected ideas that flesh out the original thinking. Collaboration with others can speed up the linking of connected ideas that result in something innovative. Therefore, I see community involvement and inclusive approaches to conservation as central to an emerging new model for protected areas worldwide.

The future of protected areas relies on sustaining people’s relationship to the land and its resources. It is this complex mix of cultural and natural values, of tangible and intangible heritage, that makes protection of landscapes so vital, and at the same time so challenging. It

requires an approach that is interdisciplinary, inclusive, and that engages people and communities (Harmon, 2006, p. 89).

The results of the research show that for a number of reasons, support for protected area planning for culturally and ecologically important areas is strong, although not unanimous, within all the interest groups interviewed. While the fundamental purpose of conservation areas is to conserve the biodiversity of the planet, conservation areas and conservation area networks provide multiple services. Aside from the narrow purpose of protecting an endangered species or particularly sensitive habitat or unique landscape features, all conservation areas contribute in one way or another to the holistic well-being of people and the ecosystems with which they are inextricably linked. The concept of ‘ecosystem services’ helps people to understand the connection between the maintenance of healthy ecosystem and their key services to humans: provisioning of the basics of life (food, wood, etc.), regulating the earth system (climate, water, etc.), and providing cultural elements (beauty, education, etc.) (Faith, Magallón, Hendry, Conti, Yahara, & Donoghue, 2010, p. 66).

The 2014 NWT total population is 43,623 with Aboriginal being the largest ethnic group at 22,425 (NWT Bureau of Statistics, 2014). Because Aboriginal people in the NWT are intimately tied to the land socio-cultural concerns matter more. Their cultural and personal well-being depends very much on being able to experience the land in its natural state, to hunt, fish and trap, to travel, to simply enjoy – and to know that it is as it was and will be, whether or not as individuals they continue to be on the land. Aboriginal peoples also draw income from the land, whether directly through renewable and non-renewable resource exploitation or indirectly as a result of being able to draw country foods and other resources from the land rather than substitutes from the grocery store. For example, a 1994 study of the 6500 Aboriginal residents in

the Ontario Hudson and James Bay lowland area found that the total economic value of the traditional economy including meat, fuel wood, berries and fur was \$9.4 million. The average per capita value to the resident Aboriginal population of the region was \$1450, and the average per household value \$8400. This is a significant amount of money per household considering the average household income was estimated to include some \$10 000 in wage income (formal employment), \$13,000 in income support (including transfer payments), and \$2500 "other," for a total of \$25 500. The assigned value of \$8400 for the traditional economy was equal to 33% of the total household income (Berkes, 1994, p. 355).

Establishing conservation areas draws on and supports traditional knowledge, strengthening the role of elders in the community and passing on their knowledge to the younger generations. This in turn strengthens and supports the cultural well-being of the community. Conservation areas enable on-the-land education programs, further strengthening links to the past and the future, supporting spiritual well-being and healthy, active lifestyles.

To underscore the importance of conservation areas to Aboriginal residents, one need go no further than the following statement by Michael Nadli, MLA for the Deh Cho, made on March 13, 2013 in the NWT Legislature:

[Translation] In order to subsist in their traditional way, they need land to live by the traditional ways of living, and along with that comes the language. This is how the Dene lived in the bush. If there's going to be progress, they are going to have to have the environmental process in place. We have to keep in mind of the protected lands that has been arranged with the Dene people and is available. We must move ahead on this important initiative. Through the cooperation of all

parties, we must reach an agreement on comprehensive land use planning. Land use planning in the establishment of protected areas in the region is the opportunity to map our future. Mahsi, Mr. Speaker (Government of the Northwest Territories, 2013, p.2585).

For the Aboriginal governments and communities, conservation area establishment is obviously a priority and one of the foremost ways they can protect the natural wealth of the NWT and sustain their culture and a traditional lifestyle.

Environmental

The research showed some participants agreed development may be permissible in some portions of a conservation area at some times, subject to specific and stringent terms and conditions. Development within conservation areas is sometimes viewed as a conundrum at best, a fundamental contradiction at worst. The question often asked is, “Why establish conservation areas if development is to be permitted?” The fact is that development within conservation areas is common practice. For example, there’s the Prairie Creek Mine located within Canada’s Nahanni National Park, the Montcalm Mine in Ontario’s Groundhog River Provincial Park, 40 years of forestry operations in Ontario’s Algonquin Provincial Park and the Myra Falls Mine within BC’s Strathcona Provincial Park. The *Manitoba Provincial Parks Act* even has a specific resource management land use category listed under its broader park classifications. The main purpose of the categorization is to permit commercial resource development or extraction (mining) in a manner that does not compromise the main purpose of the park classification (*Manitoba Provincial Parks Act, 2013, 7(3), (c)*). These examples all support the notion that some form of development may be permissible in some portions of a conservation area at some times, subject to specific and stringent terms and conditions. As a

result of the environmental assessment authorizing the Prairie Creek Mine in the Nahanni National Park, the Mackenzie Valley Review Board found that the Prairie Creek Mine is not likely to have significant adverse impacts on the environment or to be a cause of significant public concern (MVRB, 2011, p. iv). The Review Board based its decision on the assumption that the mining company will fulfill its commitments made during the proceedings. In their decision, the Review Board also provided an additional three suggestions that would improve the monitoring and management of potential impacts from this development.

When considering development, the focus should be on the effects of development that are to be avoided, rather than the type of development *per se*. One challenge is to ensure that the values the areas were established to protect remain protected while the development proceeds and to ensure that affected areas are returned to their original condition, or as near as possible. It is also important that Aboriginal rights to hunt, trap and fish can continue. Another perhaps more fundamental challenge is to move away from the knee-jerk response that pro-development interests have when considering conservation areas, and the knee-jerk response that conservation interests have when confronted by development interests. Conservation and development can co-exist if society chose to make it so and stakeholders work together.

Development in a conservation context is clearly risky from the conservationists' perspective but it is equally risky from the developers' perspective, if the latter is sincere in proving that industry can operate under extremely stringent conditions. Failure to meet the test will certainly foreclose future development opportunities and weaken an already shaky social license. In the report *Breaking New Ground: Mining, Minerals and Sustainable Development* (International Institute for Environment and Development, 2002, p. xiv), the authors identify that the industry "is currently distrusted by many of the people it deals with day to day" and this trust

is the fundamental component of the social license to operate concept. The mining industry's failure to adequately reckon with societal expectations is potentially a fundamental and formidable threat to the continued viability of the mining industry. Without a social license local perceptions or responses can ultimately determine, limit and/or halt a company's ability to access land, water and other financial and human resources for the purposes of mineral exploration, extraction and processing and transfer to markets (Owen & Kemp, 2012, p. 31).

When thinking about development in conservation areas it is important to remember that there are available mitigation measures that aren't necessarily applied in conventional circumstances that can be employed to minimize impacts, including the following:

- Advanced technology may allow the extraction of subsurface resources without harming the surface conservation values for which the area was set aside, e.g., directional drilling from outside the protected area. This may be more expensive than conventional drilling but it would avoid many unwelcome impacts and still enable profitable resource extraction;
- Better exploration practices need to be encouraged and enforced because significant harm has often resulted at this stage, because of the perception that there is relatively less environmental damage when compared to larger scale development. For example, low-level helicopter-borne mineral exploration surveys are particularly disturbing to many residents and to wildlife and should be conducted only when wildlife and residents are absent from a study area, e.g., during winter;
- Very carefully controlled seasonal development (e.g., helicopter-based winter drilling);

- Best available technology should be applied in all circumstances. If the project isn't feasible because the technology is expensive, and without the technology being applied then the values being protected may be harmed, then the project should not proceed.

Rigorous application of the precautionary and “conservation first” principles, a focus on the effects of development that are to be avoided and not the type of development *per se*, careful zoning to ensure that sensitive areas (and times) are buffered from development impacts are examples of other measures and mitigations that can and should be taken. Careful and rigorous monitoring and enforcement is essential to ensure that the work is done properly. Further research is required to look at other useful examples nationally and internationally that document the effectiveness of measures and mitigation techniques designed to limit potential environmental impacts or maintain desired conservation levels.

In the case of development within conservation areas, affected communities will need to agree to the development, receive significant economic benefit from it, and be directly involved in monitoring and research programs to ensure that the development meets its objectives. The highest standards – best available technology - will be essential if developments are to proceed in conservation areas. If the development fails to meet its commitments there needs to be adaptive management techniques and securities in place to address environmental shortfalls and ensure proper land reclamation. All parties need to understand this, agree on the rules before development proceeds and enforce the rules accordingly.

Financial

The current Legislative Assembly has discussed the notion of a financial “Heritage Fund” for the future. A network of protected areas will also provide a Heritage Fund, one arguably far more valuable a legacy than a simple financial fund. Through natural capital accounting, the

value of the NWT maintaining its pristine natural environment by establishing protected areas far exceeds the financial return from depleting our natural resources. Natural capital can be defined as the world's stocks of natural assets which include geology, soil, air, water and all living things. It is from this natural capital that humans derive a wide range of services, often called ecosystem services, which make human life possible.

In 2000, according to total wealth accounts developed by the World Bank —based on natural, human, social and built capital — Canada is one of the richest nations on Earth when it comes to natural capital (Anielski & Wilson, 2009, p. 8). The same World Bank total wealth accounts ranked Canada third in comparison to all other countries of the world in per capita natural capital asset values (timber, oil, gas, coal, cropland, pasture land, non-timber forest resources, and protected areas) with a value of US\$34,771 per capita (Anielski & Wilson, 2009, p. 8). Accounting for the value of natural capital — in physical, quality and economic terms — would help to reveal their present condition and importance to the NWT's economic well-being now, and more important, in the future, as natural landscapes untouched by human development become scarce.

The GNWT has always insisted on following each step of the PAS process to the letter, but the PAS process is unnecessarily complicated and contains unwarranted steps and costly assessments that always need to be completed simply to satisfy the 8-step process; they are not always necessary to inform decision -making. For example, it is not necessarily essential to conduct a full non-renewable resource assessment (NRRA), even where the area of interest is not targeted for full surface and/or subsurface withdrawal. There are some GNWT conservation tools where development may be permitted provided that the conservation interests that resulted in the establishment of the area in the first place are not harmed. A simple Phase 1 mineral and

hydrocarbon assessment should be required in all cases but a complex Phase 2 assessment might well be reserved for only those areas where mineral rights will be permanently withdrawn.

Resistance to the establishment of permanently protected conservation areas is often based on the perception that economic opportunities will be lost, potentially forever. Those concerns would be addressed if future development remains a possibility, however constrained. Horizontal directional drilling (HDD) is an example of how a new extraction technology allows an operator access to resources under a protected area that previously were unattainable. With HDD, a drill rig can be set up outside of a protected area and the operator can drill on an angle underneath the protected area to access oil or natural gas. Drilling distances as long as 1,700 m have been completed successfully and directional drilling rigs can operate in a wide range of geological materials from soft organic soils to solid rock (Allouche, Ariaratnam, & Lueke, 2000, p. 68).

Kendall Island Bird Sanctuary on the arctic coast of the NWT, managed under the *Migratory Birds Convention Act* by the Canadian Wildlife Service, is an example of a conservation area where extensive HDD oil and gas exploration has occurred. Future development projects would have to be on a case by case basis but conservation areas can also conserve economic development opportunities for future generations, when and if they need and want those resources and when the resources can be developed safely.

Political

The GNWT has been successful at meeting many of its commitments in terms of participating in the PAS process. The GNWT has contributed significant funding and human resources, contributed technical expertise to analyzing ecological representation, and recently sponsored two GNWT protected areas. In sponsoring these two sites, the GNWT intends to use

two of its own legislative tools, the *Territorial Parks Act*, 1988 and the *Wildlife Act*, 2015 to establish a Cultural Conservation Area and a Wilderness Conservation Area. However, even with these efforts, there were some areas noted during my research where the GNWT could improve its participation in the PAS. The research found that there was a lack of clearly defined internal governance and mandating procedures when it came to how GNWT staff receives government direction for negotiating establishment of protected areas. My research also suggests that there needs to be high level; NWT-wide land use planning for protected areas, especially with respect to ecological representation and decisions on how newly established sites could help achieve an NWT ecological target. In addition, the GNWT needs to clarify the priority and role the PAS plays in overall conservation and land use decisions by the GNWT.

The PAS program needs a win. It has been 15 years since the program began, millions of dollars have been spent, dozens of studies undertaken and countless person hours in planning expended -- with not much to show for it on the ground. The GNWT and communities need to see some results. Community representatives remain strongly committed to finishing what they've started and the land and what it provides is too culturally important to them to let government "off the hook" for previous promises and building community expectations. According to the Legislative Assembly of the Northwest Territories Members' Conduct Guidelines, members have a "responsibility to serve the people of the Northwest Territories". And their oath of office says they will do their utmost to "hear the voices of all the people ... preserve their traditions ... and respect and honour our land and all its inhabitants" (NWT Legislative Assembly, 2015, para. 2). Therefore, the GNWT needs to reflect and champion the views and aspirations of the residents of the NWT and work on their behalf to achieve their vision, not work against them.

Summary

This research project investigated how effective the PAS has been as a mechanism for protecting key natural and cultural places. The easy answer is “not effective”. Looking at a map of the NWT, one sees only national parks identified. But that’s not where the story ends. Data collected from interviews comprising this research inquiry revealed that there’s a lot of good in what the NWT PAS program has generated and there’s still strong support in the communities to finalize the planning and move on to establishment. The Aboriginal people of the NWT have strong ties with the land and landscape level conservation areas will ensure that cultural practices and on the land traditions will continue for many generations to come. The results of this inquiry suggest that the territorial government needs to get behind what the people want and champion the establishment of protected areas. The GNWT is concerned about the economic future of the territory and has backed off on its support of establishing new protected areas believing that conservation somehow limits economic potential and stymies investor interest. This is not always true. There are plenty of examples where extractive industries with heightened monitoring and strict enforcement successfully operate in protected areas. The GNWT also forgets the incredible value in natural capital they are amassing when conserving lands and the value of those resources when natural landscapes become scarcer.

Chapter 6 – Conclusions and Recommendations

Introduction

The NWT PAS identified two main goals: 1) protect special natural and cultural areas; and 2) protect core representative areas within each ecoregion of the NWT. My research of the PAS program showed that although the program did not achieve its vision of creating a network of protected areas it still accomplished many valuable things. For the GNWT to achieve its goals and create a complete protected areas network there are a number of things it needs to do. In this chapter I present recommendations to help address the program's shortcomings and revitalize and improve the effectiveness of the NWT PAS process. In the results chapter I identified five significant themes from the interviews:

1. There is an agreed value in protecting culturally and ecologically significant areas;
2. The 8-step PAS process is a good process for planning and establishing sites, although there are some criticisms;
3. Although the program did fail to achieve its vision of creating a network of protected areas it still accomplished many valuable things;
4. The government's lack of support for the PAS is responsible for the program not achieving its vision;
5. Some development within protected areas should be allowed.

The communities and industry also have roles to play, including options to assert their political influence to leverage government action. In response to the five research themes, this chapter offers details on suggested recommendations to address the results of the interviews.

Complete the Establishment of Identified Sites

Interviewees still believe strongly in the value of a protected areas program and although the program did fail to achieve its vision, it still accomplished many valuable things, therefore, the GNWT needs to re-commit, at the Cabinet level, to the establishment of a network of protected areas in the NWT and staff need to fulfill this commitment within a specific timeframe. The GNWT needs to revitalize its approach and re-focus its efforts to ensure that the deadline is met. As part of this re-engagement and re-focusing, GNWT needs to show real leadership and champion the establishment of conservation areas in the NWT.

As an initial step, senior GNWT officials should engage as soon as possible in initial meetings with key representatives of Aboriginal organizations to confirm the GNWT's commitment to conservation area establishment in the short and medium term and to share perspectives, identify priorities and agree on a strategy for moving forward together. Once agreement has been reached, the GNWT should establish a small expert working group to take the lead on direct and high-level negotiations among the key parties to finalize establishment of conservation areas already identified through the PAS process. These negotiations would focus on final boundaries, management objectives and final co-management monitoring and oversight. Negotiations need to be nimble, open and transparent with a Cabinet approved mandate for establishing a conservation area. Through community consultations, the working group must make the greater NWT community aware of the results of negotiations and to gather further input and seek direction and/or approval at key decision points.

In order for consultation to be nimble, effective, transparent and meaningful, certain key elements must be acknowledged in the process. It's about:

- a continuous process;
- building relationships;

- getting feedback on the understanding and adequacy of the information;
- identifying issues and discussing concerns;
- building a collaborative future together;
- Fairness;
- And negotiating with an open and understanding attitude.

Successful consultations depend on the parties being committed, respectful, patient and realistic.

These negotiations must remain focused on the goal of establishing protected areas within an agreed upon timeline while still remaining adaptable to the interests of multiple stakeholders.

Regular meetings and communication with affected community are required for meaningful consultation. The frequency of communication must be determined by the community as based on capacity and level of comfort. Key phases of the establishment process could include:

- Notify community of intent to begin discussions to finalize establishment of site;
- GNWT and community sign a Memorandum of Understanding (MOU) committing to finalize recommendation on conservation of site;
- Jointly establish timeline for establishment and community resources (staff and funding) needed to participate;
- Establish working group consisting of community and GNWT representatives;
- Share relevant background information to ensure parties have equal understanding;
- Community examines information to determine if any professional expertise required. If necessary, GNWT will cover any additional costs;
- Working group prepares draft documents that indicate the direction the planning is headed;

- Initiate community meetings so members can see and hear about draft direction for themselves. Draft information will also be mailed to seek feedback from community members who cannot attend community meetings;
- Based on working group negotiations and community feedback, the final recommendation report identifies proposed tool for conservation, boundary, management objectives, monitoring and management structure;
- Staff in GNWT use the contents of the working group's recommendation report to create a Cabinet Decision Paper recommending the protected area be established;
- The GNWT Cabinet makes the final decision and formally establishes protected areas.

During the negotiations, the GNWT will need to determine its own priorities and interests with regard to conservation area establishment. It will need to determine which legislative tool or process best fits the uniqueness of a particular site and the governance regime that would be most appropriate to apply. Depending on the value(s) to be protected, selection of the legislative tool would be determined on a site-by site basis. However, finalizing the establishment of existing proposed conservation areas must be done first and foremost in full collaboration with the affected Aboriginal governments and communities so that decisions are reached by consensus. The process is estimated to take at least six months till the signing of the MOU agreeing to work towards a recommendation and an additional year to a year and a half to finalize a recommendation report. To negotiate and establish the five currently proposed protected areas it is estimated to cost \$250,000 annually over the first two years. The main contributors to these costs are travel, meeting costs, consultant/negotiator fees and elder honoraria. Failing to adequately involve communities will undermine trust among the parties, further stymie

conservation area establishment and may lead to unilateral declarations by the affected communities and governments.

It would be in the political interests of the GNWT to follow up on stated commitments and move to establish territorial conservation areas consistent with the wishes of communities and Aboriginal governments. Among the reasons for doing so are the following:

- Establishment of permanently protected conservation areas support community and regional economic development and increase NWT-wide economic diversification;
- Reduced opposition to development from Aboriginal governments and communities once conservation areas have been established, contributing to regulatory certainty and clarity and thereby improving the investment climate;
- Permanently protected conservation areas attract visitors, further adding to the economic development and diversification of the NWT;
- Some smaller communities would benefit significantly from tourism related to nearby conservation areas. Residents would find employment without having to move to other centres or work at “fly in-fly out” mining or oil and gas camps;
- The GNWT’s failure to date to establish territorial parks and protected conservation areas continues to frustrate and annoy Aboriginal governments. Action will improve relations.

Conflicting internal views, uncertainty regarding the broader policy context and the absence of a clear vision of what government wants to see with respect to conservation areas are just some of the challenges facing the GNWT. These challenges are real enough but far from insurmountable, if the will is there. These issues need to be resolved if the implementation of the PAS is to move forward with solid GNWT support.

Simplify PAS Process

Some interviewees criticized the PAS program for being too ambitious, too complicated, took too long, were too costly and ineffectively pitted conservation against development. To address this, the improved PAS should start small and build on its successes. A stripped down, streamlined version of the PAS should be implemented that eliminates unnecessary Non-Renewable Resource Assessments (NRRAs) and the overly onerous requirements for candidate area proposals. An NRA is only necessary to help in excluding areas of high mineral potential from falling within the borders of a conservation area. Being located within a conservation area would make the resource difficult to extract. However, if the values of a proposed conservation area can be maintained and still allow for mineral extraction then a NRA is not necessary. If it can be shown that the values for which an area is identified for protection can be avoided then with increased monitoring and reporting the development should be permitted in the protected area. It should also encourage planners be conscious of the size of proposed protected areas and restrict site size to what's necessary for maintaining ecological representation. Size restrictions would most likely reduce costs and time necessary to complete assessment reports and would help in the GNWT's acceptance of proposed site given that less land is being conserved. Given the GNWT's reduced financial and staff resources for establishing and managing protected areas, GNWT's planning efforts should only focus on the number of sites it can see through to completion. Focused attention on a few sites is better than spreading resources too thin and building community expectations for numerous, scattered sites. The new version should maintain the objectives of the PAS but instead focus on the elements that would accelerate the implementation of those objectives and the completion of a network of protected areas in the NWT. With a more simplified version of the PAS program planning for

fewer and smaller sites that allow for some level of development the process can move more quickly, prove itself to its critics and get some sites established.

Develop an Ecological Representation Network Plan

Once developed, an Ecological Representation Network Plan (ERNP) will be the GNWT's plan for how to identify and protect core representative areas within each NWT ecoregion. The completion of the ERNP is an important piece of the overall land management regime for the NWT moving forward. Along with other government initiatives, ecological representation network planning is a key tool for informing the GNWT's future land-use decisions. An ERNP contributes to sustaining the environment for present and future generations and provides more clarity to industry on which lands are not available for development.

With the use of computer site selection software called "Marxan" physiographic units, landscape units, and vegetation types at the ecoregion scale are combined to find areas which represent examples of many different landscape features using the smallest amount of land possible. The ERNP will detail a proposed scientific based, government-led approach to systematically identify, prioritize, and fill gaps in ecological representation. It will recognize the need to balance conservation and economic development, while respecting Aboriginal rights. The ERNP will be supported by the development and implementation of GNWT legislative tools to establish new core protected areas.

With an ERNP, the GNWT can focus on filling gaps in ecological representation, and highlight the importance of core protected areas for the protection of biodiversity and maintaining ecosystem integrity. The ERNP will be the GNWT's plan for achieving the ecological representation goal of the PAS. It conforms to the overall vision, goals and principles of the PAS and respects the precedence of Aboriginal and treaty land claims and rights.

The ERNP will explain why the plan is important and how the protection of new core areas will be advanced. The plan will also include specific conservation targets and thresholds for lands to be set aside as core protected areas in the NWT.

Key elements for identifying and establishing core protected areas include the following:

Prioritize Ecoregions

- Identify ecoregions with largest gaps in ecological representation and greatest current and anticipated threats to biodiversity and ecosystem integrity
- Identify claimant regions most likely to support establishment of new core protected areas in their region—for example, regions with settled land claims and completed land use plans

Identify Areas

- Use best available information to identify potential options for establishing core protected areas within prioritized ecoregions

Engage Communities, Regional Organizations and Boards to Gain Support

- Through workshops with elders and other community members, gather additional supporting traditional ecological information
- Consult with Aboriginal communities to solicit support for core protected area

Conduct Detailed Assessments

- Conduct more detailed ecological, non-renewable, cultural, renewable and socio-economic assessments to provide sufficient data for decision makers to agree on final boundaries and management options for the proposed core protected area

- Draft a report that documents and analyses all findings of existing information and results of detailed assessments and propose a final boundary
- Submit report to Cabinet for approval

Establish New Core Protected Area

- With Cabinet approval, establish core protected area through application of legislation that provides necessary protection.
- A permanent land withdrawal would remove the land from area permitted for development.

Establish Management Plan Regime

- Complete the development of a management plan and monitoring program consistent with the ERNP's goal and objectives.
- Implement the management plan and monitoring program.
- Any conflicts will be managed through a dispute resolution process.

Develop NWT Comprehensive Conservation Action Plan

Results of the interviews showed that government was seen as the major roadblock to the advancement and final establishment of conservation areas. The GNWT needs a more effective and well-coordinated approach to their involvement in protected area planning. Over and above the ERNP, the GNWT should develop an NWT Comprehensive Conservation Action Plan. The GNWT participates in the PAS process and in the development of land use plans but the former process largely responds to community initiatives and the latter process has the government responding to land use plans as drafted by regional planning boards. As a consequence, the GNWT finds itself reacting to community proposals (and land use plans) in the absence of a

clear vision as to where it wants to be. The GNWT should develop a clear sense, for itself and others, of its stand on conservation areas, how it intends to go about the task of completing the network, the resources required and the time frame it intends to meet. Without this work plan and commitment, conservation initiatives will continue to languish or developments will be approved in an ad hoc patchwork way.

Key principles to guide conservation planning in the NWT include the following:

- conservation values always come first;
- the Precautionary Principle applies in all cases;
- territorial, not federal, legislation is used to permanently protect conservation areas;
- it is not necessary to establish more conservation areas than are required to protect biodiversity and ensure ecosystem integrity;
- respect cultural concerns;
- conservation areas must be permanently protected. Area-specific regulations would detail management regimes and zoning requirements, including regions where (and what kind of) development might proceed, and under what conditions. For example, operations will be closed immediately if objectives are not met, permanent infrastructure e.g., airstrips, roads, etc. will be minimized, actions will be spelled out should thresholds be exceeded, the development area will be completely reclaimed at closure, security bonds must be adequate to cover all costs of remediation will be in place at all times, etc.;
- community approval would be required before a development could proceed and communities would be directly involved in the research and monitoring programs that would be essential in ensuring that the development remains on compliant;

- significant economic benefit from any development permitted in a conservation area must accrue to the affected communities and support the management of the conservation area;
- strong independent overview of each development project will be required to ensure that robust research and monitoring programs (funded by the proponent and government) enable early detection of change and the significance of the change. Communities will play a central role in this overview;
- development can occur in conservation areas subject to special conditions and very strong regulations.

Develop Internal GNWT PAS Governance Framework

To help address government's inability to follow through on the establishment of protected areas the GNWT needs to develop an internal PAS governance framework. The GNWT needs to ensure internally the adequate tools; structures and resources are available to achieve these goals. To facilitate improved internal inter-departmental communication, cooperation and collaboration – which will improve overall efficiency and effectiveness of the PAS; it is recommended that as part of the Comprehensive Conservation Action Plan an internal GNWT PAS Governance Framework should also be developed.

Developed through a GNWT working group (led by the Department of Environment and Natural Resources and comprised of members of other GNWT departments), the GNWT PAS Governance Framework would help advance the PAS program by identifying for all departments the GNWT's role in the PAS process and by defining GNWT governance structure, oversight, and accountability with respect to the GNWT's participation in the PAS process.

The GNWT PAS Governance Framework would:

- define roles and responsibilities for GNWT staff, including Candidate Area working group members, PAS Steering Committee members, and PAS Secretariat staff;
- provide criteria for selecting GNWT's membership on Candidate Area working groups and PAS Steering Committee;
- detail GNWT decision-making points in the 8-step process, defining when and how direction will be sought to mandate GNWT staff involved with the PAS implementation;
- identify priorities and key messages on GNWT responsibilities and mandates for use by GNWT staff involved in PAS implementation;
- set out the GNWT organizational and reporting structure related to PAS;
- define a communications protocol for routine GNWT communications on PAS status, including how and what information is shared with whom regarding GNWT dialogue and decisions;
- and establish a Deputy Minister decision making committee for when departments have differing opinions for how GNWT should be positioning itself in PAS negotiations.

Leveraging Community's Role

Communities have always been the driver of the PAS process. Based on what community members have expressed in their interviews I am recommending several actions that communities and Aboriginal groups could do if they are serious about protecting culturally important areas. All of these will require much more of their time and continued dedication.

- Community leaders and members could apply political pressure by writing their Members of the Legislative Assembly and expressing how frustrated and disappointed

they are with the government's lack of decision making when it comes to establishing conservation areas. Perhaps community pressure will motivate the GNWT to take action.

- Communities have a strong voice through the NWT regulatory process. Before a development proposal can receive its authorizations from a land and water board communities have an opportunity to comment on the proposal. Communities could block development applications by refusing to give the land and water board their consent until there is adequate protection of cultural and ecologically sensitive areas. Companies looking to operate in the NWT would be frustrated by the community's action and look to government to resolve the problem. Having economic development come to a halt and the combined pressures from both industry and the communities to resolve the situation would force the GNWT back to the negotiation table.
- Aboriginal parties in unsettled land claim areas could press the GNWT for the development of regional land use plans to direct development and conservation. Land use planning would take years more to finalize and be far more costly but would also provide direction across a broader landscape.
- Communities may also take the information gathered to date and approach the federal government to protect lands with a federal tool like a national park or national wildlife area. The federal government may not want to get between the GNWT and NWT communities and therefore not willing to pursue this approach but communities could always try.

These possibilities underscore the importance of working together to expedite the final, formal establishment of protected areas.

Industry's Options

Industry wants as much land available as possible to explore and they want certainty in the laws and regulations that direct their mining or oil and gas activities. In today's open market, mining and oil and gas companies operate on a global scale. These companies can choose to operate in any jurisdiction around the world where they will get the best return for their investment. Another factor that influences their decision to invest money and resources in a project is the certainty of the regulatory system of that jurisdiction. Industry wants certainty as to where it can and cannot develop. Without a completed protected areas network in the NWT, there are two things industry can do.

- Industry could leave the territory and only come back once the certainty around permitted land uses is more transparent. Industry leaving or avoiding the NWT will likely result in less economic development, fewer employment opportunities for northerners and ultimately fewer royalties being paid to the GNWT. Future financial hardship could force the GNWT to make decisions that adversely impact protection of lands.
- Industry could pay financial compensation to communities in order to gain access to lands set aside for conservation. Many companies have signed Impact Benefit Agreements (IBAs) with Aboriginal communities as compensation for allowing development on traditional community lands. These IBAs are legal contracts that identify financial, economic and/or social commitments made by the company benefiting the community. Depending on the values in the area and the method of development it is possible for some development activities to co-exist with conservation initiatives. For example, low impact seismic operations with lines less than 1.5 m in combination with heli-portable drills can be quite nimble and has a very minimal disturbance footprint.

Summary

Protected area planning does not get easier with time. The GNWT delaying decisions does not benefit any party involved in the establishment process, and may in fact create an even greater air of uncertainty for communities, industry and government. Post-Devolution, the GNWT needs to instill community confidence in its leadership and to convince industry that the NWT is a safe and inviting jurisdiction for companies to invest time and resources. Both of these necessities could be addressed by the GNWT finalizing decisions concerning existing proposed protected areas and by investing in conservation directional documents that improve the existing process and provide clear guidance for the NWT into the future.

Conclusion

This research project investigated how effective the PAS has been as a mechanism for protecting key natural and cultural places. The PAS has two main goals. The first is to protect special natural and cultural areas and the second is to protect core representative areas within each ecoregion of the NWT. By examining the success and challenges in achieving these goals, combined with the insight received from interviews, I have developed a number of recommendations to improve the effectiveness in establishing new protected areas.

My research found that ecosystem preservation is the preferred method for maintaining species and habitat diversity and that landscape level cultural conservation helps maintain local community spiritual and cultural connection to the land. My research also found that across Canada there are some excellent examples of provincial protected area programs that focus on protecting both ecological representation and cultural landscapes. It also found that in Canada there are many examples of provincial governments recognizing the advantages of involving community members in a more collaborative conservation planning approach.

From the interviews I conducted it is unanimous that while the program did fail to achieve its vision of creating a network of protected areas it still accomplished many valuable objectives, and interviewees still believe there is great value in protecting culturally and ecologically significant areas. Interviewees also expressed the perspective that while the 8-step PAS process is a good process for planning and establishing sites there are still improvements that can be made. Finally, blame for the program not achieving its vision was squarely focused on the government's lack of support for the PAS.

The Aboriginal population in the NWT is high, approximately 50% of the total population, and much higher than that outside of the capital city of Yellowknife. Recognizing how intimately tied Aboriginal people are to the land helps explain why environmental and socio-cultural concerns matter more and are entwined. Aboriginals' socio-cultural and personal well-being depends very much on being able to experience the land in its natural state. A major challenge of a future NWT protected areas program is ensuring Aboriginal people can rely on it to help support their culture while still recognizing the need for lands to support a resource based economy.

The GNWT needs to make a commitment to the PAS and reinvest in the program. NWT communities all support the protection of lands and want to see the program succeed. The government needs to finalize the establishment of those sites already identified through the PAS process and prepare directional documents that advance the current process and solidify the GNWT's involvement into the future.

The NWT has some magnificent and pristine landscapes. It is this intact landscape that gives the GNWT a unique opportunity unavailable in many parts of the world. With the support of the people, the GNWT has the opportunity to protect naturally functioning ecosystems before

they are damaged by man-made influences. With renewed commitment the GNWT can champion a world class NWT protected areas program.

References

- A Cultural Landscape. (n.d.). Retrieved from <https://whitefeatherforest.ca/stewardship/a-cultural-landscape/>
- Alberta Agriculture and Rural Development, Building Community Partnerships: A Guide for Creating Effective Land and Water Stewardship, Conservation and Development Branch, February 2001.
- Allouche, E. N., Ariaratnam, S. T., & Lueke, J. S. (2000). Horizontal directional drilling: Profile of an emerging industry. *Journal of Construction Engineering and Management*, 126(1), 68-76. doi:10.1061/(ASCE)0733-9364(2000)126:1(68)
- Andrews, T. D., & Buggey, S. (2008). Authenticity in aboriginal cultural landscapes. *APT Bulletin*, 39(2/3), 63-71.
- Anielski, M. P., & Wilson, S. J. (2007). *The real wealth of the Mackenzie region: assessing the natural capital values of a northern boreal ecosystem*. Canadian Boreal Initiative.
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of public administration research and theory*, 18(4), 543-571.
- Arcese, P., & Sinclair, A. R. E. (1997). The role of protected areas as ecological baselines. *The Journal of Wildlife Management*, 61(3), 587-602.
- Baillie J.E.M., Hilton-Taylor C & Stuart S.N. (2004). *IUCN Red List of threatened species. A global species assessment*. Gland: IUCN. Retrieved from http://www.ib.usp.br/limnologia/textos/Red_List_2004_book.pdf
- Benoliel, Jeanne Quint (1984). Advancing nursing science: Qualitative approaches. *Western Journal of Nursing Research*, 6(3),1-8.

- Berg, B. L. (2004). *Qualitative research methods for the social sciences*. Boston; Toronto: Pearson/Allyn and Bacon.
- Berger, J., Stacey, P. B., Bellis, L., & Johnson, M. P. (2001). A mammalian predator-prey imbalance: Grizzly bear and wolf extinction affect avian neotropical migrants. *Ecological Applications*, 11(4), 947-960. doi:10.1890/1051-0761(2001)011[0947:AMPPIG]2.0.CO;2
- Berkes, F. (1994). Wildlife harvesting and sustainable regional native economy in the Hudson and James Bay lowland, Ontario. *Arctic*, 47(4), 350-360. Retrieved from <https://ezproxy.royalroads.ca/login?url=http://search.proquest.com/docview/197731087?accountid=8056>
- Bott, S., Cantrill, J. G., & Myers Jr, O. E. (2003). Place and the promise of conservation psychology. *Human Ecology Review*, 10(2), 100-112.
- Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology* 3.2: 77-101.
- Braun, V. and Wilkinson, S. (2003). Liability or asset? Women talk about the vagina. *Psychology of women Section Review*, 5(2), 28-42.
- Brown, J. and Mitchell, B. (2000). The stewardship approach and its relevance for protected landscapes. *The George Wright Forum* 17(1), 70-79
- Buggey, S. (1999). *An Approach to Aboriginal Cultural Landscapes*. HSMBC Agenda Paper #1999-10. Historic Sites and Monuments Board. Ottawa: Parks Canada. Retrieved from http://www.pc.gc.ca/docs/r/pca-acl/index_e.asp.
- Burnard, P. (1994). Searching for meaning: a method of analyzing interview transcripts with a personal computer. *Nurse Education Today*, 14, 111-117.

- British Columbia. Ministry of Forests, Lands and Natural Resources Operations, Heritage Branch. (2013). *Heritage Strategy for British Columbia, Our Heritage, Historic Places*. Victoria, B.C
- Caine, K. J. (2013). Bourdieu in the north: Practical understanding in natural resource governance. *Canadian Journal of Sociology*, 38(3), 333-358.
- Canadian Council on Ecological Areas. (2008). *Canadian guidebook: For the application of IUCN Protected Area Categories*. CCEA Occasional Paper No. 18. Ottawa, Canada: Canadian Council on Ecological Areas, CCEA Secretariat. ISBN 978-0-9680095-3-6
- Cardillo, M., Mace, G. M., Gittleman, J. L., & Purvis, A. (2006). Latent extinction risk and the future battlegrounds of mammal conservation. *Proceedings of the National Academy of Sciences of the United States of America*, 103(11), 4157-4161.
- Chape, S., Harrison, J., Spalding, M., & Lysenko, I. (2005). Measuring the extent and effectiveness of protected areas as an indicator for meeting global biodiversity targets. *Philosophical Transactions of the Royal Society B: Biological Sciences* 360.1454: 443-455.
- Clarke, V., & Braun, V. (2013). Teaching thematic analysis. *Psychologist*, 26(2), 120-123.
- Corcoran, P. B., Walker, K. E., & Wals, A. E. (2004). Case studies, make-your-case studies, and case stories: A critique of case-study methodology in sustainability in higher education. *Environmental Education Research*, 10(1), 7-21.
- Creswell, John W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Day, J. C., Gunton, T. I., & Frame, T. M. (2003). Toward environmental sustainability in British Columbia: The role of collaborative planning. *Environments*, 31(2), 21-38. Retrieved

from

<https://ezproxy.royalroads.ca/login?url=http://search.proquest.com/docview/207672458?accountid=8056>

Day, J. C., Frame, T. M., & Gunton, T. (2004). The role of collaboration in environmental management: An evaluation of land and resource planning in British Columbia. *Journal of Environmental Planning and Management*, 47(1), 59-82.

doi:10.1080/0964056042000189808

Driscoll, C. (1996). Fostering constructive conflict management in a multi-stakeholder context: the case of the forest round table on sustainable development. *International Journal of Conflict Management*, 7(2), 156-172.

Ecological Stratification Working Group. (1996). *A national ecological framework for Canada* (ISBN 0-662-24107-X). Ottawa, Canada, Environment Canada. Retrieved from http://sis.agr.gc.ca/cansis/publications/ecostrat/cad_report.pdf

Ecosystem Classification Group. (2013). *Ecological Regions of the Northwest Territories – Northern Arctic*. Yellowknife, NT, Canada: Department of Environment and Natural Resources, Government of the Northwest Territories,

Eisenhardt, K. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.

Faith, D. P., Magallón, S., Hendry, A. P., Conti, E., Yahara, T., & Donoghue, M. J. (2010). Ecosystem services: An evolutionary perspective on the links between biodiversity and human well-being. *Current Opinion in Environmental Sustainability*, 2(1), 66-74.

doi:10.1016/j.cosust.2010.04.002

- Flather, C. H., Wilson, K. R., Dean, D. J., & McComb, W. C. (1997). Identifying gaps in conservation networks: of indicators and uncertainty in geographic-based analyses. *Ecological Applications*, 7(2), 531-542.
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, vol. 12, no. 2, 219-245. doi: 10.1177/1077800405284363
- Gah, E., Witten, E., Korpach, A., Skelton, J. & Wilson, J. (2008). *Methods for identifying potential core representative areas for the Northwest Territories protected areas strategy: Terrestrial course filter representational analysis*. (Manuscript Report No. 179). Yellowknife, NT, Canada: Department of Environment and Natural Resources, Government of the Northwest Territories.
- Government of the Northwest Territories. (2013). Northwest Territories lands and resources devolution agreement. Retrieved from <http://devolution.gov.nt.ca/wp-content/uploads/2013/09/Final-Devolution-Agreement.pdf>
- Government of the Northwest Territories. (2015). The devolution agreement in principle. Retrieved from <http://devolution.gov.nt.ca/archives/negotiations/the-agreement-in-principle-aip>
- Harmon, David, (2006). *People, Places, and Parks: Proceedings of the 2005 George Wright Society Conference on Parks, Protected Areas, and Cultural Sites*. Hancock, Michigan: The George Wright Society.
- Hawkins, V., & Selman, P. (2002). Landscape scale planning: exploring alternative land use scenarios. *Landscape and urban planning*, 60(4), 211-224.

- Hector, T. S., Carr, M. H., & Zwick, P. D. (2000). Identifying a linked reserve system using a regional landscape approach: The Florida ecological network. *Conservation Biology*, 14(4), 984-1000.
- International Institute for Environment and Development. (2002). *Breaking new ground: Mining, minerals, and sustainable development : The report of the MMSD project*. Sterling, VA; London: Earthscan Publications.
- Kaszuba, M. (2002). Implementing the precautionary principle. *Science of the total environment*, 288(1), 155-165.
- Kenny, W., & Grotelueschen, A. (1980). Making the case for case study (Occasional Paper. Office for the Study of Continuing Professional Education). Urbana-Champaign: College of Education, University of Illinois.
- Lane, M. B. (2001). Affirming new directions in planning theory: Co-management of protected areas. *Society & Natural Resources*, 14(8), 657-671. doi:10.1080/08941920118212
- Lovejoy T.E. (2006). Protected areas: a prism for a changing world. *Trends in Ecology and Evolution*, 21: 329-333.
- Mackenzie Valley Review Board. (2011). Report of Environmental Assessment and Reasons for Decision EA0809-002: Canadian Zinc Corporation Prairie Creek Mine. Retrieved from http://www.reviewboard.ca/registry/project_detail.php?project_id=70&doc_stage=11
- Manitoba Protected Area Initiative. (2003). An Action Plan for Manitoba's Network of Protected Areas. Retrieved from <http://www.gov.mb.ca/conservation/pai/actionplan.html>
- McAllister, D. E. (1991). What is biodiversity? *Canadian Biodiversity*, 1, 4-6. Retrieved from <https://ezproxy.royalroads.ca/login?url=http://search.proquest.com/docview/957051196-accountid=8056>

- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. Jossey-Bass.
- Naughton-Treves, L., Holland, M., & Brandon, K. (2005). The role of protected areas in conserving biodiversity and sustaining local livelihoods. *Annual Review of Environment & Resources*, 30(1), 219-252. doi:10.1146/annurev.energy.30.050504.164507
- Nesbitt, T. (2005) The water heart: A management plan for Great Bear Lake and its watershed. Déljine, NT. Unpublished manuscript.
- Newfoundland and Labrador Department of Environment and Conservation. (2015). Vision statement. Retrieved from <http://www.env.gov.nl.ca/env/parks/wer/>
- Northwest Territories Department of Aboriginal and Intergovernmental Relations. (2015). Understanding Aboriginal and treaty rights. Retrieved from http://www.daair.gov.nt.ca/live/pages/wpPages/Understanding_Aboriginal.aspx
- Northwest Territories Bureau of Statistics. (2015). Population estimates. Retrieved from <http://www.statsnwt.ca/population/population-estimates/>
- Northwest Territories Department of Education, Culture and Employment. (2007). Living with the land: A manual for documenting cultural landscapes in the Northwest Territories. Retrieved from http://www.pwnhc.ca/programs/downloads/Living_with_the_Land.pdf
- Northwest Territories Department of Lands. (2012). Land use and sustainability framework. Retrieved from <http://www.lands.gov.nt.ca/sites/default/files/content/lusf.pdf>
- Northwest Territories Legislative Assembly. (2013) Hansard, March 13. Retrieved from <http://www.assembly.gov.nt.ca/documents-proceedings/hansard?page=4>

Northwest Territories Legislative Assembly. (2015). Legislative assembly of the Northwest Territories members' conduct guidelines. Retrieved from

<http://www.assembly.gov.nt.ca/meet-members/accountability>

Northwest Territories Protected Areas Strategy. (2014, June). Protected areas of the Northwest Territories: Established, interim and proposed protection. Retrieved from <http://www.nwtpas.ca/publications-maps.asp>

Northwest Territories Protected Areas Strategy Advisory Committee. (1999). *Northwest Territories protected areas strategy: A balanced approach to establishing protected areas in the Northwest Territories* (Edition 1). Retrieved from

<http://www.nwtpas.ca/documents/document-1999-PASmanualcomplete.pdf>

NWT Protected Areas Strategy Steering Committee. (2010). Establishment action plan 2010-2015: fulfilling the promise of the Northwest Territories' protected areas strategy.

Retrieved from <http://www.nwtpas.ca/documents/document-2010-EAP.pdf>

Nova Scotia Department of Environment. (2013). Our Parks and Protected Areas, A Plan for Nova Scotia. Crown Copyright, retrieved from

<http://www.novascotia.ca/parksandprotectedareas/plan/>

Noss, R. F., & Cooperrider, A. (1994). *Saving nature's legacy: protecting and restoring biodiversity*. Island Press.

Noss, R. F., Carroll, C., Vance-Borland, K., & Wuerthner, G. (2002). A multicriteria assessment of the irreplaceability and vulnerability of sites in the Greater Yellowstone Ecosystem. *Conservation Biology*, 16(4), 895-908.

Ontario Ministry of Natural Resources. (2014). Ontario Protected areas Planning Manual: Peterborough. Queens Printer for Ontario.

- Ontario Ministry of Natural Resources. (2015). The far north planning initiative. Retrieved from <http://www.ontario.ca/page/far-north-land-use-planning-initiative#section-0>
- Ontario Ministry of Natural Resources. (2015). Far North Land Use Strategy: A Draft. Retrieved from <http://apps.mnr.gov.on.ca/public/files/er/draft-far-north-strategy-2015-09-29.pdf>
- Owen, J. R., & Kemp, D. (2013). Social license and mining: A critical perspective. *Resources Policy*, 38(1), 29. doi:10.1016/j.resourpol.2012.06.016
- Palys, T. (1997). *Research decisions: Quantitative and qualitative perspectives*. Toronto, Canada: Harcourt Brace.
- Palys, T. (2003). *Research decisions: Quantitative and qualitative perspectives* (3rd ed.). Scarborough, ON: Thomson Nelson.
- PAS Secretariat, Indian and Northern Affairs Canada, Government of the Northwest Territories. (2011). PAS Steering Committee Terms of Reference. Retrieved from <http://www.nwtpas.ca/documents/document-SteeringCommittee-TOR.pdf>
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, Calif: Sage Publications.
- Peterson, G., Allen, C. R., & Holling, C. S. (1998). Ecological resilience, biodiversity, and scale. *Ecosystems*, 1(1), 6-18. doi:10.1007/s100219900002
- Pierce, R. (2008). Research methods in politics: A practical guide (pp. 240-262). Thousand Oaks, CA: Sage Publications.
- Pretty, J., and D. Smith. 2004. Social capital in biodiversity conservation and management. *Conservation Biology* 18(3):631–638. <http://dx.doi.org/10.1111/j.1523-1739.2004.00126>.
- Protected Area Strategy. (2012). Retrieved from <http://www.nwtpas.ca/publications-maps.asp>
- Protected Area Strategy. (2014). Retrieved from <http://www.nwtpas.ca/publications-maps.asp>

- Rhodes, J. R., & Gustavo S. M. Andrade. (2012). Protected areas and local communities: An inevitable partnership toward successful conservation strategies? *Ecology and Society*, 17(4), 14. doi:10.5751/ES-05216-170414
- Roe, D., & Hollands, M. (2004). Protected Areas: How much is enough?. *Protected Areas Programme*, 42.
- Rössler, M. (2006). World heritage cultural landscapes: A UNESCO flagship programme 1992 - 2006. *Landscape Research*, 31(4), 333-353. doi:10.1080/01426390601004210
- Sahtu Land Use Planning Board. (2013). Sahtu Land Use Plan. Retrieved from http://sahtulanduseplan.org/sites/default/files/final_sahtu_land_use_plan_april_29_2013.pdf
- Schwartz, M.W. (1999). Choosing the appropriate scale of reserves for conservation. *Annual Review of Ecology and Systematics*, 30: 83-108.
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (3rd ed.). New York: Teachers College Press, Columbia University.
- Tercek, M., & Adams, J. (2013). Nature's fortune: how business and society thrive by investing in nature. Basic Books. Retrieved from <http://common.books24x7.com.ezproxy.royalroads.ca/toc.aspx?bookid=58448>
- The Whitefeather Forest. (n.d.). Retrieved from <https://whitefeatherforest.ca/stewardship/the-whitefeather-forest/>
- von Kutzschenbach, M., & Brønn, C. (2006). Communicating sustainable development initiatives. *Journal of Communication Management*, 10(3), 304-322. doi:10.1108/13632540610681185

- Weber, B. (2015, May 25). Northwest Territories sitting on massive shale oil reserves on par with booming Bakken field in U.S. *The Financial Post*. Retrieved from <http://business.financialpost.com/news/energy/northwest-territories-sitting-on-massive-shale-oil-reserves-on-par-with-booming-bakken-field-in-u-s>).
- Wells, R. W., Bunnell, F. L., Haag, D., & Sutherland, G. (2003). Evaluating ecological representation within differing planning objectives for the central coast of British Columbia. *Canadian journal of forest research*, 33(11), 2141-2150.
- Whitefeather Forest Initiative. (2006). Keeping the land: A land use strategy for the whitefeather forest. Retrieved from <https://whitefeatherforest.ca/wp-content/uploads/2008/08/land-use-strategy.pdf>
- Wiken, E.B. (compiler): (1986). *Terrestrial ecozones of Canada* (Ecological Land Classification Series No. 19). Environment Canada, Hull, Quebec, 26 pp. (with map at 1:15 000 000 scale).
- Yin, R. K. (1989). *Case study research: design and methods*. Beverly Hills, CA: Sage

Appendix 1 – List of NWT PAS Supporting Documents

Northwest Territories Protected Areas Strategy, A Balanced Approach to Establishing Protected Areas in the Northwest Territories, 1999

Technical Documents

2012 - A Freshwater Classification of the Mackenzie River Basin

2009 - Mapping Known and Potential Karst Areas in the Northwest Territories

2008 - Methods for Identifying Potential Core Representative Areas for the Northwest Territories Protected Areas Strategy: Terrestrial Coarse Filter Representative Analysis

Foundation Documents & Annual Reports

NWT Protected Areas Strategy Implementation Forum Report, 2000

Mackenzie Valley Five-Year Action Plan (2004-2009) Conservation Planning For Pipeline Development - October 31, 2003

NWT Protected Areas Strategy Establishment Action Plan (2010-2015) Fulfilling the Promise of the Northwest Territories Protected Areas Strategy – June 2010

2013/2014 - NWT Protected Areas Strategy Annual Report

2012/2013 - NWT Protected Areas Strategy Annual Report

2011/2012 - NWT Protected Areas Strategy Annual Report

2010/2011 - NWT Protected Areas Strategy Annual Report

2009/2010 - NWT Protected Areas Strategy Annual Report

2008/2009 - NWT Protected Areas Strategy Annual Report

2007/2008 - NWT Protected Areas Strategy Annual Report

2006/2007 - NWT Protected Areas Strategy Annual Report

2005/2006 - NWT Protected Areas Strategy Annual Report

2004/2005 - NWT Protected Areas Strategy Annual Report

1999-2001 - NWT Protected Areas Strategy Biannual Report

Newsletters & Pamphlets

2004 - Special Places Newsletter

2002 - Special Places Newsletter

2001 - Special Places Newsletter

2000 - Special Places Newsletter

1999 - Special Places Newsletter

1998/9 - Special Places Newsletter

1998/2 - Special Places Newsletter

1997 - Special Places Newsletter

Wild Spaces, Heritage Places Booklet

Overview Reports

2009 - Legislation, Sponsoring Agencies and the Protected Areas Strategy

2008 - Methods for identifying potential core representative areas for the NWTPAS

2008 - Survey of Karst Landforms around Norman Wells, Northwest Territories

2008 - Putting policy into practice: the contribution of the Northwest Territories Protected Areas Strategy to national and international biodiversity conservation

2007 - Discussion paper on government policy requirements for final establishment of Protected Areas: strengthening support provided by the NWT PAS

2005 - Protected areas in Northern Canada

Appendix 2 – Royal Roads Ethics Approval

September 24, 2014

Ethical Review – Joel Holder

To Whom It May Concern:

Please accept this letter as confirmation that the Royal Roads University Research Ethics Board (REB) has given clearance for the research project, "A critical review of the Northwest Territories Protected Areas Program".

This letter is to confirm that clearance was granted on September 10, 2014, pending any additional clearances required by the sponsoring organization or any other organization.

Should you require any additional information, please feel free to contact us.

Sincerely,

Original Signed

Gina Armellino
Research Ethics Reviewer
Tel: (250) 391-2600 ext. 4425

Appendix 3 – Aurora Research Institute, Research License**Aurora Research Institute - Aurora College**

PO Box 1450 Inuvik NT X0E 0T0

Phone: 867-777-3298 **Fax:** 867-777-4264 **E-mail:** licence@nwtresearch.comLicense No. 15559
File No. 12 410 1005
December 05, 2014

2015

Northwest Territories Scientific Research License*Issued by:* **Aurora Research Institute – Aurora College**
Inuvik, Northwest Territories*Issued to:* Mr. Joel M Holder
[address]*Email:* xxx*Affiliation:* Royal Roads University*Funding:* GNWT - Environment and Natural Resources*Team Members:**Title:* **A critical review of the Northwest Territories Protected Areas Strategy Program.***Objectives:* To evaluate the Protected Areas Strategy program.*Data collection:* January 16, 2015 to February 20, 2015.*Location:* Inuvik, Norman Wells, Deline, Yellowknife, Wrigley, Trout Lake, and Hay River Reserve

Licence No.15559 expires on December 31, 2015

Issued in the Town of Inuvik on December 05, 2014

Original Signed

Pippa Seccombe-Hett

Director, Aurora Research Institute

Appendix 4 – Letter of Invitation**LETTER OF INVITATION**

Greetings,

My name is Joel Holder and I am a Yellowknife student enrolled in the Master of Arts Environment and Management program at Royal Roads University in British Columbia. To fulfill my program requirements I need to conduct a research project that I would like to invite you to be part of.

I have proposed a thesis titled, “*A critical review of the Northwest Territories Protected Areas Program*”, and I am requesting your help in gathering background information for my paper. My research looks at how effective the NWT PAS is as a mechanism for protecting key natural and cultural places. The objectives of this research inquiry will be to examine what success the PAS program has had in achieving its two main goals, identify any problem areas in implementation and recommend program modifications to improve the effectiveness in establishing new protected areas.

Your (department/organization) has held a seat on the NWT Protected Area Strategy’s (PAS) Advisory Committee since the program was initiated in 1999. Over the past 15 years your nominees to the Advisory Committee have devoted a great deal of time and effort in providing direction to the protected area program. I believe these nominees could provide me with some great insight to the rewards and challenges facing this program.

I would be most appreciative if you could instruct/ask your PAS Advisory Committee representative to participate 30-60 minute verbal interview with me to record their perspectives and opinions on the PAS program. Comments made during telephone or in person interviews would be recorded and transcribed for use only in my research project. Comments would remain private and anonymous and at no time would their name or affiliation be revealed in the paper. You are free not to participate. If you do participate, you have the right to withdraw at any time without prejudice. A final copy of the thesis paper will be provided to you for your records and any research data will be destroyed by January 1, 2016. If necessary, I can provide you with a name and contact information of a university representative that can verify the authenticity of my research project.

If you or your PAS representative agrees to participate please sign and return to me the attached Thesis Participant Consent Form. I will contact interviewees in (November) to arrange mutually convenient interview dates and times.

I appreciate your consideration of my request. If you have any questions please feel free to contact me in Yellowknife at xxx or by email at xxx.

Thank you,

Joel Holder

Appendix 5 - Participant Consent Form**THESIS PARTICIPANT CONSENT FORM**

Researcher: Joel Holder, Royal Roads University, Victoria, B.C., Master of Arts in Environment and Management

Program Head: Chris Ling
Telephone No. xxx

Thesis Supervisor: Judy Walters
Telephone No. xxx

NWT Scientific Research License #15559

Thesis: A critical review of the Northwest Territories Protected Areas Program

Research Purpose: This research asks: How effective is the NWT PAS as a mechanism for protecting key natural and cultural places? The objectives of this research inquiry will be to examine what success the PAS program has had in achieving its two main goals, identify any problem areas in implementation and recommend program modifications to improve the effectiveness in establishing new protected areas.

I would like to invite you or your representative to participate in the research of this project. Your involvement would consist of participating in a 0.5-1 hour oral interview to answer questions related to your time working with the NWT Protected Areas Strategy (PAS) program. Interview questions will ask for your perspective/opinion as to how effective the PAS has been in key areas and if you could suggest any improvements to the program.

I want you to be assured you are free not to participate and have the right to withdraw at any time without prejudice to pre-existing entitlements. There are no risks to your involvement but the benefit of your input will help build a better understanding of the PAS program and any suggestions for improvements.

All interviews will be recorded and transcribed for use only in my research project. Your involvement in my research will be kept confidential and your name will not appear on any final documentation. Any data collected will remain confidential; interview results and questionnaires will be kept in a locked cabinet. A final copy of the thesis paper will be provided to you for your records and all research data will be destroyed by January 1, 2016. During the course of the thesis development you are free to withdraw at any time and any input you have provided will be removed and destroyed.

I appreciate your consideration of my request and if you have any questions please feel free to contact me in Yellowknife at xxx or by email at xxx.

Thank you.

Joel Holder
Royal Roads University Student

If you agree to participate, please sign below.

Participant Name: _____

Participant Signature: _____

Date: _____

Please retain a copy of the signed Consent Form for your records.

Appendix 6 – Interview Questions

INTERVIEW QUESTIONS

Thank you for agreeing to participate in my interview process. The aim of this research is to take a critical look at the existing Protected Areas Planning (PAS) process to determine its effectiveness for establishing protected areas in the NWT. My research question is, “How effective is the NWT PAS as a mechanism for protecting key natural and cultural places?”

Comments will be recorded and transcribed for this research project only. Comments will remain private and at no time would your name or affiliation be revealed in the paper. You are free not to participate. If you do participate, you have the right to withdraw at any time without prejudice. A final copy of the thesis paper will be provided to you for your records and any research data will be destroyed by January 1, 2016.

Any questions before we begin?

Let's begin.

1. Please state your name, affiliation and how long you have been involved with the PAS program.
2. Why and how important it is to protect ecosystems and cultural areas?
3. Do you think the PAS program is doing an effective job in achieving its vision? Why or why not?
4. Are the PAS goals relevant? Do the goals of the PAS need to be modified or changed? If yes, how so?
5. How could cultural values be better protected through the PAS program?
6. How could core representative areas in each ecoregion be better protected?

7. How effective is the 8 step process? How could it be improved?
8. Is the time it takes to establish a protected area an issue? If yes, why is it taking so long and what changes would you suggest? What efficiencies can you suggest?
9. Why do you think in the past 15 years the PAS program has only established 1 protected area? – I might ask this question earlier on.
10. How effective is the role government plays in the PAS program?
11. What could/should the federal and territorial governments do differently to improve the effectiveness of the PAS program?
12. What should industry's role be in the PAS process?
13. What should be the role be of conservation groups in the PAS process?
14. Is Aboriginal involvement in the PAS process adequate? If not, how could the role of Aboriginal people be improved?
15. Does the PAS do an effective job at respecting the needs or values of differing stakeholders in the planning process?

16. Are there any barriers between PAS participants prohibiting the establishment of protected areas? Please explain. (e.g. poor communication, lack of trust, cultural differences)
17. What do PAS participants need to do differently to successfully create more protected areas?
18. Under what circumstances would it be permissible to have development in a protected area and what type of development should that be?
19. What variety of protection tools is necessary in a protected areas program?
20. Please describe for me your ideas for an effective protected areas program for the NWT.
21. Any additional information that you would like to add that I did not touch upon?

Thank you.