**SUPPORTING SUSTAINABLE FOREST MANAGEMENT
BY ENHANCING ABORIGINAL ENGAGEMENT
AND ADAPTIVE CAPACITY:**

**THE PRINCE ALBERT MODEL FOREST
AND
BEARDY'S AND OKEMASIS FIRST NATION**

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ABSTRACT

Sustainable Forest Management (SFM) seeks to maintain and enhance the long-term health of forest ecosystems for the benefit all living organisms, while providing economic, social and cultural opportunities for present and future generations. The Model Forest Program in Canada is dedicated to bringing together stakeholders and rights holders to collaborate and conceptualize activities that will demonstrate SFM. The idea that Aboriginal engagement is a necessary component of SFM, as well as a contributing factor to adaptive capacity, was applied to an Indigenous and Non-Indigenous community: the Prince Albert Model Forest (PAMF) and the Beardy's and Okemasis First Nation (BOFN). The purpose of this research was to explore how initiatives between the PAMF and BOFN could support engagement and adaptive capacity to meet the some of the goals of SFM. Engagement is defined by active participation and adaptive capacity is defined as the ability of individuals and organizations to access and mobilize assets in ways that facilitate adaptation to change. Document analysis and semi-structured interviews were used to examine the evolution of Aboriginal engagement with the PAMF and a Criteria and Indicator framework was created to assess the PAMF activities that had an Aboriginal participation priority. Preliminary research, formal and informal observations, literature and documents reviews and semi-structured interviews were used to assess the adaptive capacity of the BOFN and examine how participation with the PAMF has affected the community's adaptive capacity.

This research made advances in understanding how Aboriginal engagement furthers SFM programs, projects and initiatives. Key lessons were identified in encouraging and maintaining Aboriginal engagement through active participation and how engagement can contribute to the building and enhancing of a community's adaptive capacity. An assessment of the BOFN's adaptive capacity provided evidence that the community's participation with the PAMF has helped the community access resources, realize community goals and build towards the community's ideal future.

Ultimately, it was found that the PAMF has expanded the concept of SFM to sustaining forests and sustaining communities but faces future challenges from the loss of interest by the federal government.

grateful I am and how much love I have for this community. Beardy's has set me on a new path and purpose for my future education and career.

My genuine thanks to all my research participants, who will remain unnamed to protect their confidently. Without you, their research could not have gotten off the ground or been possible.

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This work and research is dedicated to some very important people in my life. My mother and father, who have endlessly supported and loved me through the good and the bad times of my journey and have supported me emotionally, spiritually and financially throughout all of my life. They may not have known where my path lay but they have guided me and embraced every decision that I have chose. And to my Oma and Opa, and Grandma and Grandpa, who helped raise me and provided me with love, support and encouragement throughout my life. I would not be the woman I am today without them.

DEDICATION

To my mother and father, who have always encouraged me to follow my heart:

And to my Oma, Opa, Grandma and Grandpa for their support and love.

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LIST OF ABBREVIATIONS

BOFN	Beardy's and Okemasis First Nation
CCB	Community Capacity Building
CCFM	Canadian Council of Forest Ministers
CMFP	Canadian Model Forest Program
CMFN	Canadian Model Forest Network
FCP	Forest Communities Program
FMP	Forest Management Plan
FN	First Nations
FNIFMI	First Nations Island Forests Management Inc.
IMFN	International Model Forest Network
JFR	Junior Forest Rangers (also called Junior Resource Rangers)
MF	Model Forest
NGO	Non-Governmental Organization
P&A's framework	Principles and Attributes framework
PAMF	Prince Albert Model Forest
PAGC	Prince Albert Grand Council
SES	Social and Ecological Systems
SFM	Sustainable Forest Management
SRC	Saskatchewan Research Council
TK	Traditional Knowledge
U of S	University of Saskatchewan

Chapter 1: INTRODUCTION

Forests are one of the most widespread ecosystems on the planet, providing ecosystem services and benefits to society (Brand et al. 1996; Ferraro et al. 2012). However, over the last few decades, forests have been under threat from an increasing human population, overexploitation, urbanization and climate change (Kimmins 1995; Canadian Forest Service 2009). Canadians have begun to recognize the importance and value of sustainable forest management (SFM), a concept that suggests that society should maintain and enhance the long-term health of forest ecosystems for the benefit of not just humans but all living organisms, while providing environmental, economic, social and cultural opportunities for present and future generations (CFS 2001; LaPierre 2003; McDonald and Lane 2004). According to the Canadian Council of Forest Ministers, SFM has five characteristics: coordination of multiple values of forest systems, broad involvement in planning processes, measurement of progress towards SFM, examination of interactions between the environment and human activities, and Aboriginal[1] involvement and engagement (Bonnell 2000).

In the late 1980's, a paradigm shift had begun in Canada away from a focus on sustained yield of timber towards finding a balance between social, environmental and economic goals involving more public participation and focusing initiatives that would help build community capacity (Kimmins 1995; Carrow 1999). However, there still remained a big question: How would the government take the concepts and theory of SFM and put them into practice? In 1992, Model Forests were created in Canada as demonstration sites to turn SFM theory into practice (Hall and Bonnell 2004). Model forests were established to serve as neutral forums for multiple stakeholders to come to the table and discuss, implement and evaluate issues, projects and initiatives of sustainability and SFM (Bonnell et al. 2012).

Since their establishment, Model Forests created, established and participated in many different projects, programs and initiatives throughout Canada. Model Forests have provided a means for engaging local stakeholders and balancing forest ecosystem development with sustainability through the engagement of local stakeholders (Bonnell et al. 2012; CMFN 2012).

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[1] According to Aboriginal Affairs and Northern Development Canada, Aboriginal peoples or Aboriginals are defined as the descents of the original inhabitants of North America and are placed into 3 categories: First Nations, Métis and Inuit. For the purposes of this thesis, the term Aboriginal will be used to include all three categories.

While stakeholder engagement overall is important to SFM, there are critical reasons for focusing on Aboriginal peoples in Canada:

1. They are rights holders. Aboriginal peoples are accorded specific rights under the Canadian Constitution and these rights have been affirmed by the Canadian Courts.

2. They live in the boreal forest in significant numbers. For example, while eight in ten Aboriginal Peoples in Canada live in Ontario and the western provinces, (Statistics Canada 2013), about 80% of Aboriginal communities are within the nation's forest regions (Gysbers and Lee 2003).

3. They have knowledge that, for the most part, has been left out of the forest economy, also known as Traditional Knowledge[2] (Sherry et al. 2005; Reed 2010).

4. They have a range of perspectives that can be very different from non-Aboriginal stakeholders (Sherry et al. 2005).

5. They are likely significantly affected by forest operations as well as by economic and ecological changes affecting forests (Stevenson and Perreault 2008b; Klenk et al. 2012).

In Canada, Aboriginal peoples and communities have played key roles in the development and implementation of SFM (CCFM 2008). For example, Sherry et al. (2005) demonstrated that participation in SFM initiatives from Aboriginal peoples is crucial in establishing strategies and meeting goals for SFM. However, there has not been adequate attention given to understanding how these strategies can support the adaptive capacity of Aboriginal peoples (Stevenson and Perreault 2008b).

1.1   Research question and objectives

This study was guided by the question: how can initiatives that seek to enhance engagement and adaptive capacity between an indigenous and non-indigenous community help to support the goals of sustainable forest management?

The research question was addressed by meeting the following objectives:

1) Development an analytical framework for sustainable forest management that supported the assessment of Aboriginal engagement and adaptive capacity;

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[2] Within this thesis, Traditional Knowledge (TK) will be used in place of Aboriginal Traditional Knowledge (ATK) and Traditional Ecological Knowledge (TEK).

2) Documented key factors as identified by Beardy's and Okemasis study participants and community members to assess adaptive capacity within their community;

3) The use of the framework to assess the initiatives of the Prince Albert Model Forest (PAMF) in terms of its ability to engage the activities and to enhance the adaptive capacity of the Beardy's and Okemasis First Nation (BOFN); and

4) Identification of lessons that could be shared in other contexts to engage indigenous and non-indigenous communities to meet the goals of SFM.

1.2   The Model Forest concept and practice

Model Forests provide a fitting context for examining how the goals of SFM are applied and turned from theory into practice. In 1992, in response to the world's movement towards sustainable development and the UN Conference on the Environment and Development (UNCED), the Canadian federal government introduced Model Forests[3] as demonstration sites of SFM (Bonnell 2012). Initially, there were 10 Model Forest sites in Canada (Bonnell et al. 2012). Prior to the termination of the program in 2014, there were 14 Model Forests within Canada, varying in size, spread coast-to-coast, and encompassing different forest types (CMFN 2012; Hvenegaard et al. 2015). Model Forests focus on bringing together, identifying, implementing and evaluating existing and local knowledge tools and best practices to explore issues of sustainability on the landscape and to help support resource-based communities plan for and overcome current or predicted changes that may affect their long-term social, environmental and economic well-being (Brand et al. 1996; Bonnell et al. 2012; CMFN 2014). These activities are accomplished by providing a neutral setting for the engagement and participation of a broad spectrum of stakeholders and rights holders on the landscape, to openly meet, collaborate, discuss and come up with effective initiatives, programs, projects and activities to achieve SFM, while supporting people and communities that depend on forested ecosystems and resources (Bonnell et al. 2012; CMFN 2014). Although Model Forests do not have any legal jurisdiction, the partnership process, according to some, has encouraged governments and industries to make decisions that favour sustainability (LaPierre 2003).

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[3] Although the program's name changed in 2007 (from Model Forest to Forest Communities) and funding levels and funded organizations have changed, model forests continued to exist and be part of national and international networks.

Activities, in the form of projects and projects, established by Model Forests have helped local participants develop a better understanding of socio-economic dimensions of sustainability as well as the impacts of human and natural disturbances and ecological processes associated with forest management (Bonnell et al. 2012). Although Model Forests in Canada initially received up to $1,000,000 CAD per year in the first five-year funding cycle (1992-1997), as of 2014, Model Forests received no core funding from Natural Resources Canada (CMFN 2014). Despite this funding change and environmental, social and economical changes throughout the world, the Model Forests have continued to demonstrate SFM ideals.

1.3   Significance of study

The early phases of Model Forests (1992-2006) focused on forest sustainability involving technical and management issues, while the most recent phase (2007-2014) focused on sustaining forest communities (Bullock and Reed 2015; Bullock et al. 2015). The concerns and perspectives of local and forest-dependent people and communities in forest management activities, especially Aboriginal peoples, have been underrepresented, both in their numbers and in their beliefs, values and knowledge of SFM (Sherry et al. 2005; Reed 2010). Because the bulk of research conducted in Model Forests was undertaken during the first phase, research reflects this overall balance. Hence, there remains a need to conduct more research on social and economic contributions of Model Forests to SFM.

The significance of this research lies in furthering the social aspects associated with the concept of SFM. Determining how and to what extent Aboriginal peoples and communities are engaged within a Model Forest can provide insight into the extent to which their engagement contributes to their abilities to adapt to societal, ecological and economic changes. Moreover, examining the engagement and participation of Aboriginal communities within SFM programs, such as Model Forests, can illustrate the necessity of maintaining such programs in order to contribute to our understanding of SFM.

1.4   Thesis overview

This thesis consists of five chapters, following this Introduction chapter. Chapter 2 provides a literature review of SFM; public and Aboriginal engagement in SFM; and adaptive capacity, focusing on identifying the links between engagement, adaptive capacity and SFM.

Chapter 3 provides an overview of the research methods used to collect and analyze data and an examination of the study area. In this chapter, I also develop a framework by which to examine the activities (programs and projects) of the PAMF. Chapter 4 focuses on the evolution of the PAMF, with particular reference to how it developed meaningful Aboriginal engagement. Chapter 5 then turns to a discussion of adaptive capacity of the BOFN. I examine key issues identified by local people and examine measures taken by the PAMF to enhance this First Nation's adaptive capacity. Finally, the thesis is concluded in Chapter 6, where a summary of the findings, limitations and avenues for future research are provided.

Chapter 2: LITERATURE REVIEW

2.1   Sustainable Forest Management: Origins and purpose

Although the concept of sustainable development existed before 1987, it was made globally popular by the World Commission on Environment and Development (World Commission on Environment and Development 1987). Following the Commission's report, environmental managers across different sectors sought to introduce sustainability into their management practices. During the late 1980's and early 1990's, there was a shift within forest management away from sustained yield management towards SFM (Kimmins 1995). SFM requires a balance among key social, economic, environmental and ecological benefits and values in forest management plans and activities (LaPierre 2003; McDonald and Lane 2004; Bonnell 2012). This balance can be difficult to achieve but due to growing public pressure in the early 1990's, Canadian forest practices and policies began to embrace the developing ideas and desires for sustainable development and SFM (Rayner et al. 2001; Hessing et al. 2005).

2.1.1   SFM as it is interpreted within Canada

SFM, not only in Canada but throughout the world, is and continues to be, an adaptive process (Natural Resources Canada 2014). To remain a global leader in SFM and to adapt to changes in the climate, pressures from human expansion and an increase in resource and forest development challenge the forest and resource sector to continually assess, re-assess and adjust forest practices and management (NRCan 2014; Canadian Council of Forest Ministers 2014). According to the Natural Resources Canada's "State of Canada's Forests Report" (2013), the outlook for the Canadian forest sector is finally looking promising. This assessment was made following a decade of environmental, social and economic challenges. NRCan (2013) credited the turnaround to the creation of innovative products, expansion of markets to other countries and a continued commitment to research and sound environmental practices.

In Canada, the Canadian Council of Forest Ministers (CCFM) suggested that SFM will "maintain and enhance the long-term health of our forest ecosystems for the benefit of all living things both nationally and globally, while providing environmental, economic, social and cultural opportunities for the benefit of present and future generations" (CCFM 1992). When SFM was first defined in Canada, it included five essential characteristics to guide practices, decisions and policies regarding forest lands and resources (Bonnell 2000). Those characteristics

are: the coordination of multiple values of forest systems; broad involvement in planning processes; measurement of progress towards SFM; examination of interactions between the environment and human activities; and Aboriginal involvement and engagement (Bonnell 2000). Today, the underlying goal of SFM, while maintaining those characteristics, is to achieve a balance between demands placed on Canadian forested ecosystems for products and benefits while maintaining their health and diversity (NRCan 2014).

To meet this goal and to maintain the characteristics of SFM, the Canada's National Forest Strategy (2003-2008) defined eight themes and associated actions: Ecosystem-based management; sustainable forest communities; rights and participation of Aboriginal peoples; forest product benefits; knowledge and innovation for competitiveness and sustainability; urban forest and public engagement in sustainability; private woodlots' contribution to sustainability; and reporting and accountability (NRCan 2014). These themes were then adopted by Canadian forestry ministers as a means to move SFM from theory into practice (Charron 2005; NRCan 2014). The Canadian Forest Service and the Canadian Council of Forest Ministers developed ideals that aspire to enhance forest governance, promote Canadian's sustainable use of forests and forest products, and protect vulnerable forested ecosystems (NRCan 2014). For example, the CCFM encouraged integrated forest land-use planning approach in order to balance economic, social and cultural opportunities and needs (CCFM 2012). The CCFM also promoted the involvement of stakeholders as key in planning, implementation and ultimately, success of SFM (NRCan 2014). Finally, in order to evaluate and monitor the success or failures of SFM, tools and processes, such as Criteria and Indictors (C&Is), were developed by the CCFM (Sherry et al. 2005; CCFM 2014; NRCan 2014). To further complement this monitoring and tracking of progress towards SFM, forest certification was adopted by some companies to demonstrate their commitment to SFM (NRCan 2014).

2.1.2 Limitations and critiques of SFM

Although in Canada, forestry is not under federal jurisdiction, the federal government introduced strategies to translate SFM from theory to practice. For example, Model Forests and the Aboriginal Forestry Initiative were both aimed at achieving SFM goals and targets (NRCan 2014). One main concern for SFM in Canada is the division of powers between the federal and provincial governments and how this division affects responsibilities and commitments of both

parties (Hessing et al. 2005). Some have argued that this division of responsibilities can interfere with the development of nation-wide procedures and policies for dealing with forest and natural resources problems (Rayner et al. 2001; Hessing et al. 2005). Moreover, the division of powers may limit the rate and scope of policies and plans designed to address the changing conditions for SFM (Hessing et al. 2005). Finally, programs and organizations that embrace SFM activities, like the Model Forest Program and the Aboriginal Forestry Initiative, do not have the weight of policies or laws, hence they can only lead by example (Hessing et al. 2005).

2.2 Public and Aboriginal involvement in SFM

The involvement of diverse stakeholders, including members of the public, within forest management has become a necessity for those managing Canadian forest lands and resources (Bonnell et al. 2012; Elbakidze et al. 2012). The involvement of the public is considered essential to SFM because greater involvement encourages transparency in decision-making, builds long-term relationships between industry and the public, incorporates the public's ideas and knowledge into decision-making practices and improves the capacity of all participants to share results, learn and innovate (Schindler 2003). Although public participation can lead to delays in identifying and responding to issues, omitting the public has been criticized for increasing public alienation and reducing public support for the goals of SFM (Brand et al. 1996). As described below, while Aboriginal participation may be considered a part of "public participation" there are distinctive legal and ethical reasons for their involvement in determining SFM principles and their application.

2.2.1 Aboriginal participation in SFM and Model Forests

In recent years, Aboriginal peoples have become increasingly involved in forest management as stakeholders, rights holders, partners, managers, owners and workers (Parsons and Prest 2003; Wyatt et al. 2010; Jacqmain et al. 2012). Any sustainable development of natural resources in Canada requires meaningful participation of Aboriginal peoples in the decision making process of policies and management due to legal and ethical reasons (Jacqmain et al. 2012). Aboriginal forestry, which is defined as "sustainable forestry incorporating respectful interaction between the forest and Aboriginal peoples of today for the benefit of generations unborn" (Parsons and

Prest 2003, pg. 780), is one way by which Aboriginal peoples can increase their participation in forestry activities (Parsons and Prest 2003; Wyatt 2008; Beaudoin 2012).

Despite the increasing calls for Aboriginal participation, there are few genuine cases that have shown significant advances towards that participation (Jacqmain et al. 2012). One of the few examples involves the Waswanipi Cree Model Forest that developed a governance tool for Cree land users to ensure their needs and values were expressed in management plans and practices (Jacqmain et al. 2012). Using understanding and collaboration between Aboriginal and non-Aboriginal managers, this innovative approach combined scientific knowledge and TK to develop moose habitat management guidelines within the model forest. As a result, there was a greater social acceptability, on both sides, of the guidelines and the plan, thereby contributing to more sustainable management within that particular ecosystem (Jacqmain et al. 2012).

Slowly, Aboriginal participation, values, knowledge and beliefs are being introduced into forest management and decisions. However, Reed (2010) found that Aboriginal engagement and inclusion may still be limited and the decision-making processes used in forestry may be dominated by the élites, specifically non-Aboriginal men. Aboriginal participation in forest management is essential to the future of Canadian forest management (Sherry et al. 2005); however, there are still few models that demonstrate Aboriginal peoples' power to determine the use, management and economic development of forest resources. More support is needed to encourage equitable relationships between Aboriginal peoples and non-Aboriginal forest decision-makers (Natcher et al. 2005; Wyatt 2008).

Model forests could provide a means for demonstrating Aboriginal engagement. According to some researchers, engagement is the first step towards enhancing adaptive capacity of Aboriginal peoples and thereby improving the chances of achieving SFM (Smith 1998; Sinclair and Smith 1999; Parsons and Prest 2003; Fine and Harrington 2004). There is need for joint work and partnerships, wherein Aboriginal engagement is built upon trust, responsibility and respect with and by institutions and organizations (Steveson and Perreault 2008b).

Model Forests can demonstrate how Aboriginal peoples can be engaged in forest management and decision-making, by showing how SFM activities (projects, programs and initiatives) within Model Forests can meet Aboriginal needs and interests (CMFN 2012). The Prince Albert Model Forest (PAMF) articulated that commitment when it adopted the slogan "Ma Maw Wechehetowin", which is Cree for "Working together, helping each other" (CMFN

2012). However, research is needed to determine whether such stated commitment is translated into action.

2.3   Adaptive capacity

In times when ecological, social and economic systems are constantly changing and shifting, society must find a way to adapt to those changes. Adaptation, taken within a human context, is a process, action or outcome that must be taken in order for the system to better cope with, manage or adjust to some changing condition (Smit and Wandel 2006). Adaptive capacity has many definitions but can be broadly defined as the ability of a social-ecological system to absorb a disturbance and its capacity to respond to change (Carpenter and Brock 2008). Adaptive capacity is context-specific and it varies from place to place, from community to community, as well as over time (Smit and Wandel 2006). Adaptive capacity has recently become a concern for SFM; forest managers and policy-makers must begin to address adaptive capacity within forest management policies and practices (Spittlehouse and Stewart 2003; Folke et al. 2005).

For the purposes of this research, adaptive capacity refers to the ability of individuals and organizations to access, mobilize and deploy assets and resources in ways that facilitate adaptation without degrading those resources (Norris et al. 2008). This includes both the ability to deal with, adapt, and learn from change (Smit and Wandel 2006; Adger and Brown 2009), and the use of opportunities that arise to enhance the quality of and access to resources to improve livelihoods and other aspects of community well-being (Armitage et al. 2008; Norris et al. 2008). Building adaptive capacity places an emphasis on proactive and planned action (Maguire and Cartwright 2008) rather than simply coping with changes (Edwards and Wiseman 2011).

2.3.1   Approaches to adaptive capacity

A common approach to defining an individual's, a community's or a society's adaptive capacity is to examine the vulnerability of the system (Miller et al. 2010; Engle 2011). There are diverse interpretations of vulnerability but the key components include concepts of coping, exposure, sensitivity and adaptive capacity (McCarthy et al. 2001; Adger 2006; Gallopín 2006). These are all elements of vulnerability, where coping refers to a system's (or community's) ability to manage changes, exposure is a measure of the magnitude and proximity of stressors experienced by the system, sensitivity is the degree to which the system is affected by those

stressors, and adaptive capacity indicates the system's capacity to absorb and produce adaptive actions to those stressors while maintaining key functions and processes (Adger 2006; Johnston and Williamson 2007). Furthermore, Downing et al. (2005) identify the following common elements to approaches of vulnerability: the threat, a place or sector, a socioeconomic group, and the consequences of the outcome. Research examining vulnerability generally seeks to understand the underlying causes of that vulnerability, the scale at which it occurs, and the main actors involved (Miller et al. 2010).

This research will not include a vulnerability approach to analyzing adaptive capacity. There are some political issues, as well as assumptions embedded in the use of the terminology of "vulnerability" (Haalboom and Natcher 2012). Labeling an Aboriginal community as "vulnerable" assumes a Westernized view and ideas of the context, without adequately considering how the local community itself might address vulnerability through its culture, traditions or capabilities (Haalboom and Natcher 2012). There are also concerns that the term itself may shape the ability of how Aboriginal peoples define their own futures. With these concerns in mind, there are other means to approaching adaptive capacity.

When considering adaptive capacity, many studies of adaptive capacity are conceptual or focus on regional scales, as opposed to local or community scale (Lemmons et al. 2008; Brown 2009; Johnston et al. 2010). Research is now beginning to examine adaptive capacity as it pertains to a community or community capacity (Mendis 2004; Beckley et al. 2008; Beaudoin 2012). Community capacity can be defined by "the collective ability of residents in a community to respond to external and internal stresses; to create and take advantage of opportunities; and to meet the needs of residents, diversely defined" (Kusel 1996: 396). Community capacity is linked to adaptive capacity, as it involves and expands on the components of adaptive capacity but within a particular context of "community". In this thesis, community is understood to mean a set of social relations within a particular geographic region (Reed 2003). Community capacity focuses on cooperative and collaborative ability of a community to combine different types of capitals in order to achieve desired outcomes, goals and/or visions (Beckley et al. 2008). While many types of capital can be identified, researchers have found seven are most important-natural, economic, built, humans, social, cultural and political. The approach taken in this research is to consider each of these capitals, but to use information from Beardy's and Okemasis First Nation about each capital to evaluate its adaptive capacity.

Natural or ecological capital is the natural resources and ecosystem services provided by the area (Collados and Duane 1999; Deutsch et al. 2000). Financial or economic capital refers to the financial resources available to invest in capacity building, such as money or funding (Deutsch et al. 2000), and built capital includes the infrastructure that supports adaptive activities (Deutch et al 2000; Flora et al. 2004). Human capital includes assets such as skills, knowledge and experiences of individuals (Flora et al. 1992). Social capital reflects connections among people and organizations, participation at events and types of social networks (Beckley et al. 2008). Cultural capital reflects the beliefs, myths, skills, names, dances, songs, religious ideas and language traits and diversity, which will influence the way people "see and know the world" and how they act within it (Turner et al. 2003; Emery and Flora 2006). It will speak to those people who are influential in certain areas of the community and nurture how visions and ideas develop and how they are implemented (Emery and Flora 2006). Finally, political capital refers to access to power, organizations and connection to resources (Flora et al. 2004).

In a community, once the assets within the capitals are identified, processes that mobilize those assets can be examined (Beckley et al. 2002). Processes can include market, communal or bureaucratic relation or leadership qualities. Examining and understanding how these processes support or inhibit the capacity of a community to adapt and respond to changes is necessary in order to aid in that community's achievement of their desired goals and vision.

2.3.2 Limits and barriers to adaptive capacity

One way to address concerns over the community capacity is to identify the barriers and limits that may prevent an individual or a community from achieving its goals (Adger et al. 2009; Moser and Ekstrom 2010). Limits can be thought of as obstacles that tend to be more difficult to overcome, whereas barriers are obstacles that can be overcome with concerted effort (Moser and Ekstrom 2010). Meetings to discuss management options can be barriers for the participation of Aboriginal peoples (Reed 2010). Often times, those meetings are dominated by an élite, using technical and scientific jargon, which can affect the inclusion of the Aboriginal attendees. Barriers can stop, delay or divert adaptive capacity; however, the removal of a barrier does not necessary create a solution (Moser and Ekstrom 2010). Understanding, planning and managing barriers can help a community to enhance its adaptive capacity (Moser and Ekstrom 2010).

2.3.3 Adaptive capacity in Aboriginal communities

Relatively little is known about how Aboriginal participants might interpret and contribute to adaptive capacity, particularly in forest-based communities. For example, Stevenson and Perraeult (2008a) showed that very few First Nations communities have derived benefits or enhanced their adaptive capacity from their participation in the forestry sector. Furthermore, Sherry et al. (2005) found that national criteria and indicators for SFM had not met the needs or desires of the local First Nations community. These authors affirm that research is needed into how Aboriginal communities define and enhance their adaptive capacity.

Many Aboriginal peoples and communities depend on forests for reasons beyond economic or social well-being including spirituality, cultural and physical well-being. Ecological, social and economic changes can affect those forests, thus affecting important and vital components the lives of Aboriginal peoples (Smit and Wandel 2006). Moreover, such changes may challenge Aboriginal communities to adapt, deal with, and learn from the changes (Smit and Wandel 2006; Adger and Brown 2009), and possibly enhance their community well-being in the end (Armitage et al. 2008; Norris et al. 2008). A study by Klenk et al. (2012) demonstrated that while Aboriginal participation and employment rates increased in some Model Forest regions, income levels decreased. Declining access to economic capital in some Model Forest regions led to economic constraints within Aboriginal communities- a factor that can affect their ability to adapt to the changes facing the forest economy. Moreover, although model forest regions may be becoming more diverse in terms of their ethnic and Aboriginal populations, language diversity has been decreasing in the regions as well. This may indicate a loss of a cultural component, in terms of language, for Aboriginal communities. A loss of language can equate to a loss of teachings and knowledge that is irreplaceable for many Aboriginal communities (Turner et al. 2008). Finally, all of the model forest regions Klenk et al. (2012) studied were beginning to see an increase in high school graduates but many were also demonstrating a decrease in college and non-university certificates or diplomas (Klenk et al. 2012). This shift may have a negative impact on a community's adaptive capacity as these certifications can be necessary for local businesses and trades (Klenk et al. 2012), thus these communities may be limited in essential skills needed to create businesses within the community. It appears that many obstacles remain that prevent Aboriginal communities from

fully participating in the forestry sector (Beaudoin 2012). For Aboriginal communities, economic development appears to be one avenue to increase their level of independence, self-sufficiency and living conditions (Anderson and Giberson 2004). Thus, if economic constraints and issues are addressed, perhaps a community's adaptive capacity can be enhanced and other issues can then be addressed. Exploring how Aboriginal peoples are adapting to cultural, economic and societal changes can inform our understanding of choices surrounding forest management and policies within the model forests.

If Aboriginal communities are to respond to a range of challenges, it is essential that Aboriginal communities define their own capacity (Stevenson and Perreault 2008b). Previous studies described above did not do so. Communities are unique in the problems and issues they face, thus the participation of community members in identifying their capacity strengths and needs is key to enhancing adaptive capacity (Stevenson and Perreault 2008b; Haalboom and Natcher 2012). Giving the community the opportunity to identify existing capacity strengths and needs can allow for the community to create, practice and realize their own vision of what they want their community to look like in the future (Stevenson and Perreault 2008b).

2.4   Linking Aboriginal engagement, adaptive capacity and SFM

Aboriginal engagement is an important element within SFM but what is its role in adaptive capacity? Engagement, in the form of active participation within a process, allows for the development of adaptive capacity to occur (Fine and Harrington 2004). Figure 2.1 shows that when a group of people becomes engaged within an activity (step 1), they are more likely to define some social issues that are worth addressing (Fine and Harrington 2004; Norris et al. 2008). Those groups then become a vehicle through which resources are mobilized into action and begin to place investments towards that mobilization (step 2). Once a community demonstrates continuous engagement and investments, assets that are mobilized and invested from vital capitals (e.g. human, social and financial capitals) can result in an increase in assets among those capitals as well as others (step 3). Participation and engagement can then lead to a desire to continue engagement (Fine and Harrington 2004), thus an increase in assets may allow for continuous engagement, as well possible increase in participation (step 4). Emery and Flora (2006) describe this as spiraling up (Figure 2.1).
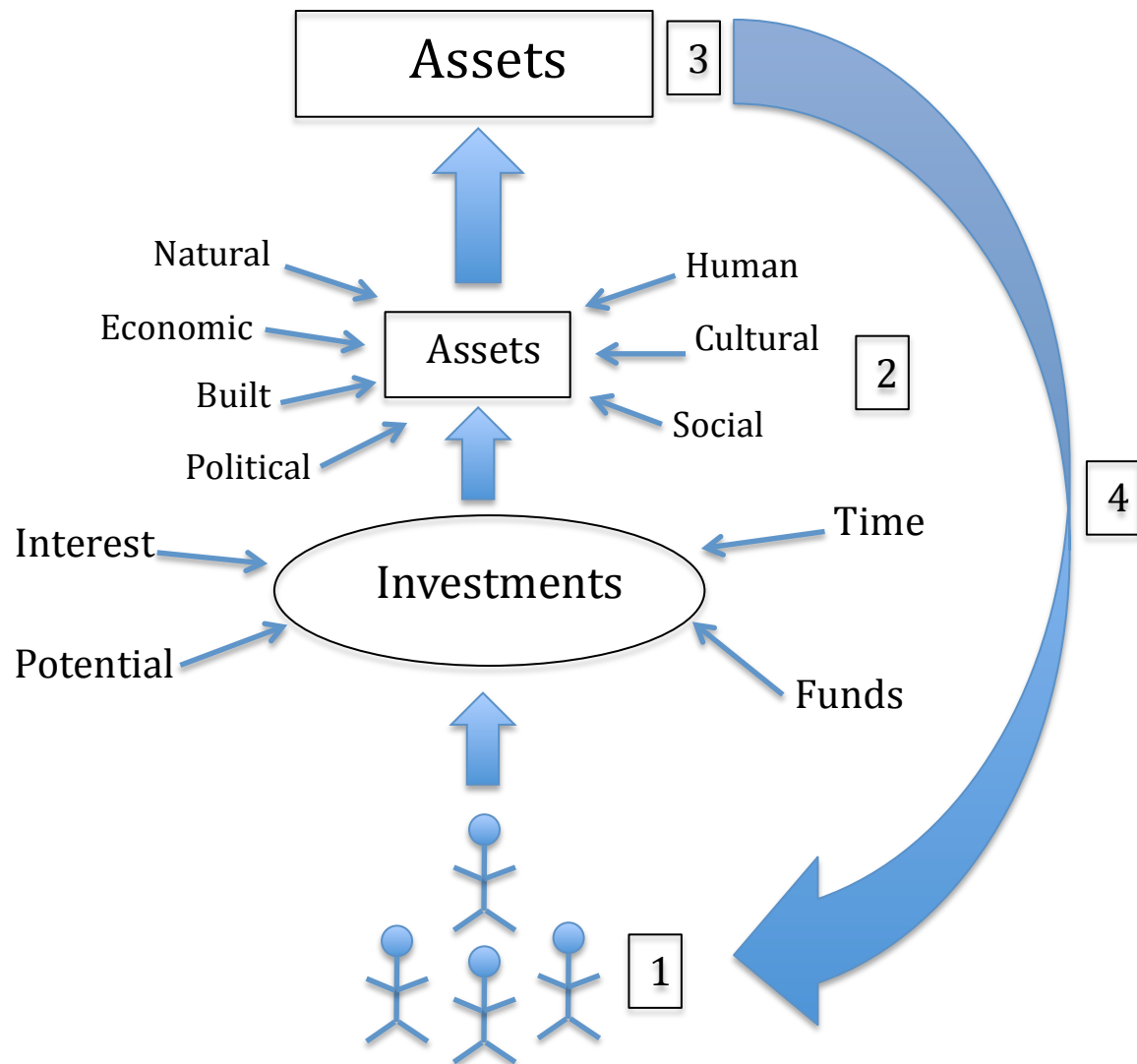
Figure 2.1: Mobilization of assets through continuous engagement, adapted from the spiraling up model by Emery and Flora (2006)

For instance, an Aboriginal community that begins to promote and place financial resources in the forestry industry (financial capital), can support investments in the skills and education for that industry (human capital) and allow traditional knowledge (cultural capital) to be invested as well. These investments can then help local communities in the area build relationships and increase the effectiveness of the industry (social capital). This resulting

increase in assets could further lead to an increase in participation in the local economy and community.

Aboriginal engagement is a required characteristic of SFM in Canada and has become part of the process of developing and creating Model Forests (Bonnell 2000). Research should be directed towards examining a link between an Aboriginal community's engagement, through active participation, with a Model Forest and any possible resulting community capacity to mobilize and access resources, which may then be invested towards SFM and other natural resource activities. This research seeks to investigate, document and assess that link by examining the relationship between a Model Forest and an Indigenous community, in order to determine if that relationship has helped to support the goals of SFM.

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Chapter 3: STUDY SITE AND METHODOLOGY

3.1   Introduction

This chapter begins by describing the methodology for this study, with a description of the types of methods used for data collection and a description of the study participants. A brief background to Model Forests follows, and then I describe some of the history and background of the PAMF and the BOFN and some of their present characteristics. The final section presents the framework used for analyzing the activities of the Prince Albert Model Forest as they pertain to Aboriginal engagement.

3.2   Methodology

This research used a case study methodology by selecting only one Aboriginal community to investigate the relationship between that community and the PAMF. Research can use a case study when its purpose seeks to answer questions that require explanatory, exploratory or descriptive answers or solutions, as well as if that research deals with one or both qualitative and quantitative data (Yin 1994). A case study methodology was the preferred method for this research due to two reasons; as a researcher, I had very little control over the events that took place within the community; and the focus was on an existing experience within a real-life context (Yin 1994). The Beardy's and Okemasis First Nation was selected as the case study due to their past and current active participation with the PAMF. The timeframe for this study was September 2012 to September 2014.

3.3   Study participants

There are many different people and organizations involved or affiliated with the PAMF, including industry, governments, non-government organizations (NGOs), Aboriginal peoples and communities, academics, and urban and rural communities (CMFN 2014). In order to include participants with different perspectives, members of the PAMF board, and current and past project partners were contacted, in person, via email or by telephone. Participants included people of Aboriginal or Non-Aboriginal heritage, as well as those involved with and working for industry, governments, NGO's, urban and rural organizations and First Nations band offices or departments. Participants were identified through PAMF documents and by recommendation by other study participants.

In the BOFN, in order to gain participants with different perspectives, people from the community were contacted, mainly in person, but also via telephone. Moreover, posters about the study were posted around the community. Participants were identified and represented different age groups, occupations and residence status in the community. Participants were first identified by affiliation with the PAMF and then through recommendations from other project participants, as well as direct contact with me. Potential participants were screened first, to ensure they were over 18 years of age, and then the participant determined an interview time and location.

In total, 30 individuals were identified as potential participants, 20 individuals from the BOFN and 10 outside BOFN, affiliated with the PAMF. Individuals from the PAMF were contacted via email or in person. After initial contact, information about the research and researcher was sent to the participants, as well as brief biography of the researcher was sent to participants who had not met the researcher in person. Of the 10 potential PAMF participants contacted, all participants were available for interviews and willing to take part in the study. After potential participants were contacted in the BOFN, visits were held with each individual to explain the research and to give some background information of the researcher. Of the 20 participants contacted in BOFN, 14 were met the criteria and were available and willing to participate in the study (Table 3.1).

Table 3.1: Study participants by affiliation[4]

Participant Affiliation	Description	Number
Academic	Those who have worked with the PAMF or led or been part of projects, initiatives and programs through the PAMF. This group includes a university professor and a university undergraduate student	2
Non-Government Organizations (NGOs)	Non-profit organizations that sit on the PAMF board or have worked/led PAMF projects. This group includes people and groups who have a vested interest in the PAMF outcomes, projects, initiates and programs. Furthermore, this group uses the PAMF to connect and network with other groups	1
Industry	Consultants and proponents engaged in SFM, or activities, such as economic or technological, concerned with SFM, forest and resource development	1

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[4] Although participants could potentially fit into more than one category, they were placed into the category that they themselves identified.

	and management. This group includes individuals or companies seeking to encompass SFM within their policies and practices and have a stake and influence in PAMF projects, initiatives and programs. It also includes individuals who are members of the PAMF board.	
Government	Administrators and regulators of federal and provincial interests in SFM, forestry and resource management. This groups encompasses provincial and federal government agencies who help run, guide, administer and/or make decisions pertaining to SFM within the PAMF	5
Aboriginal participant	This group includes those Aboriginal individuals and/or communities who become involved in/led PAMF projects, initiative and/programs and who may be a PAMF board member	1
Aboriginal Elder	Within the BOFN, the title of Elder is given to those people who over their lifetime have demonstrated values deemed worthy of the title by the community, such as running youth camps or helping those with substance and solvent abuses	4
Aboriginal Student	This group includes those BOFN members who are 18 years of age and finishing their High School education	3
Aboriginal working on reserve- Band Office, Health Centre	Employees and staff members in the BOFN who work either in the Band Office or the Willow Cree Health Centre, located on the reserve	4
Aboriginal working or living on Reserve	Members of the BOFN who work or reside on the reserve. This group includes those who are domestic engineers, those who work on reserve doing odd jobs for other members and those who own or work for on reserve businesses	3

3.4   Data Collection

3.4.1   Preliminary research

Preliminary field-work, as explained by Caine et al. (2009), is conducted during the early stages of research and allows for exploration, creativity, mutual exchange and interaction through establishing relationships with local people, prior to developing research protocols and ethics applications. There are five critical elements to locating preliminary fieldwork: making connections, entanglements, understanding culture, importance of gatekeepers and partial and ongoing process (Figure 3.1). Paying attention to these elements, I hoped to gain acceptance into the BOFN.

MAKING CONNECTIONS:

Development and modification of research
scope, location, research design and methods
Deeper access to lived experiences
Helps connect context, practice, and theory
Uncovers knowledge of constraints and
improves understanding of context
Increased serendipity in research findings
Improved community communication and
negotiation

ENTANGLEMENTS:

Time commitments and cost of travel to
"remote" areas
Culturally appropriate but untried methods
Community commitment, trust, and credibility
require more time and effort
Overcoming a history of non-communication,
miscommunication, and misunderstanding
Reconciling the intertwined standards of
research quality, integrity and ethics
Seeing research as social process

**IMPORTANCE OF
GATEKEEPERS:**

Successful preliminary
field-work is contingent
upon relationship with
gatekeepers
Gatekeepers subject to
social, cultural and
political contexts
Begin with relevant local
organizations
Preliminary visit and
initial interpersonal
contact helps to establish
best community liaison

**Locating
Preliminary
Field-work**

**UNDERSTANDING
CULTURE**

Culture integral to
understanding a people
Getting out "on the
land" as part of
preliminary process
Allows for novel ways
for researching and
interpreting multiple
and changing contexts
Gain insight into a
people's culture,
history, spirit and
struggles

PARTIAL AND ONGOING PROCESS:

Ongoing construction of dialogue, knowledge, and co-learning
Engagement as power: may lead to a dialogical and reciprocal relationship
Manual of rules does not exist: process evolves over time and negotiated and
renegotiated with new casts of people
Process is mediated and shaped by contingencies beyond the researcher's
control

Figure 3.1: Conceptualization of the area of preliminary field-work in qualitative
field research. Source: Caine et al. 2009

I began my preliminary research by first reading as much information about First Nation
and Cree culture and history as possible. As a young woman of German decent growing up in
Calgary, Alberta, and with an undergraduate degree in biology, my background was relatively
void of this type of cultural knowledge and experience. I hoped to gain some insight into this
community's culture, history, spirit and struggles (Caine et al. 2009) before making connections
with the community, to show that I was not merely another stranger or researcher wishing to
exploit their knowledge and taking what I needed only for my research. After establishing a
relationship with a key contact of the community (Caine et al. 2009), I began to visit the
community and make time to travel for non-thesis related visits. Early in 2013, some community
members began to trust me enough to invite me to events, such as the Children's festival and

Elder Days, and for personal visits within their homes. As I began to make deeper connections with the community and some of its members, I began to speak about my research and thesis idea. I was delighted when some members expressed their desire to become participants and began to let other community members know who I was and what I was doing in and for the community. It was not until nearly a year after my first visit to the community that I began my interviews and fieldwork.

My research and work within this community was an ongoing process, as I continued to be engaged and involved with the community, by attending events and festivities and home visits, sometime after data collection was complete. Moreover, I continue to gain hands-on experience and knowledge about this community and First Nation culture. I believe and hope that the community has viewed my participation and engagement within the community as a sign of respect and a desire to build a relationship with the community. Although Caine et al. (2009) provided me with a suggestion and a guide to conducting preliminary fieldwork, I was able to construct my own rules and roadmap for conducting my research in this community. The quality of research and data I have been able to collect may not have been possible without establishing purposeful relationships and gaining the respect and support from the community members.

3.4.2   Informal and formal observations and participation in the communities

Informal and formal observations and participation is sometimes referred to as participant observation. Participant observation can be defined as a qualitative method that allows researchers to learn the perspectives held by their study participants (Mack et al. 2005). Researchers can undertake this through observation and/or observing and participating in the community's daily activities and events (Mack et al. 2005). Data can be collected by participant observers in various ways: field notes taken during events or activities; photographs of peoples houses or community roads; video of people hunting and trapping; open-ended interviews; and/or audio recordings during a cultural event (Russell 2011). Participant observation for this research included participating in community activities and events, and making impromptu informal visits with community members. During or following these activities, I took photographs and detailed field notes that I used as a data source for the thesis.

Attending gatherings and meetings, within the Aboriginal communities of the Model Forest, helped in my understanding of Aboriginal culture and customs. I wrote field notes to

document these observations and I took photographs. Examples of meetings and gatherings include monthly Prince Albert Model Forest board meeting, Sturgeon River Bison Stewardship meetings and attending Pow Wows, feasts and sweat lodges. Observations allowed for first-hand experience with participants. I recorded information as it was occurring and I observed topics or behaviors that may have been uncomfortable for participants to discuss in interviews (see Creswell 2009). Some limitations of observations include an appearance of an intrusive researcher, private interactions or information may be observed that the research could or should not report and good observation skills are necessary in order to depend on information collected through observations (Creswell 2009).

Due to my preliminary fieldwork and building of a relationship with the community, I found that I had gained some trust and acceptance with my presence in the community. However, it did take time and quite a bit of practice to gain observation skills and the ability to record observations.

3.4.3   Semi-structured interviews

One-on-one, semi-structured interviews were also conducted with key participants that worked directly for the PAMF or representatives from the various partners. Semi-structured interviews are often used during one-on-one interviews (Patton 1990; Creswell, 2009). The researcher develops a guide that allows for a checklist of questions to be discussed (Patton 1990). However, there is not a standardized set of questions, which allows for flexibility within the interview (Patton 1990; Creswell 2009). Depending on the preferences of the interviewee, the interview was recorded and transcribed later or written down in a notebook and transcribed later. I recorded 24 interviews, transcribed 106 pages from those interviews and kept two field notebooks.

As a research method, interviews can allow for in-depth exploration of attitudes, motivations and events (Denzin and Lincoln 1994; Arksey and Knight 1999). Interviews can also provide historical information (Creswell 2009), and is a well-suited method for those who prefer oral communication over written communication (Denzin and Lincoln 1994; Arksey and Knight 1999). Moreover, semi-structured interviews allow the researcher to have some control over the line of questioning (Creswell 2009). Unfortunately, interviews can provide biased information caused by the presence of the researcher or incomplete recall (Creswell 2009). Furthermore, the

information collected is completely dependent on the skills of the interviewer and a failure can result in obtaining data of limited value (Denzin and Lincoln 1994). Finally, the way in which the researcher collects the data may be biased due to the variation from person to person in the ability to articulate thoughts, which could result in inaccurate data (Creswell 2009). In order to overcome these limitations, I practiced my interview questions before each interview.

All interviews were conducted in person at a venue of the interviewees choosing (see Table 3.2). In order to improve accuracy in the recording of data and interviews, I not only took notes but recorded interviews to ensure that details in what the participant said would not be missed. Although I had no previous experience with conducting interviews prior to this research, I was able to gain experience through the many interviews I conducted, as well as practicing for interviews before conducting them. Unfortunately, during interviews with younger participants (age 18 to 24), I believe my presence could have been a little intimidating and their responses to interview questions may not have been answered to the full extent that the participant wished to answer them.

An interview guide for this thesis can be found in Appendices A and B. There are three parts to the interview guide: 1) A pre-interview questionnaire (Appendix A); 2) Part 1 included questions for the participants from the Beardy's community; 3) Part 2 was for the Model Forest interviewees (Appendix B). The pre-interview questionnaire was designed to gain information on a few variables, as well as make the participant feel more comfortable in an interview setting. Part 2 of the guide (Model Forest questions) was split up into three question sets. If the participant was Aboriginal, he or she would be asked Question set 1 and 3. If the participant was Non-Aboriginal, that person was asked Question set 2 and 3. The difference in questions for Aboriginal and Non-Aboriginals allowed for a deeper examination into feelings of inclusiveness and fairness for Aboriginal participants.

Table 3.2: Participant interviews by affiliation and date

Affiliation	Participant Affiliation	Date of Interview
PAMF	Government (Saskatchewan Research Council- SRC)	June 17th, 2013
PAMF	Non-Governmental Organization (NGO) (Saskatchewan Forestry Association)	June 26th, 2013
PAMF	PAMF (Employee)	June 26th, 2013

PAMF	Academic (University of Saskatchewan	July 10th, 2013
PAMF	Government (SRC)	July 11, 2013
PAMF	PAMF (Employee)	July 11 2013
PAMF	Government (Prince Albert Grand Council)	July 11, 2013
PAMF	NGO (Sturgeon River Plains Bison Stewards)	July 11, 2013
PAMF	Band Office	Aug 9, 2013
PAMF	Academic (U of S)	Sept 12, 2013
BOFN	Band Office	Aug 9, 2013
BOFN	Student	Aug 9, 2013
BOFN	On reserve	Aug 9, 2013
BOFN	On reserve	Aug 9, 2013
BOFN	Student	Aug 12, 2013
BOFN	Student	Aug 12, 2013
BOFN	Elder	Aug 12, 2013
BOFN	Band Office	Sept 24, 2013
BOFN	On reserve	Oct 7, 2013
BOFN	Elder	Sept 24th and Oct 18th, 2013
BOFN	Health Centre	Oct 28, 2013
BOFN	Elder	Oct 29, 2013
BOFN	Elder	Nov 13, 2013
BOFN	Health Centre	Nov 13, 2013

3.4.4 Document analysis

Strategic planning documents and other reports pertaining to the PAMF and Aboriginal and BOFN engagement were also reviewed. I examined annual reports, history books, work plans, strategic plans, technical plans, surveys and various other documents, as well as obtaining documents from the current and previous general managers of the PAMF. I also examined the project and program reports and documentations undertaken each year in the PAMF, with particular emphasis on which Aboriginal people, organizations and communities had been engaged and how.

Document analysis allows a researcher to work at times convenient to the researcher and can be accessed at any time (Creswell 2009). Moreover, the documents represent data that have been compiled and given attention to by participants and as written evidence, it saves time for the researcher to transcribe it. However, access to certain documents may be limited to the

public, materials and documents may be incomplete or inaccurate and the researcher may articulate or perceive documents in a different way than intended by the author(s) (Creswell 2009). During my research, I found it difficult to access certain government documents and many of the earlier phase PAMF reports and documents were not found or not accessible. In addition, due to a Beardy's band election in March of 2014, I found it difficult at times to access information from the band office and the reserve's website.

3.5 Data Analysis

Once fieldwork was complete, data collected from the interviews were analyzed by using the *NVIVO* Version 10 software program. The 2013 software allowed for the content from interviews to be collected, sorted and arranged and then analyzed to examine the relationships in the data by connecting, shaping, and modeling. Using the results gathered from document analysis and the interviews, formal/informal participation and observations, the results were further analyzed using the two frameworks (see Table 3.5 and Table 5.3). Once preliminary analysis was completed, my interpretations were checked by a member of the PAMF board and a member of BOFN, who provided feedback and further information or clarification. Before describing the first framework in this chapter, I provide a brief history of Canadian Model Forests, PAMF and BOFN.

3.6 Canadian Model Forests

The Canadian landscape is covered by forests and wooded land that cover approximately 397.3 million hectares, which represents not only 30% of the world's boreal forest cover but also 10% of the world's forest cover (NRCan 2011). Although a one time, there were 15 Canadian Model Forests spanning the country from British Columbia to the Maritimes, at the present time, there are only 8 Model Forests that remain, due to the elimination of core funding from the federal government (Bonnell et al. 2012; Bullock et al. 2015; CMFN 2014).

3.6.1 Prince Albert Model Forest

The Prince Albert Model Forest was one of the original sites established in 1992 (CMFN 2014). This Model Forest encompasses 367,000 hectares of boreal forest and is located just north of Prince Albert, Saskatchewan (Figure 3.3) (CMFN 2014). Initially, the PAMF defined its

boundaries as 315,000 ha and encompassed fewer communities than it does today (Figure 3.4) (PAMF 2012). It is important to note that although the Model Forest has defined boundaries on a map, its sphere of influence extends beyond those designated boundaries (Interviewee 1). The Model Forest area is very diverse, with a variety of forest ecosystems and different types of communities and organizations (CMFN 2014). It includes the provincial Crown Land, Prince Albert National Park, Candle Lake Provincial Park, several municipalities and several Aboriginal communities[5].
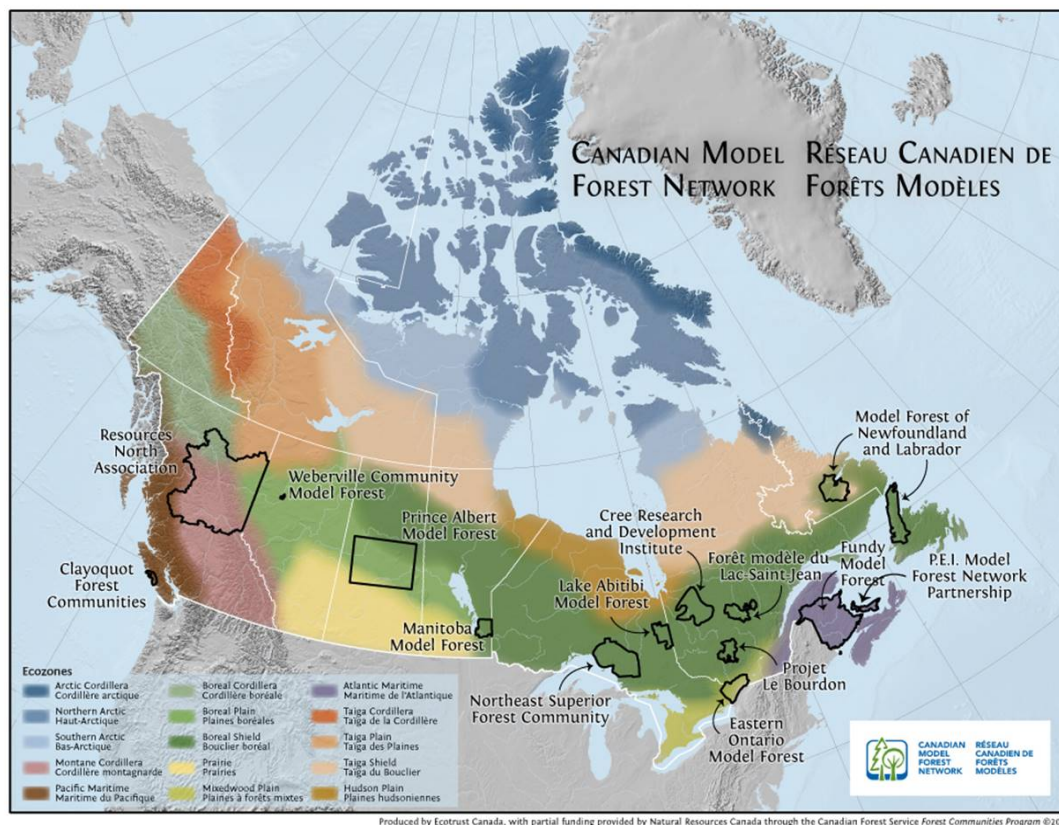
Figure 3.2: The Canadian Model Forest Network site locations, from Ecotrust Canada (2011)[6]

The Model Forest Program was originally a five-year initiative, but eventually covered three phases: Phase I (1992-1997), Phase II (1997-2002) and Phase III (2002-2007) (Bonnell et al. 2012). Each phase was associated with a particular set of funding (Table 3.3). In 2007, the

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[5] Until Weyerhaeuser left the PAMF board, the Model Forest area included Weyerhaeuser Canada's Forest Management License Agreement.

[6] This map showed the locations of the Model Forests during the final funding cycle, 2007-2014.

program's name changed to the Forest Communities Program and another phase was effectively introduced (Interviewee 1). A key difference was that prior to 2007, Model Forests, including PAMF, focused on sustainable forestry whereas after 2007, the focus was placed on sustaining communities. Each phase faced unique challenges and changes, which ultimately resulted in an adaptation and transformation of the program and a new way of thinking about Aboriginal involvement. It was no longer enough just to have a few Aboriginal representatives on the board; Aboriginal leadership, in the form of conceptualizing, initiating and managing some of the MF activities became a desired goal.

Figure 3.3: The Prince Albert Model Forest 2007-present from http://www.pamodelforest.sk.ca/map.html
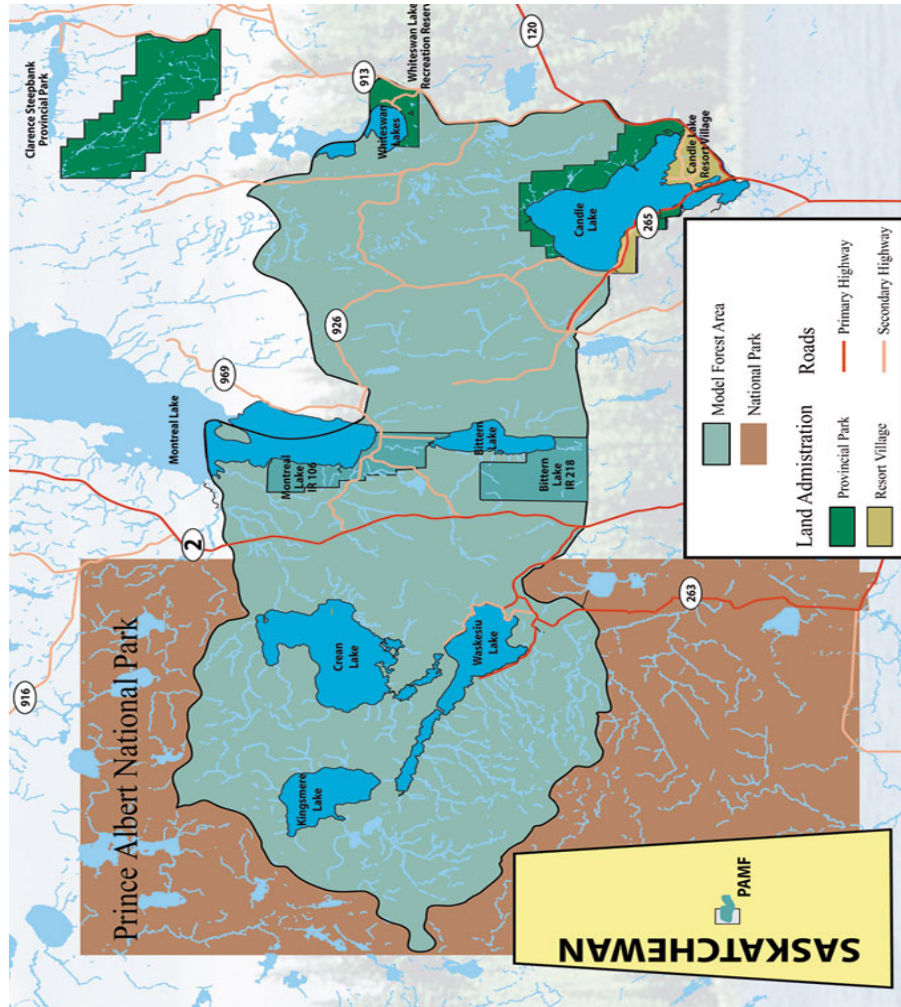
Figure 3.4: The Prince Albert Model Forest 1992-2007 from http://www.pamodelforest.sk.ca/map.html

Table 3.3: Core funding provided by NRCan to PAMF and the number of projects, programs and initiatives[7] by the PAMF, on an annual basis[8]

	Year	Core Budget from CFS ($)	Number of projects, programs and initiatives
Phase I	1992-1993	220,000	0
	1993-1994	1,000,000	7
	1994-1995	1,000,000	17
	1995-1996	1,000,000	9
	1996-1997	1,000,000	10
Phase II	1997-1998	500,000	4
	1998-1999	500,000	4
	1999-2000	500,000	16
	2000-2001	500,000	14
	2001-2002	500,000	14
Phase III	2002-2003	375,000	14
	2003-2004	375,000	26
	2004-2005	375,000	30
	2005-2006	375,000	29
	2006-2007	375,000	27
Phase IV[9]	2007-2008	325,000	18
	2008-2009	325,000	21
	2009-2010	325,000	21
	2010-2011	325,000	20
	2011-2012	325,000	18
	2012-2013	75,000	10

Initially, the concept of the Model Forest was to create Canada's largest outdoor research laboratory for studying and improving SFM (Interviewee 1). Each Model Forest had a similar overall vision of SFM: "to shift Canada's forest sectors from sustained yield to sustainable development" (Carrow 1999). Goals and objectives were set nationally so that those Model Forests could demonstrate SFM; however, the PAMF, among other model forests, had the ability to take those goals and objectives and adapt them to address ongoing challenges and changes within the region.

During the first phase, the PAMF set out to complete projects and research that helped solidify partnerships and good working relationships, establish areas of common interest, collect

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[7] The number of projects, programs and initiatives on an annual basis are an approximation, based on the collection of PAMF documents.
[8] Information provided from PAMF annual reports and documents.
[9] Phase IV was the Forest Communities Program.

partners from diverse backgrounds and organizations to work together towards common goals and research, and establish baseline data on the geographic area of the PAMF. This observation is supported through the research conducted by Bullock et al. (2015). The seven founding partners or board members of the PAMF represented diverse organizations and sectors, including the forest industry, provincial and federal government, First Nations organizations, and a First Nations community (Table 3.4). This inclusion of a broad spectrum of partners ensured that projects, programs and initiatives that were brought to the table represented and would meet interests and needs of multiple groups. It is important to note that there was First Nations involvement with the PAMF from the outset (Table 3.4). According to the CCFM (2006), forest practices, projects, programs and initiatives cannot be considered as an effective means of achieving SFM without fair and effective decision making: this is accomplished by the inclusion and representation of multiple and diverse partnerships.

Table 3.4: Board members of the Prince Albert Model Forest over time

Partners	Years
Association of Saskatchewan Forestry Professionals	2008-present
Beardy's and Okemasis First Nation	2008-present
Canadian Forest Service, Northern Forestry Centre/Canadian Forest Service*	1992-2007, 2007-2013 non voting observer
Canadian Institute of Forestry, Saskatchewan Section*	1992-present
City of Prince Albert	2007-2008
Conservation Learning Centre	2012-present
Federation of Saskatchewan Indian Nations*	1992-2010
First Nation Agricultural Council of Saskatchewan Inc.	2007-2008
First Nations Island Forest Management Inc.	2006-present
Independent Forest Operators of Saskatchewan	2008-2012

Lac La Ronge Indian Band	1997-present
Montreal Lake Cree Nation*	1992-2007
North Central Enterprise Region	2008-2012
Prince Albert Grand Council/Prince Albert Tribal Council	1992-present
Prince Albert National Park*	1992-present
Prince Albert Regional Economic Development Authority	2007-2008
Resort Village of Candle Lake	1997-present
Saskatchewan Department of Environment and Resource Management*	1992-2001
Saskatchewan Environment	2001-2007
Saskatchewan Forest Centre	2003-2008
Saskatchewan Forestry Association	2006-present
Saskatchewan Ministry of Energy and Resources (in 2012, became Saskatchewan Ministry of Economy)	2008-present
Saskatchewan Ministry of Environment	2007-present
Saskatchewan Research Council	2001-present
Sturgeon River Plains Bison Stewards	2008-present
Weyerhaeuser Saskatchewan Ltd.*	1992-2008

* Represents founding partners

Using the sizable core funding provided by the CFS, the PAMF was able to carry out, support and fund approximately 43 initiatives, programs and projects within the first phase (see Table 3.3). Those included: hosting technical workshops; establishing credible Research and Development (R&D) through a diversity of scientific research studies, furthering future partnerships, collaborations and public involvement through workshops; communication and outreach; and recognizing the importance and inclusion of social and economic components within SFM.

Phase I of the PAMF had several accomplishments: it created more of an awareness of forestry and forest-related activities; demonstrated the effectiveness of new and developing partnerships, which may not have existed previously; recognized the importance of public and Aboriginal involvement and consultation as means to create effective SFM; and created research beyond just ecological aspects and topics of SFM, such as timber harvesting, but in social and economic aspects as well (Personal communication with General Manager Susan Carr, July 11, 2013). Carrow (1999) believed that model forests provided the catalyst that facilitated the desired shift towards sustainability. With accomplishments in Phase 1 came deficiencies as well. The PAMF had a limited sphere of influence, leading to a lower number of desired partnerships (only one provincial entity and no municipal representation) and not enough communication, knowledge sharing and collaboration with other people and organizations outside of the PAMF and Model Forest Network. Moreover, during Phase I, there was almost no research on cultural and social aspects of SFM and the PAMF appeared to have limited influence on provincial forest policy (Carrow 1999). Finally, research was highly directed at scientific research, which could have influenced the amount of Aboriginal engagement during the phase, as many Aboriginal communities place a high value on social and cultural concerns and issues within their community and surrounding areas (Stevenson and Perreault 2008b).

The PAMF commenced Phase II with the vision:

> *To demonstrate SFM as a process to enhance protection of all values inherent in a healthy forest and to maintain the well-being of traditional, non-industrial and industrial users and communities (PAMF Annual Report 1997, provided by Interviewee 6).*

Although the goals of the PAMF remained the same, two of its objectives were modified to ensure that SFM would be promoted to help improve the credibility of resource management and to identify and apply local criteria and indicators (C&I). These local C&I were linked to national C&I developed by the Canadian Council of Forest Ministers and to the overall goals and objectives of the PAMF (Personal communication with PAMF General Manager, July 11, 2013). This change in vision and objectives indicates a probable commitment by the PAMF to address the need for cooperation and good working relationships to develop between various stakeholders and rights holders, setting up a system and framework to monitor and evaluate

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PAMF activities, increasing public and Aboriginal participation and including and protecting all values - ecological, economic, social and cultural.

In Phase II, although the core funding from the CFS had been cut in half, the number of PAMF activities grew to more than 50 (Table 3.3). This increase in activities could be attributed to an increase in recognition and knowledge of the PAMF, resulting in a desire to participate in the program, which helped to increase the number of partners for the PAMF. It could have also been due to the increase in collaborative projects with other organizations, communities and partners, as seen in the Integrated Resource Management Plan developed in 1997 (see Appendix C). During Phase II, along with the seven founding partners, four more partners joined the PAMF: one First Nations Community, one municipal community and two Provincial entities (Table 3.4). This increase in partnerships not only led to more diverse representation in the organization but also displayed the effectiveness of the model forest as a place for different groups to come together and voice their concerns, needs and ideas.

According to the General Manager, prior to Phase II, one aspect that may have been lacking was greater Aboriginal involvement and participation, and further collaboration with other Model Forests. The CMFN introduced a new strategy in the beginning of Phase II to ensure that there would be greater Aboriginal representation in each Model Forest: the National Strategic Initiative Enhanced Aboriginal Working Group (CMFN 2012). The late Gene Kimbley, an Aboriginal man, became the PAMF's representative on that committee; he would later become the only Aboriginal General Manager for the PAMF, during the next phase. Using this strategy allowed for three local projects to occur in the PAMF: Wapus Lake Elk reestablishment; strategic planning for the First Nations forest sector in Saskatchewan; and Prince Albert Grand Council's study of traditional knowledge on forestry issues (see Appendix C).

Phase III began with a change in the PAMF's vision: "We envision the PAMF as a landscape demonstrating the spirit of Sustainable Forest Management through the power of working together" (PAMF 2002-2003, page 2). The PAMF constructed its own objectives to meet National goals, which focused on developing SFM tools among its partners, extending its sphere of influence beyond its boundaries, creating long term economic and social opportunities, and furthering capacity development for its partners, participants and northern communities that support SFM; ensuring that information and knowledge of SFM and PAMF activities were accessible to the public; and enhancing the connection between MF activities and Canadian SFM

priorities. Making changes to the vision and constructing the objectives to meet both national and local goals demonstrated PAMF's commitment to the changing interpretation of SFM in Canada.

In Phase III, the PAMF increased its number of activities, especially those related to communication and knowledge sharing. Additionally, the PAMF demonstrated that effective partnerships could lead to more activities that could promote SFM, and established that if SFM was to become effective, Aboriginal participation and involvement must be considered. The PAMF began to redirect efforts to activities on the ground. There were twice the number of activities, projects, programs and initiatives with relatively the same core funding from the previous phase (Table 3.3). The types of activities that the PAMF conceptualized, supported and funded began to change during this phase. The MF began to encourage and support activities that would help develop capacity among youth by developing projects and programs designed to engage, incorporate, train and/or educate youth. For example, school science fairs and science nights were developed to introduce students to the PAMF, the partnerships that had made it possible (see Appendix C). Research in the PAMF began to place a greater emphasis on the impacts of climate change on the region and their effects across other MF's, as well as collaboration with MF's outside of Canada, who shared similar issues. Furthermore, the PAMF supported and helped fund activities that placed more of an emphasis on social and economic capacity development in communities, especially Aboriginal peoples and communities. Finally, probably one of the most important changes in the direction of activities was the increase in developing accessible SFM systems and tools for industry, organizations and communities to utilize. For example, developing SFM tools and having them accessible to various groups gave stakeholders and rights holders the ability to bridge the gap between SFM theory and practice (Hall and Bonnell 2004).

Unfortunately, the PAMF lost one of its founding partners during Phase III – the provincial ministry, Saskatchewan Environment. This partner had provided a key link to SFM provincial policy makers. The MF did, however, gain three new partners who were key players (First Nations Island Forest Management Inc., Saskatchewan Forest Centre and Saskatchewan Forestry Association) in the forestry and forest resource management sector in Saskatchewan (see Table 3.4). This phase left the PAMF with a consistent and diverse group of partners, dependable core funding from the CFS and activities that had been transformed to meet the evolving goals of government in applying the concept of SFM.

The final phase (IV) began with the "ending" of the Model Forest Program in Canada and its replacement by the Forest Communities Program (Bonnell et al. 2012; Bullock et al. 2015). This phase shifted away from the application of technical approaches to SFM and focused on identifying and developing forest-based economic and social development opportunities for local communities (Bonnell 2012; Bonnell et al. 2012). Although the program's name and goals had officially changed, the vision that the PAMF had implemented in the previous phase remained the same and the PAMF partners continued to call themselves and their activities PAMF.

This program transition, as well as other changes, led to the loss of three more founding partners (Table 3.4). The loss of FSIN's partnership with the PAMF was significant due to the organization's connection to multiple Aboriginal communities and its position politically and financially. Moreover, the PAMF experienced a high turnover of partners up until the 2012-2013 year. Seven partners came and went over the six-year period, with some becoming a partner for only one year. Along with a high turnover of partners, the program suffered from a declining interest or commitment from existing partners for specific projects (Interviewees 1 and 9). Furthermore, the PAMF began to receive a substantially lower amount of funding through the 2012-2013 and 2013-2014 years. All core funding was cut to the Canadian Model Forests in 2014 (CMFN 2014).

In the face of these challenges and changes, the remaining three founding partners (Canadian Institute of Forestry- Saskatchewan Chapter, Prince Albert Grand Council and Prince Albert National Park) remained leaders of the organization, and eight joined (Table 3.4). The largest decline of partnerships with the PAMF was from the forestry industry. Unfortunately during this phase, the forest industry was in crisis and the Model Forest began to broaden its partnership base (Bullock and Reed 2015). Despite the decline in partnerships with the forest industry, there remains representation of diverse values, ideas and partners at the PAMF table. One new partner who officially joined in 2008, the Beardy's and Okemasis First Nation, has participated in, supported, led and even helped to fund MF activities. The number of PAMF activities was consistent throughout the years in Phase IV, with the exception of the final year, which experienced a decline (Table 3.3). The winding down of several major projects for the PAMF could have contributed to this decline (Bullock and Reed 2015).

The types of PAMF activities during this phase were highly diverse and covered ecological, social, cultural and economic elements. Some activities combined different elements

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into one project, as seen in the Buffalo River Dene Nation Woodland Caribou Distribution Research (see Appendix C). SFM during this phase became more focused on creating a balance between sustaining forests and people, requiring attention to social inclusion, forest ecosystems, forest management systems and forest-based communities.

The PAMF continues to act as an open place for people, groups and organizations to come and discuss issues, develop and identify SFM initiatives and seeks a range of expertise regionally, nationally and internationally. Nationally and internationally, this particular model forest is recognized by its strong Aboriginal presence and participation (CMFN 2014; PAMF 2014; Bullock and Reed 2015; Bullock et al. 2015; Hvenegaard et al. 2015). A group of Aboriginal communities and organizations remains active with the PAMF to ensure that funds and activities reflect their interests. By providing a neutral forum for discussing and implementing of ideas, projects, programs and initiatives supporting SFM have been established (PAMF 2014). The Model Forest applies the principles of inclusiveness, transparency, integrity, fairness, effective governance, adaptive management and long-term sustainability in an effort to support partnerships, healthy ecosystems, public involvement, and benefits to society (PAMF 2014). Projects, initiatives and programs that have come from the PAMF include, but are not limited to, community outreach, building community capacity, urban forest management planning and wildlife protection and management (CMFN 2014). Despite the federal budget cuts to the Model Forests in 2014, the PAMF board members and organizations involved with the PAMF are confident that they will be able to adapt to the changes and remain an effective and resilient presence in the SFM community[10].

3.7   Beardy's and Okemasis First Nation

BOFN reserve, or Beardy's as it more commonly referred to by its community members, is a Treaty 6 Nation (Figure 3.5) (BOFN 2013a). The reserve is located approximately 65 km north of Saskatoon, and is situated 10km east of Duck Lake. Fort Carleton and Batoche are two historic sites that are situated within close distance to this reserve (BOFN 2013a**).** The actual land base is 20,166 hectares and includes land parcels in a number of other Saskatchewan locations, such as the Rural Municipalities of Big Quill, Duck Lake, Rosthern, Blaine Lake and

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[10] The PAMF's confidence is supported by the fact that they presently have a larger operating budget than in years when they received federal core funding.

Leask (BOFN 2013b**).** Beardy's has just over 3,000 band members, with approximately 65% living off reserve and 35% living on reserve (BOFN 2014). According to the 2011 Census, there were 1,322 members living on the reserve, which a 13.2% increase since the previous census in 2006 (Statistics Canada 2013). Beardy's continues to have a young population, with a median age of 21 within the last two census collections (2006 and 2011)(Stats Canada 2007, 2013). BOFN is a Willow Cree Nation, with deep roots and knowledge in culture and traditions (BOFN 2013a). Celebrations include feasts, Pow Wows, Round and Sun dances and sweat lodges. Traditional activities are numerous and diverse and include, but are not limited to; the collection of medicinal plants and berries; hunting of deer, moose and coyote; trapping; and fishing of whitefish, walleye and white sucker. Many of these activities occur off reserve. Traditional Knowledge (TK) and traditional land use locations are often a closely guarded secret within families. The Cree people refer to themselves as Nahiyawak and were first documented in history during the Jesuit visits to North America around the 1640's (BOFN 2013a).
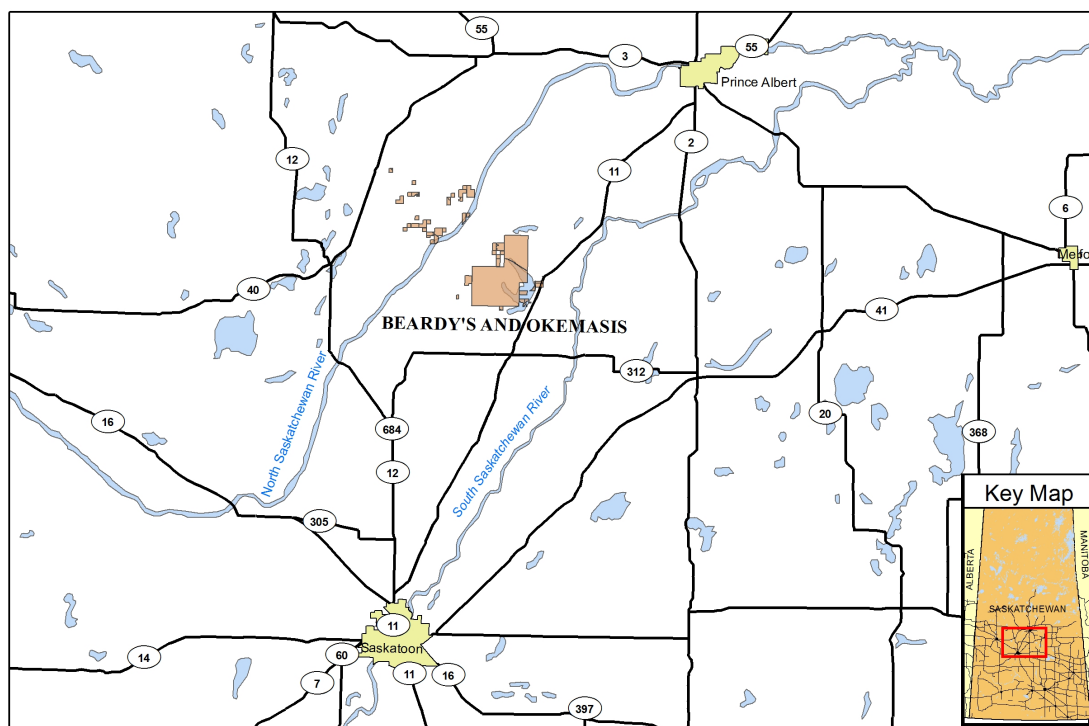
Figure 3.5: Beardy's and Okemasis First Nation and Duck Lake. Source: Mark Johnston, Senior Research Scientist, Environmental Division, Saskatchewan Research Council

The Willow Cree, or Nipisinkopawiyiniw, are woodland peoples, with origins from Northern Ontario, close to the James Bay area. The origins of the people can be traced back to

George Sutherland, a European, who was employed in the James Bay area and whose kin included Beardy, Chief Cutnose and his headman Okemasis, and One Arrow. When Treaty 6 was signed on August 28th, 1876 at a special location chosen by Chief Beardy, Cutnose and One Arrow, One Arrow was given land and designated the Chief of one reserve, while two reserves (Beardy's and Okemasis) were combined onto one piece of land. Although Cutnose was the Chief, Okemasis was designated the other Chief of the First Nation, because the signatories representing the Dominion of Canada (on behalf on the English monarchy) felt that Cutnose was not an appropriate name for a Chief of a First Nation (Communication by an Elder).

Unfortunately, Beardy's and the people within the community have had a difficult and challenging past. The reserve and Chief Beardy were accused of starting and taking part in the Riel Rebellion, which had begun in March of 1885 in nearby Batoche (BOFN 2013a). Although the band itself was never formally charged with starting or taking part in the rebellion, all rifles were given up, the band's Treaty rights were taken away and Chief Beardy was stripped of his leadership. All Chief and Council positions were abolished and no elections were held until 1936. The reserve was closely monitored and controlled by the Crown-appointed Indian Agent during that time period. Also, during this time, the residential schooling system in Canada had begun. The last residential school was closed in 1996. Many of Beardy's mid-age to older members are survivors and victims of the residential schooling system (BOFN 2013a and b). The unfortunate and horrific events that Beardy's had experienced have not left the community and its members unscathed (Field notes, December 2012). There has been a change of attitudes towards outsiders leading to a wariness by band members of outside people. A change in culture also has lead to the potential loss of certain TK, traditional land use and ceremonies (BOFN 2013a). Moreover, the physical, emotional and psychological issues stemming from becoming confined and controlled by Colonial authorities have left their mark on the community (BOFN 2013a; Field notes, December 2012).

Despite the past challenges and changes that have affected the community, Beardy's is actively engaged in economic development, education and training, inside and outside of the reserve (BOFN 2014). They describe themselves as a progressive and adaptive community, constantly seeking to establish partnerships, communications and networking with outside people and organizations. Today, the Elders and many of Beardy's members not only attempt to advance and keep up with the changes facing the community but strive to preserve sacred areas

and ensure that the knowledge of their "Indian ways" is preserved and passed on to future generations (BOFN 2013a; Interviewee 22).

3.8   Framework application

To evaluate the effectiveness of the PAMF activities (projects and programs) in achieving Aboriginal engagement for the ultimate goal of SFM, I created a criteria and indicator framework (Table 3.5). Unless an activity is already specified as a project or program by the PAMF, a project is an activity that places a focus on a community and may have a limited number of goals, whereas a program is an activity that may encompass multiple communities or partners and have multiple goals and objectives. For the purposes of this research, a criterion is defined as an essential element that must be present to achieve a goal and an indicator is a direct or indirect sign or signal that can be used to monitor criteria (Sherry et al. 2005). Due to the scope of this research, only programs and projects that met Criterion 1 would be further analyzed using the framework.

Table 3.5: Criteria and Indicator framework for assessing Prince Albert Model Forest projects, programs and initiatives.

Criteria	Indicator
Participation of Aboriginal person(s) or Aboriginal community/communities	• Activity Leaders are Aboriginal • Community/communities involved include those that are Aboriginal • Projects/program has a focus on an Aboriginal community or communities
Sustaining Ecosystem Health	• Commitment to sustainability as one of the activity's underlying principles • Maintenance of ecosystem and biological diversity • Protection of water sources and riparian areas • Respectful inclusion of First Nations knowledge in ecosystem protection (TK) • Protection of ecosystem-based livelihoods
Economic Sustainability	• Builds or enhances community capacity (training and education to promote local economic development) • Ensures diversity of employment opportunities • Provides access to employment opportunities

Social Sustainability	• Provides training and educational opportunities • Contributes to community development (infrastructure/facilities) • Promotes cultural revitalization • Provides education and training opportunities for the youth
Fair Decision Making	• Inclusive representation • Cross cultural learning • Informed decision making • Equitable decision making • Meaningful involvement (multiple leaders or activity partners) • Respectful inclusion of Aboriginal knowledge (TK)
Effective Decision Making	• Adequate capacity to take on project or program (time, interests, funds and ensure of continuity) • Satisfaction with program/project • Accountability of program/project participants and leaders is clear; program/project partnership's effectiveness is reported publically • Transparency of the program/project-Availability of project/program information to the public; openness by the PAMF regarding the activity

To examine how BOFN's partnership with the PAMF has or has not affected the community's adaptive capacity, I used a variety of sources, including interviews, project and program review, community participation and observations, my key contact within the community, and literature review. In order to examine the community's adaptive capacity from a holistic point of view, I reviewed all the projects/programs that Beardy's has been involved in and how that involvement has enhanced the community's adaptive capacity. In addition to that, I conducted an adaptive capacity assessment that relied on established academic literature. The purpose of this assessment is to focus on how Beardy's partnership with the PAMF has enhanced the community's adaptive capacity, specifically what asstes; analyze what requirements the community might need for future engagement; and, how management within the community

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(e.g. band office, Chief and Council) can further enhance adaptive capacity through the partnership.

The approach I used to conduct an adaptive capacity assessment of the BOFN was adapted from Williamson and Isaac (2013). There are three components for the assessment: Description, Analysis and Management. For each component, I used these different approaches:

1) Describing current adaptive capacity using assets determined by the community to be important

2) Analyzing the requirements of adaptive capacity, by focusing on values, values at risk and how the community deals with changes (ecological, economic, social and cultural)

3) Managing adaptive capacity by examining investments (such as time and money) made by governments and institutions

The analytical framework and the first section of the interview questions addressed the assets of the community, while only the semi-structured interview questions (sections II, III and IV of Appendix B) addressed the management of adaptive capacity (Table 5.3).

The description helped to me examine the resources that make adaptation possible. Those conditions, termed assets or capabilities, focus on human, social, economic/financial, cultural, political/institutional and built capitals. These assets have the ability to influence negatively or positivity on a community's ability to adapt to ecological, social and economic changes.

The analysis strategy allowed for the consideration of the requirements for adaptive capacity of the community. A community's examination of their own requirements for adaptive capacity involves an examination of the community's social, ecological and economic values that may be at risk from change, identifying which conditions may be limiting or helping to develop their capacity, and planning desired outcomes for future generations.

Finally, the management strategy reviewed investments that the community has made and can make to enhance its adaptive capacity, for example by increasing certain assets. Management through the development of new approaches to governance and institutions or the modification of existing ones and establishing new mechanisms for collaboration and the creation of partnerships may help to encourage innovation, learning and adaptive management.

Referring to the adaptive capacity framework in Table 3.5, indicators were selected for each capital. Community members helped to chose indicators they deemed relevant for each type of capital. With references to literature and interviews, the key contact and I then selected variables

that could be used to assess those indicators, either quantitatively or qualitatively. I then reflected on the overall effect of those variables and assigned a positive, negative or neutral rating of the variables on that particular capacity.

The interview questions and framework were designed and constructed through community input and participation and engagement activities with the BOFN. The participants themselves, as well as a key contact within the band office, helped determined meaningful and vital assets. Finally, BOFN became a member of the PAMF in 2008, hence using Census data from 2006 and 2011 could allow for a comparison of variables before and after membership. This comparison allowed for some evaluation of the possible effect the participation with the PAMF has had on the community's adaptive capacity. By developing a framework for Aboriginal engagement and adaptive capacity, this thesis addressed objectives 1 and 2.

CHAPTER 4: ABORIGINAL ENGAGEMENT IN THE PAMF

4.1   Introduction

This chapter focuses on objective 3 by assessing the initiatives of the PAMF to engage Aboriginal communities or peoples in its programs, projects and/or board membership. To make this assessment, I analyzed PAMF documents up until the 2012/2013-year and conducted interviews to compare activities (projects and programs) to the C&I framework (Table 3.5). Based on my initial assessment, I selected six activities for further analysis. These six were selected because I wanted to demonstrate the variety of the PAMF activities and reveal what characteristics may lead to activities that were seen as more successful, somewhat successful and less successful.

4.2   C&I framework application

To examine the success of PAMF activities involving BOFN, all activities of the Model Forest from its inception were placed into a C&I framework (see Table 3.5). These were then viewed against six criteria addressing social dimensions of sustainability. Only those activities that met criterion 1 (Participation of Aboriginal person(s) or Aboriginal community/communities) were assessed using the framework. A total of 28 activities met criterion one and were assessed using the framework. These 28 activities were then placed into one of five categories: met all criteria, met Criterion 1 in addition to four sustainability criteria, met Criterion 1 in addition to three sustainability criteria, met Criterion 1 in addition to two sustainability criteria or met only criterion 1 (Table 4.1). There were no projects and programs that met Criterion 1 and only 1 additional sustainability criteria.

Table 4.1: The Number of Programs and Projects within each "Criteria and Indicators" Category

Category	Number
Met all six Criteria♦	4
Met Criterion 1 in addition to four sustainability criteria	9
Met Criterion 1 in addition to three sustainability criteria	5
Met Criterion 1 in addition to two sustainability criteria	6
Met only Criterion 1	4

♦The Criteria were as follows: 1.Participation of Aboriginal person(s) or Aboriginal community/communities; 2. Sustaining Ecosystem Health; 3.Economic Sustainability; 4.Social Sustainability; 5.Fair Decision Making; and 6.Effective Decision making

The majority of the projects and programs fully met five of the sustainability criteria (see Table 4.1). Sustaining ecosystem heath and social sustainability were more frequently met than economic sustainability. Furthermore, fair decision-making was met as frequently as effective decision-making. Since the Model Forest is designed to act as a transparent and accountable platform for multiple stakeholders and rights holders to work together and create partnerships, while ensuring adequate capacity to commence the project or program, the resulting activities should aim to meet both fair and effective decision making criterion. Effective decision-making was sometimes conditionally met or not met due to issues surrounding the capacity to carry on a project or program. A summary table, shown below, displays the summary of outcomes for activities that: met all the criteria; those that met Criterion 1 in addition to both four and three sustainability criteria; those that met Criterion 1 in addition two sustainability criteria; and, those that met only criterion 1. Those programs and projects that met Criterion 1 in addition to four and three sustainability criteria were grouped together in the table due to the similarities in the criteria that were met and/or conditionally met. I then discuss the assessment of six different activities: one outstanding, four that were successful but could use improvements and one that fell short.

Table 4.2: Summary table for the each category of PAMF activities, 1994-present*

Category	Summary of outcomes
Met all criteria	- All sustainability criteria were met - All projects/programs place an emphasis or were dependent on Aboriginal inclusion, involvement and participation - Inclusive representation was a goal - Inclusion of TK was a priority - Common theme of satisfaction with the activities - Most had a lengthy continuity - High interest for communities to take part in and continue on with activity - Some activities tied into others (redirection, funds or collaboration) - Multiple partners/leaders from various organizations and communities, which helped foster new relationships or partnerships - Previously existing relationships/partnerships could aid in continuity of activity
Met Criterion 1 in addition to four and three sustainability criteria	- Most projects/programs met criteria 2, 4 and 6 (sustaining ecosystem health, social sustainability and effective decision making) - All projects/programs met criterion 5 (fair decision making) - Although projects/programs fully met four and three sustainability criteria, they produced or could have produced secondary effects on the remaining sustainability criteria - All included, involved and/or promoted traditional knowledge (TK) - Many community-based, which encouraged inclusive representation - Common theme of satisfaction with activity - Multiple partners/leaders from diverse organizations and communities, which helped to foster new relationships, communication and future collaboration - Adequate capacity to take and carry on activity (time, funds, interest) ○ Only 1 project with unknown continuity due to recent start-up of project - Capacity to carry on project dependent on ability and drive of project partner(s)
	- Main focus on 2 sustainability criteria, such as sustaining ecosystem health and effective decision making, but project/program outcomes could have secondary effects

Met Criterion 1 in addition to two sustainability criteria	- on other sustainability criteria
	- Inclusion, use or promotion of traditional knowledge (TK) may not be a priority for some projects/programs
	- Varying adequate capacity to take and carry on activity
	   o Recent start-up of project may result in unknown continuity
	   o Declining interest or change in partner commitment may stall, redirect or affect continuity of activity
	   o Downturn of industry
	   o Activity must adapt to changes to ensure continuity
	- Various partners/leaders from different organizations or communities
	   o Number of partnerships and level of interest may increase as activity was ongoing
	   o Loss of key leaders or partners leads to stall or redirection in activity
	- Some key and vital groups were not as or not involved with activity

Met only criterion 1	- Only criterion 1 was met
	- There was enough interest and capacity to begin activity or bring to the table but not enough to carry on program/project
	   o Temporary gaps in representation
	   o Lack of drive to participate
	   o Turnover in activity's partners and leaders
	   o Lack of funds
	   o Lack of key people to get activity off the ground
	- PAMF fully supported activity but had to discontinue involvement
	- Activity may have not met initial goals or objectives but could have evolved into something else
	- Conditions may not have been favorable to start up activity at that time; however, possibility to start up at a future time or funding diverted to another activity

* See Appendix D for more detail

Met All Criteria: Saskatchewan Resource Rangers (SRR) (2006-present)

     This program, which initially began as a Junior Ranger camps pilot project (see Appendix C), is an exemplary program that was supported, funded and facilitated by the PAMF. It is a program that not only places an emphasis on youth from Aboriginal communities but within the

more recent years, has been led by Aboriginal leaders. SRR demonstrates a commitment to sustainability by focusing on education and training that help produce graduates who can contribute to protecting and sustaining ecosystem health for current and future generations. One of the most important components of this program is the inclusion of Aboriginal knowledge in ecosystem protection, in the form of Traditional Knowledge (TK). Elders are respectfully included in some of the educational and training opportunities, which fulfills the program's objective of combining and using multiple worldviews in resource-related jobs and management.

SRR meets the other two sustainability criteria through its training and educational opportunities and promotion of cultural revitalization. The program aims to train, educate and build capacity among the youth, in forestry, forest-related activities and resource management. This helps to provide graduates of the program with access to a variety of career paths and employment opportunities. As noted previously, Elder participation and TK inclusion is identified and recognized as vital components to the program, which are important in the promotion of cultural revitalization. Cultural revitalization can be thought of as a process that recognizes and fosters cultural identity that may be at risk of vanishing by reviving important elements or aspects of that culture (Hoff 1998). Finally, this program contributed to the capacity of participating communities by providing youth with skills and knowledge that are relevant to career and employment opportunities.

Along with meeting the sustainability criteria, SRR fulfills the two decision-making criteria. Many different communities, as well as coordinators and partners, are involved with the SRR program. As the years progressed, more and more communities began to hear about the program and expressed interest in participating. Those participating communities have access to program coordinators and partners for advice and guidance in program decisions. Decisions about the types of activities in which communities participate are decided by each community and can be tailored to fit that community's wants and needs. Although the PAMF had originally provided funding for communities to participate in the program, due to budget cuts, communities that wish to participate now must provide their own funds and must also come up with their own coordinators for the community. That being said, interest and participation in the program has remained high since the program was first established. Moreover, satisfaction with the program has grown, as demonstrated by surveys given out to the communities after graduation. To date, there have been more then 400 graduates of the SRR (Interviewee 9). Most graduates and

coordinators would agree the best program outcome is that many youth who participate in the program go on to complete further education and training within the forest/natural resources sector (Interviewees 3 and 9). Overall, SRR provides essential education and training for youth and ensures that communities that participate in the program form long-term relationships and communication networks with other communities, coordinators and organizations.

Met two sustainability criteria: Collaboration with Vilhelmina Model Forest, Sweden (2004-present)

This Swedish partnership has been ongoing since 2004 and focuses on a knowledge exchange of information and communication the Aboriginal groups in the two countries: Sami (Sweden) and First Nations (PAMF). The program targets developing, learning about and comparing ecological and cultural issues facing these two different groups, with the goal of protecting ecosystem-based livelihood and creating social sustainability. Two different knowledge systems are included. A specific component of the program, *Learning from our Elders,* focuses on training aboriginal youth to gain traditional knowledge from elders about wildlife species within the two Model Forests, in the face of climate change. Both Model Forest communities are provided with educational opportunities to determine and discuss land-use patterns, management plans and political systems within the two communities. This program is a collaborative learning process, which has the ability to contribute to community development. The exchange of individuals between the two Model Forests has allowed for this community development. Several First Nations and Sami individuals have taken part in exchange visits.

Granted that economic sustainability is not a priority for this program, it could provide the opportunity for the development of skills that could be used to foster economic development. For example, the identification of threats from climate change, such as an increase in fires or diseases, could arouse interests in building community capacity in affected communities to deal with these changes.

This program is a good example of the inclusion, networking and partnership of organizations representing various backgrounds and organizations, not just regionally but internationally as well. A transfer and sharing of knowledge from two different Aboriginal knowledge systems is a priority of this program. Both MFs are and will continue to be in close contact with one another and those involved contribute and provide input into program activities

and decisions. In fact, the PAMF was instrumental for the start-up of the VMF (Interviewee 1). Finally, program and project leaders have continued to develop initiatives and activities throughout the years and all program information, especially for the *Learning from our Elders,* is made available to both program participants and the general public.

Met two criteria: Sturgeon River Plains Bison Stewardship (SRPBS) (2006-present)

The involvement of and communication with First Nations communities are essential for the overall success of this program. The SRPBS focuses on finding a way to allow for the co-existence of free ranging bison and agricultural producers within the area of Prince Albert National Park. Management of this particular species (plains bison) allows farmers, ranchers and First Nations to maintain ecosystem-based livelihoods and to respect Treaty Rights (hunting of bison). Although the program only deals with a specific species – bison – it helps protect other species as well. SRPBS is a local governance model that provides education about the species and human-wildlife conflicts, as well as training opportunities for bison management. The main priority of this program is to allow farmers/ranchers to co-exist with the species on the landscape and for First Nations to hunt bison, while using a management system that respectfully includes TK. SRPBS has provided a model for wildlife-human conflicts, which is currently being applied to other areas in Canada and has the potential to be applied elsewhere in the world.

Economic sustainability is not a main objective for this program. It does allow for some economic development, however, by training local individuals to manage the program, and ensuring continuity of employment opportunities (ranching and farming). However, economic development is limited to one specific area where the species lives and does not really contribute to the diversity of employment opportunities. In order to meet this criterion, this program would have to expand and include other species; however, it does not have the capacity or interest to do so (Interviewee 8).

SRPBS acknowledges the importance of fair, informed and equal communication and input for bison management, including the use of TK and scientific data. There are many different partners involved with the program, including industry, government, academia, and rural and Aboriginal communities, which facilitates stronger communication among those groups. Program leaders continue to work with affected communities, especially Aboriginal communities, oftentimes visiting the communities themselves to ensure First Nations input into

the management plan. This program has existed since 2006 and is expected to continue as human-wildlife conflicts are expected to persist Moreover, this program has become self-sufficient; it no longer needs funds from the PAMF to continue and now contributes back to the PAMF through participation in other activities.

Met one sustainability criterion- Integrated Resource Management Plan (IRMP) (1997-2007)

The IRMP is a management plan developed by the PAMF in 1997 to function as a management tool for its resources within the area. Project partners for the IRMP included those who are Aboriginal and represent Aboriginal communities, such as Montreal Lake Cree Nation (MLCN) and the Prince Albert Grand Council (PAGC). The Plan emphasizes sustaining ecosystem health and demonstrates a commitment to social and economic benefits as well as ecological ones. Effective long-term and sustainable use of the forest and forest resources was identified as the primary goal for this project. This project also helped maintain biological and ecosystem diversity, protect water sources and riparian areas and livelihoods dependent on ecosystem maintenance. The management plan developed by the PAMF strives to protect a wide range of forest uses, activities and interests. Decisions taken are based on ecosystem health and sustainability within the PAMF region. This plan recognized the importance of including traditional land uses and supported environmentally sustainable land and resource uses.

This project did not fully meet the other two criteria, economic and social sustainability. While the plan supported land uses that were economically and environmentally sustainable, it did not provide the opportunities such as training or access to employment opportunities. Social sustainability from this project is conditional, meaning it fulfilled some indicators but not all. It planned for continuous education about sustainable land and resource use opportunities within the region for project participants and the public. Moreover, it gave participants the opportunity to learn more about PAMF activities. Engagement of the public and Aboriginal peoples was an objective for this project; therefore, community development required local participation. The project recognized and promoted the inclusion of TK in the management plan and the project leaders sought Aboriginal involvement. Land claim issues, colonial legacies and mistrust in other partners involved in the IRMP (Industry and government), however, led to lower participation and involvement than anticipated (Interviewees 1 and 6).

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The IRM plan project sought to meet the two decision-making criteria: Fair and Effective decision-making. Public consultations were open to the public, while raising awareness of the PAMF. Multiple leaders and partners in Saskatchewan, representing various organizations and communities, were involved with this project, which may have helped to encourage and build relationships. These consultations and partnerships would have helped to give the PAMF a direction on how to put a plan together to most effectively and fairly manage the natural resources and their uses within the PAMF region. Although there may not have been as much participation from Aboriginal communities as initially intended (besides those on the PAMF board), there was an attempt to include the input from Aboriginal communities.

This project, which occurred within one of the earlier phases for the PAMF (Phase II), is one of the first examples at an attempt of effective decision-making occurring. There was ample interest, time and funds to begin and carry out this project. Multiple methods of communication for public input and project information were made available, such as radio, posters, newsletters and public meetings. Supporting documents and draft plans were also made available. The IRM plan was modified twice in 2001 and in 2006-07 to meet emerging challenges. Moreover, procedures within the plan to monitor its implementation and effectiveness of the partnerships were established. These efforts show a dedication to ensure continuity of the project while seeking to meet the goals of SFM in the midst of environmental, social and economic changes. According to the review of the IRMP in 2001, the majority of commitments and actions were upheld by the partners and initiating agencies (PAMF 2001). Commitments included, but were not limited to, providing opportunities for the public to give input on or learn about PAMF activities, expanding the inventory of endangered plants and animals in the region and assisting in providing technical and management opportunities and training for Aboriginal Peoples. The IRMP review completed in 2006/2007 showed that the original working groups had been dissolved; however, new groups were formed to help carry out new PAMF activities and new partners had joined the board, which replaced those groups (PAMF 2001). In addition, activities identified in the original IRM plan guided current activities. These reviews demonstrate the value and characteristics of good partnerships to foster SFM activities on the ground. This project became a starting point for many of the future PAMF activities that occurred in the subsequent years.

Met one sustainability criterion: Agroforestry Inventory/Industry Development (2007-2010)

The role of the PAMF for this early Phase IV project was to act as 'chief coordinator' to link development interests and existing and future wood supplies to a business model, as well as coordinate an agroforestry inventory in the region. This initiative was also seeking to deliver new forest-based employment and opportunities in the more rural and Aboriginal communities. One of the project partners was Aboriginal and the project placed an emphasis on Aboriginal participation and involvement.

This project was focused on building economic capacity. One of the economic priorities for this project was to develop a community-based model that would bring together the local development interests and parties to help identify possible regional benefits. A business toolkit developed by the PAMF and the University of Saskatchewan was created to help guide those involved through the start up and business operation of forestry plantations. Training to use this toolkit was scheduled; however, this did not occur, possibly due to a decline in interest and a loss of the project champion and leader. The reason why this project did fulfill the economic sustainability criteria, despite not accomplishing its initial goals, was the ability to adapt the project in another direction. An Aboriginal community, BOFN, became involved in this project during 2010-2011 and helped redirect the project's partners and funds into a new project, the Resource Ranger Community Garden in the BOFN. The funding that was set for the toolkit training was put towards training and use to develop an agroforestry project in the community, in the form of a self-sustaining and self-managed community garden (see Chapter 5).

The concept surrounding this project was to develop sustainable forestry plantations. Due to the main focus on economic sustainability and the redirection of the project, the other two sustainability criteria were conditionally met. One of the first objectives of this project was to re-establish forest cover, which could have brought environmental benefits to the region, such as allowing new and/or previous flora and fauna to move into the region, decreasing the effects of erosion, etc. As the project progressed, there was more of a consideration given to Aboriginal afforestation techniques and concepts, such as TK. Although a more extensive forestry plantation was not established, a smaller agroforestry project was initiated in the BOFN community, which does use environmentally directed sustainable techniques. In terms of social sustainability, the objective to develop a forestry plantation structured as a community-based social enterprise was

met, as a result of the participation by BOFN. The development of a locally-managed project helped in the community's development of infrastructure and facilities. For example, trees planted in the garden can eventually be used as lumber for house construction in the community. Moreover, funding provided educational benefits for Beardy's youth (see Chapter 5).

This project demonstrated fair decision making as all communities participating in PAMF were given the opportunity to participate in the project. During the course of the project, new relationships were struck between different project partners and participants. Those communities and participants that expressed interest in participating could have developed a plan or project that would best suit their community. Initially, it appears that Aboriginal participation was not a high priority; however, as the project progressed, Aboriginal involvement became more of a focus. Once the focus shifted to more Aboriginal involvement, considerable research was gathered on Aboriginal afforestation. This could allow for a knowledge transfer and sharing to occur between current forest and afforestation techniques and Aboriginal afforestation (TK).

I assessed that the criterion of effective decision making was conditionally met because although communities had an equal opportunity and displayed initial interest in developing an initiative through the project, only one community followed through. Moreover, the loss of the project champion before the completion of the project led to initial goals and objectives not being met and a redirection of the project. Project leaders made information available to the public. The project within the BOFN will continue into the future because new funds, increased interest, and new partnerships have been generated with the community. The eventual involvement of Aboriginal peoples and communities led to the success of the project. The strong joint commitment of the BOFN and the PAMF will allow for the project to continue.

Only met Criterion 1: Amisk-Atik-Building First Nation Resource Management Board and Training Local First Nations for Forest Management Operations and Planning for Amisk-Atik Projects (Project 1 directly relates to project 2) (2007-2010)

This Phase IV project was initiated by an Aboriginally-owned company and focused on involving Aboriginal communities for three years. Unfortunately, this project was unable to meet any of the other criteria because it never started any specific activities. This project focused on skill development and local governance of forest resources; therefore, it could have impacted economic and social sustainability. Its goal was to implement a forest management model for

First Nations to promote local development and ensure access to employment opportunities. The long-term goal was to train local First Nations to participate in multiple aspects of forest management and training.

Initially, there was meaningful involvement and adequate interest in the project; however, project leaders were not able to bring together different groups, representing different communities and organizations. This project did not continue. There was a downturn in the forestry industry around that time and the coordinating agency for the project was disbanded. As a result, the PAMF discontinued its involvement with the project and the project after two years.

Lessons Learned

There are lessons that can be learned from the activities that fell short of meeting criteria related to SFM. First of all, projects and programs that rely on one champion can suffer from the loss of that champion. Loss of such a person may result in their becoming stalled, redirected or concluded early, without fulfilling goals and objectives (e.g. Aboriginal Afforestation, see Appendix D). Also, multiple partners and partnerships do not necessarily result in effective programs or programs. Partners and participants should make commitments to furthering the project or program in the future. Moreover, previously established partnerships and relationships could be a key to successful projects and programs. In addition, local conditions and community capacity can impact project startup. These include, but are not limited to: land claim disputes, industry downturn, or funding availability. Limited financial and human resources can be a major obstacle for First Nations participation and may not allow many communities to participate in various activities and initiatives proposed to them. However, First Nations participation and then subsequent withdrawal in certain MF activities can also reflect a community political strategy, in that once those activities or initiatives no longer further the community's economic or political interests, that community may choose to withdrawal and focus its resources on other initiatives. In order to be seen as successful, by either the public or project partners, a program or project does not necessarily have to meet all sustainability criteria to have positive outcomes and achievements. Finally, the PAMF relies on Aboriginal people, representatives, communities and organizations to bring their project and program interests, wants, and needs to the table in order to have the most effective and positive project and program accomplishments and outcomes. However, not all PAMF activities are expected to succeed.

Those activities that may not be as successful as others are still useful for the organization to examine what may have gone wrong or what needs improvement.

4.3 Assessment of Aboriginal involvement by Interviewees

Interviews with current PAMF board members and past project participants were conducted to examine if and how the PAMF was meeting goals associated with Aboriginal inclusion, involvement and participation.

All participants on the PAMF board do so on a volunteer basis and are not compensated for their attendance at meetings or for their board membership. This demonstrates some level of commitment to the PAMF. Seven out of ten participants had been actively involved with the PAMF for more than 5 years; two participants had been involved since Phase I ('92-'97). The ability to retain a core group of dedicated people to manage this organization is important for a number of reasons. Pre-existing relationships and partnerships between members can allow for quicker development and implementation of activities due to connections; principles, goals and objectives of the PAMF are already known by members; and, members are sometimes recognized by other outside organizations. For example, the current General Manager's former position with Parks Canada has led to a positive and effective partnership with that organization. Unfortunately, having a core group of members may limit the range of ideas brought to the table. Members may be associating with only particular organizations, thereby influencing the diversity of ideas and interests considered. Moreover, organizations or communities seeking membership may be daunted by the already established relationships or partnerships, which can influence whether newer people feel included at the table. For example, I observed a few times that a First Nations representative from a northern community rarely spoke at meetings but was open to speak one-on-one with me during lunch break (Field notes, January 2013). One interviewee suggested holding meetings outside of the regular board table (Saskatchewan Forest Centre), in or near member communities. The PAMF has taken that suggestion and has held meetings in other communities, such as the BOFN.

Diversity in the PAMF

According to all participants, the PAMF does its best to ensure that diversity, in the form of a diverse set of values, interests and involved parties, are represented both on the PAMF board

and in PAMF activities. Diversity at the PAMF board meetings does vary from time to time, as it becomes difficult for board members and interested parties to attend meetings during winter months, to get people to come to one location on one day for the meeting and to ensure that people are slotted in the agenda. However, meetings provide ample time for open discussion.

According to Interviewee 1, the PAMF provides a safe place for discussion among people with different backgrounds, which may not exist anywhere else in the province. Although funding is now limited, the current General Manager actively seeks out diverse participation in PAMF activities and tries to ensure many different interests and values are met. In 2012-2013 year, there were 14 board members (see Table 3.2) representing a diverse range of organizations and parties. One participant expressed concern that there may be lack of representation by the forest industry. The board acknowledges this lack of representation from industry and the General Manager openly encourages industry involvement and partnership, in either board membership, PAMF activities or both (Interviewee 1). Furthermore, PAMF activities and project partners demonstrate diversity as well, with project partners representing industry, NGO's, government, rural and Aboriginal communities and academia and activities that meet some or all of social, cultural, economic and ecological interests. This finding is in stark contrast to findings by Sinclair and Smith (1999), where they discovered that the Model Forest boards might have been compromised since they did not involve a wide range of interests (see also Hvenegaard et al. 2015).

Aboriginal engagement in the PAMF

All interviewees stated that the PAMF aims to encourage and foster an inclusive atmosphere and participation from Aboriginal peoples. Indeed, the PAMF's mandate and motto are to encourage Aboriginal engagement and participation and to help build and develop First Nations capacity, by working together. Through a variety of activities and initiatives that may focus on ecological, social, cultural and economic interests, First Nations communities have the ability to select and engage in the initiatives that help develop or enhance their capacity, in certain areas. One non-indigenous participant believed that the PAMF provides for engagement in a meaningful and effective way, which allows for activities to get done, in a culturally appropriate and thoughtful way (Interviewee 9).

In earlier phases of the MFs, Aboriginal participation was seen as important; however, there remained a lower than anticipated level of participation from Aboriginal peoples and communities (Sinclair and Smith 1995,1999). Board members of the PAMF recognized the lack of Aboriginal peoples at the table but convinced themselves that adequate opportunities for involvement and participation were being provided (Sinclair and Smith 1995,1999). This is no longer the case for the PAMF. Although there has been some turnover of Aboriginal parties on the board (Table 3.2), Aboriginal participation has steadily increased throughout the years. New Aboriginal parties have joined the board and some have remained part of the organization since Phase I.

Most interview participants recognized that the current General Manager provides the connection between Aboriginal people and communities and earnestly seeks out Aboriginal participation, either on the board or with activities. Although Aboriginal participation in PAMF activities is actively sought, organizations need to be a member of the MF before they can have voting privileges (Interviewee 1). This may inhibit the feelings of an "open door policy" and participation for the MF (Sinclair and Smith 1999), although this MF strives to be an inclusive, open organization (Interviewee 6). Despite this, membership is open to any group wishing to become a member. This presents another issue. Some parties have historically become involved with the PAMF for "personal gains", such as access to funding, rather than for collaboration. This motivation has resulted in those parties terminating their relationship with the PAMF after the completion of an activity (Interviewee 1). However, as mentioned above, First Nations communities may no longer have a political or economic interest with certain MF initiatives and may feel that their resources are better spent elsewhere. In face of this concern, the PAMF now goes out of its way to ensure that interested parties are included and involved with MF activities. This can foster a healthy relationship, where partners often give back to the MF. For example, the Prince Albert Grand Council has applied for funding that helped support the PAMF. In return, the PAMF helps that organization build connections and partnerships with other parties and organizations (Interviewee 7). Another example is the PAMF's partnership with the Sturgeon River Plains Bison Stewards (SRPBS). When the SRPBS first began in 2005/2006, the PAMF helped provide financial support to the organization (Interviewee 8). Through the years, the SRPBS become less dependent on the PAMF for financial support, as they sought funding elsewhere. Although the PAMF now only provides in kind support (non-financial support), and

at 2014, the SRPBS continues to be an active board member on the PAMF and contributes time, and occasionally financial support, to the PAMF (e.g. providing lunches for board meetings).

Aboriginal participation with the PAMF over the years

Between 1992-2014, the PAMF experienced varying degrees of Aboriginal participation (Hvenegaard et al. 2015). Since the earliest phases of the PAMF, there had been a core group of Aboriginal parties; however, some of those members are no longer part of the PAMF board or activities (Table 3.4). In their place, new Aboriginal members joined the board, such as BOFN and First Nations Island Forests Management Inc. These organizations help to ensure diverse interests continue to be represented at the table. Most interview participants (8/10) agreed that Aboriginal interest and involvement with the PAMF over the years has fluctuated and depends on the types of initiatives, funding availability and current economic conditions. However, the PAMF has always exhibited high Aboriginal involvement and participation (Interviewees 1 and 3). In some cases, there has not been consistent representation from some Aboriginal organizations and the individual selected to represent the organization frequently changes. This lack of continuity may inhibit the progress and consistency of the PAMF, due to the turnover of some parties and people (see Bullock et al. 2015). An example of this would be the changing of representation from Federation of Saskatchewan Indian Nations (FSIN) for a number of years. FSIN would send a particular person to a number of meetings, then a new person would be sent (Interviewee 1). This led to a slowing down period during meetings to keep the new representative "up to speed" with the PAMF and its activities. In 2010, FSIN pulled out of the PAMF due various factors that included limited capacity, in terms of financial and human resources, and a view that the PAMF was no longer an organization to direct its time and resources. FSIN's departure left a hole in the political presence of Aboriginal peoples at the provincial level. However, there was an increase in Aboriginal presence at the local level, such as the joining of BOFN, the PAGC and First Nations Island Forests Management Inc.

Aboriginal participation with the PAMF is affected by a number of factors. Involvement with a project or program is very dependent on the effect of an activity on certain thematic and geographic areas, and reserves. Simply put, Aboriginal communities may not be interested if the activity does not directly affect or benefit them. Funding represents another factor. Funding allows for the PAMF to conduct, facilitate and initiate more activities. If there is limited funding,

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there may not be as much Aboriginal participation. Finally, current conditions within Aboriginal organizations and communities affect their participation with the PAMF. Aboriginal communities may wish to participate in PAMF activities but have limited capacity to do so, in the form of time or funds.

Besides a possible increase in Aboriginal participation with the PAMF, interview participants observed an increase in Aboriginal initiatives, programs and projects in more recent years. The PAMF functions as a place for Aboriginal communities, and other parties, to bring an idea or project in mind to the table and the MF, through its partnerships and funding helps those communities implement them (Carrow 1999; LaPierre 2003). One participant noted that within the seven years of their involvement with the PAMF, there has been an increase in projects that have an Aboriginal component. Another factor that may have played a role in the increasing Aboriginal involvement was the transition of the MF to the FCP in 2007. The FCP was designed to focus on building and enhancing social and economic capacity in communities (Bonnell et al. 2012). This shift in focus away from research and demonstration of more technical elements of forest management towards activities supporting social and economic development provided a valuable opportunity for Aboriginal communities to become more involved and engaged with the PAMF, leading to more participation and more activities that had a focus on and/or involved Aboriginal communities.

The PAMF, from an Aboriginal perspective

Of the ten people who were interviewed from the PAMF, two were from First Nations communities, BOFN and Cumberland House, and the rest were from various organizations (see Tables 3.1 and 3.2). Both those participants and First Nations communities have been working with the PAMF for a number of years on various activities. The participant from BOFN has been involved with the PAMF since 2006 and BOFN has been a board member since 2008, and the participant from Cumberland House has been involved with the PAMF since 2008 and the community itself since 2011. A more significant project for Cumberland House has been the Woodland Caribou project, where TK has been recorded from the community members for a provincial Caribou management plan. The BOFN has been working with the PAMF on a project that helps the community build its capacity to deal with climate change issues facing the community. Both interview participants had been actively involved with their respective

communities and the PAMF, and helped to create awareness for the PAMF within their community. Furthermore, both had taken leadership roles in other PAMF activities and have helped the PAMF make connections with their First Nations communities as well as other communities.

Besides representing their communities on the PAMF board, both of the Aboriginal participants stated that they have benefitted from being part of the organization; in other words, the MF had expanded their opportunities or career (Interviewees 3 and 9). One participant noted that their community has had many projects that have stemmed from the PAMF, some of which began with the PAMF but then branched off into separate entities. For example, BOFN has been involved with the SRR program, through the PAMF. Some Beardy's graduates from that program have become involved with the 'Standing Tree to Standing Home Project', in which graduates help build houses from lumber harvested from the Nisbet Forest (part of BOFN's traditional lands). This project arose, indirectly, from the community's participation with the PAMF (see Table 5.1). Both participants noted that the PAMF has always been welcoming, has an open door policy and allows for everyone to have a voice at the table.

Despite limited funding, partner turnover rates and a transition to different goals and objectives, the PAMF has proven to be a strong partner in the way of providing opportunities and connections, while following through and remaining supportive to partners and project participants. This MF remains committed to engaging Aboriginal peoples, communities and organizations. As more Aboriginal communities become interested in engaging with the PAMF, there will be and have been some communities that have become the champion of what the PAMF stands for – helping each other and learning from one another.

CHAPTER 5: ADAPTIVE CAPACITY OF BEARDY'S AND OKEMASIS FIRST

NATION

5.1   Introduction

This chapter addresses objectives 2 and 3 by examining the work that the BOFN has done with the PAMF, both as participant and as leader. The next two sections of the chapter reveal the effects of the partnership on both the BOFN and PAMF. The final section of the chapter reveals the results of an assessment of BOFN's adaptive capacity, with evidence from interviews and band office documents. In that section, I document and apply a framework, organizing data into three parts: describing assets, analyzing requirements, and investing time and funds by government and institutions.

5.2   BOFN's partnership with the PAMF

Interviews revealed a key community member within the band office first became interested in the work of the PAMF in early 2007. That person became aware of the organization through "word of mouth" from other involved Aboriginal communities and organizations and had also observed the positive impacts of partnership with the PAMF, for involved Aboriginal communities. This member began attending PAMF board meetings to demonstrate his community's interest in working with and commitment to the PAMF. He was encouraged by the organization's commitment to Aboriginal participation and to helping develop Aboriginal capacity building. He found the board of the PAMF was inclusive and offered a welcoming atmosphere.

In 2008, BOFN became an official board member of the PAMF. Beardy's and its board representative did not "waste" anytime to become actively involved with the PAMF. Since 2007-2014, BOFN participated in 18 programs and/or projects with the PAMF. The projects and programs can be split into two categories: those that are directly with the PAMF and those that involve the PAMF indirectly. The projects and programs that stem directly from the community's partnership from the PAMF represent projects and programs that the PAMF helped the community facilitate and organize, whereas the other programs and projects were facilitated and organized with contacts acquired through membership in the PAMF.

Two exemplary activities, as identified by community members, will be discussed here: Saskatchewan Resource Rangers (SRR) and Climate Change and Adaptation Program. Beardy's has been actively involved in the SRR program for over five years and as a result, the community has turned out over 100 graduates from the program. This is what a community member had to say of the program:

> *PAMF's Saskatchewan's Resource Rangers program has shown that the majority of graduates have either stayed in school or found jobs after graduating. Their resumes with all the skills and certificates they earn in that program are impressive for potential employers. (PAMF 2012-2013, pg. 4).*

I was asked by a Beardy's member to participate and help judge the final activities for the SRR graduation, in order to determine the winning community (Field Notes, August 2013). In all, there were six Aboriginal communities that had participated in the program over the previous two months. Participating communities selected a certain number of courses and certifications, such as First Aid, Chainsaw safety, or TK gathering. Students also participated in final events on graduation day. Participants had to complete a grueling obstacle course and three additional tasks. These tasks included collecting a story from an Elder, collecting and packaging a non-timber item important to the community, and creating a colorful and thoughtful a poster board of all the activities and experiences through SRR. In the end, the previous winners, BOFN, handed over the banner to the new winners, Shoal Lake. This was a unique and fun experience that showcased the PAMF's commitment to a program that gives youth the opportunity to earn certificates and gain knowledge in the field of forestry and natural resources.

Table 5.1: Activities involving PAMF and Beardy's and Okemasis Fist Nation 2007-2014

Activities directly from PAMF	Activities indirectly from PAMF
SK Resource Rangers	Hybrid Poplar Tree Plantations – Carbon Sequestering
Agroforestry Garden project	Invasive Species mapping
National First Nations Environmental Contaminants Program	Forest Inventory
	Hydrology mapping
Pe Sakastew Photovoltaic Solar Array Panels	Traditional mapping
	History of Beardys and Okemasis – Published Book
Fish out of Water – APTN TV episode	
	Native Plant Society mapping
Aboriginal Caucus – Non Timber Forest Products	Standing Tree to Standing Home project
Boreal Forest Learning Network – SWAPP	Land Use Planning
	Community Action Planning
	Climate Change and Adaptation Program

Figure 5.1 (left): The SRR graduates from 2013
Figure 5.2 (right): Poster boards created by competing SRR communities

The second ongoing project involving Beardy's community is the Climate Change and Adaptation Program, funded by Aboriginal Affairs and Northern Development Canada (AANDC). In collaboration with the PAMF, the Saskatchewan Research Council and Cindy Pearce (creator of the guidebook for forest-based communities on climate change resilience, Pearce and Calliboo 2011), Beardy's has been hosting community workshops to address climate change issues within the community using the guidebook (Field Notes, March 2013 and 2014). This project helps communities define their own capacity and gives those communities the tools to come up with their own ideal capacity, resilience and action. Multiple workshops led by Cindy Pearce delivered some scientific knowledge for climate change and then helped the community work through the steps in the guide book. These steps helped members to identify key observations and changes occurring in their community, determine community priorities, goals and coping ability, identify strengths and barriers to adaptive capacity, and determine next steps towards building capacity and resilience to climate change through monitoring, planning, being proactive and ongoing mainstreamed learning.

My direct participation during the workshops allowed for some critical observations. This project allowed for a hands-on opportunity for community members to identify the issues and changes it faces as a direct result of climate change. It also allowed the community to recognize their priorities and goals and how they can reach those goals through adaptation and capacity building. Moreover, the community itself provided crucial feedback for the guidebook by providing more cultural and social concerns related to climate change impacts and adaption. There were a few immediate changes in the community as a result of this project: an updated emergency preparedness plan was created, new relationships were made between community members and outside workshop attendees, which could influence possible future partnerships and collaborations, more consideration was given to the use of GIS mapping software to determine flood prone areas and suitable housing areas, and opportunities were identified for integrating scientific climate change knowledge with TK. As a result, the community received a full report of the guidebook and every chapter of the guidebook was tailored specifically to the Beardy's community and the climate changes issues that it faces. Beardy's can use the work they have done with this project to help guide them through community decisions that will positively affect their adaptive capacity to climate change.
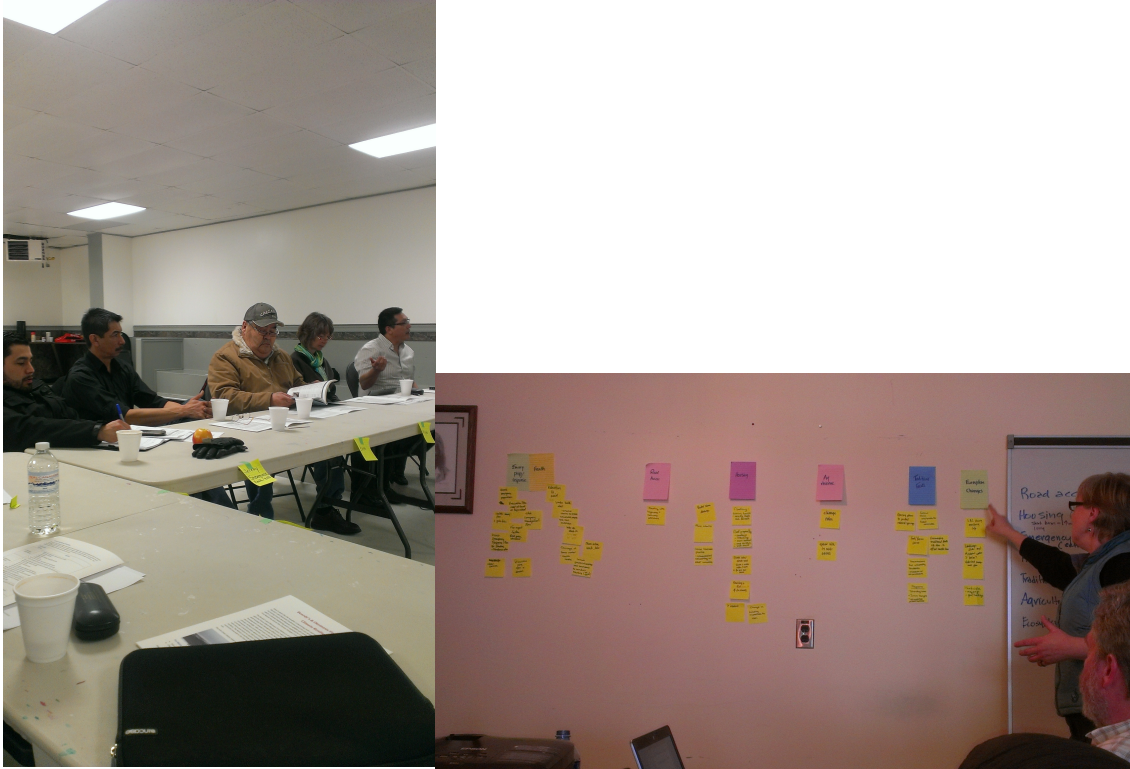
Figure 5.3 (left): A community workshop in Beardy's, discussing climate change impacts in the community
Figure 5.4 (right): Community members identified priorities and how climate change has impacted those priorities

Through these two projects/programs, along with the others (see Table 5.1), Beardy's has demonstrated a commitment and enthusiasm to participate, lead and conceptualize activities within the PAMF that will benefit their community, as well as other First Nations communities. I now examine more closely PAMF's ability to enhance the BOFN's adaptive capacity.

5.2.1 The role of PAMF in enhancing the adaptive capacity of the Beardy's and Okemasis First Nation

BOFN has conceived, led and participated numerous in activities through its involvement with the PAMF. This partnership with the PAMF has lead to capacity building across an array of initiatives including the Agroforesty Garden project and Climate Change Resilience and Adaptation Program. Table 5.2 analyzes the impacts of 18 PAMF projects and programs on the Beardy's adaptive capacity, including access to assets or resources, achieving community goals and/or achieving the community's ideal future.

Table 5.2: Impacts of PAMF activities on Beardy's adaptive capacity

Activities	Impact on community's adaptive capacity
SK Resource Rangers	• Provides training and education to youth in the natural resource sector • May have had a positive impact on graduates encouragement to continue their education and ability to obtain employment[11] • Creates cultural awareness and preservation through some of the courses offered • Has had a direct benefit on savings to social services of $300,000 dollars a year due to youth who no longer need to claim welfare[12] • In combination with other factors, program may have had a positive impact on the increase in educational attainment and participation rate and subsequently income as well (see Chapter 5.3.1)
Agroforestry Garden project (Resource Ranger Community Garden)	• Training and education for establishing and maintaining a community garden • Provides education to youth about planting and nurturing food crops • Provides training opportunities to former SRR graduates to manage garden and work with other community members • Provides a harvest for the community and a potential to contribute economically by selling produce at markets
First Nations Environmental Contaminants Program (formerly National First Nations Environmental Contaminants Program)	• Monitoring and risk analysis of water containments contributes to reducing environmental stress in and surrounding the community and protects community infrastructure (houses and water treatment plant) • Protects lands and waters, including traditional lands • Furthers networking and connections with other organizations • Risk mitigation actions reduces the need to access financial resources in response to environmental contaminants issues/emergencies, resulting in more accessible and available financial assets

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[11] As of 2013, 80% of SRR graduates felt that the program encourages them to continue their education and 70% felt that SRR helped them obtain employment (http://sustainabilitynetwork.ca/wp-content/uploads/2014/03/Junior-Ranger-Program-Beardys-and-Okemasis-FN.pdf.

[12] Information provided by a Beardy's band office employee.

Pe Sakastew Photovoltaic Solar Array Panels	• Contributes the community's knowledge of sustainable development • Promotes a sense of community pride • Contributes directly to built capital- the hockey rink • Has lead to a decrease in electricity bills, allowing that money to be placed towards other assets
Fish out of Water – APTN TV episode	• Promotes cultural awareness for community members and others outside of the community • Bolsters the community's sense of pride
Aboriginal Caucus – Non Timber Forest Products	• Beardy's representative project leader- contributes to sense of community pride • Use and preservation of TK • Furthers networking for community
Boreal Forest Learning Network – SWAPP (Strategic Watershed Action Planning in the Prairies)	• Program focuses on instilling generational learning through the involvement of SRR (youth) in prospective watershed planning in the Island Forests • Provides a connection between youth and other community members • Program helps to decrease the environmental stress on the Island Forests • Community participation in this program raises important cultural, economic and social consideration and representation for First Nations communities in watershed planning • Program helps to build networks and new partnerships for the community • Contributes to the transferring of knowledge and sharing of different viewpoints
Hybrid Poplar Tree Plantations – Carbon Sequestering	• Production of timber for the community, without depleting financial resources to purchase timber • Project has resulted in further networking for community, resulting in an increase in partnerships and relationships • Displays the community's commitment to sustainability- sense of community pride
Invasive Species mapping	• Documents invasive species to better protect agricultural activities- promotes economic development
Forest Inventory	• Promotes self-sufficiency • Contributes to economic development
Hydrology mapping	• Contributes to knowledge of flooding patterns in and surrounding the community

	• Effective mapping can support measures taken towards ensuring the sustainability of water resources • Preserves connection to the land by mitigating flooding issues, which can also contribute to increasing financial assets
Traditional mapping	• Contributes to preserving TK • Reaffirms the community's connection to the land • Provides Beardy's with information on important traditional areas which could impacted by development, so that those traditional areas can be preserved
History of Beardy's and Okemasis – Published Book	• Contributes to preserving TK and increasing cultural awareness • Provides information and history about the community to others, perhaps contributing to further understanding for the community's current situation and issues, while reducing feelings of racism
Native Plant Society mapping	• Further networking and connections for the community • Reaffirms connection with the land • Provides activities for the youth
Standing Tree to Standing Home project	• Provides employment, training and skills necessary for youth to participate in the forestry industry and other forms of employments, such as building homes • Uses timber harvested from the Nisbet forest instead of buying lumber, thereby increasing available financial resources • Provides training to log cabins, giving some community members the ability to build new and better households for others. This is allowing the community to become more self-sufficient and rely less on contractors from outside the community • Contributes to increasing participation rate by providing skill development
Land Use Planning	• Contributes to proper utilization of current land • Mitigation actions for environmental changes- contributes to protecting essential built capital (roads, houses, water treatment plant) • Preservations of traditional lands • Protecting of water and water source areas • Can contribute to the enhancement of financial assets

Community Action Planning	• Promotes a sense of community pride • Encourages connections between community members through workshops • Contributes to achieving a community vision • Builds community member's capacity to participate more actively in development in the community-education
Climate Change and Adaptation Program	• Furthers perception and knowledge of climate change and its impacts in the community • Builds capacity in the community through workshops to ask community members to identify goals, priorities and ability to cope to climate change • Allows leadership to gain a perspective on community priorities and effectively plan, prepare and adapt to changes in the community, as a result of climate change • Proactive planning may lead to less money needed for damages caused by flooding, thereby increasing financial assets • Participation in the program has lead to new relationships and partnerships for the community • Beardy's becomes the first First Nations community to use and implement this guidebook and program, which places them into the spotlight of the CMFN and the IMFN. This could have an effect on future organizations wishing to make connections and collaborations with the community • Promotes a sense of community pride • The proactive context of this program allows for the community to apply for grants and projects that will further their capacity building, thereby reducing the community's need to "dip" into the community's financial resources

Participating with the PAMF has helped strengthen the adaptive capacity of the Beardy's community in several ways. First, leading and taking part in projects and programs has "opened doors" for the community in terms of networking and establishing connections with other organizations. The community's partnership with the Saskatchewan Research Council (SRC) is one such connection that was built through the Model Forest. The partnership with SRC is ongoing and it has contributed to published research that is recognized by other regional, national and international organizations, and both organizations (E.g. Saskatchewan Research

Council and University of Saskatchewan 2013). Involvement with the PAMF has also allowed the community to access and leverage financial assets through the Model Forest, rather than reducing those assets within the community. For example, funding towards the agroforestry project (see Table 5.1) was provided through the BOFN, as well as the PAMF, Prince Albert Grand Council, Agriculture and Agri-food Canada, Conservation Learning Centre, Saskatchewan Forestry Association (SFA), the SRR and Human Resources Skills Development Canada (HRSDC) (PAMF 2012-2013, pg. 9). Participation with the PAMF has helped Beardy's enhance and build capacity within the community without diminishing important community assets. Finally, the PAMF provides a platform for Beardy's to select and/or conceptualize activities that will benefit the community and contribute to the community's values, goals and vision for the desired community future (see Figure 5.2).

Although a few key members in Beardy's often initiate and participate in the programs and projects, the band leadership (Chief and Council) ultimately decides what activities and to what extent the community will participate with the Model Forest. Qualified and proactive leadership was often identified as a goal and a necessary resource for the community (see Figure 5.2). Leadership's involvement and interest in the PAMF validates to other community members their commitment to achieve the community's ideal future, especially through the programs that attract and focus on the youth (Field notes, August 2013). Working with the PAMF provides residents at Beardy's the opportunity to practice leadership skills like visioning and collaboration, which are often associated with greater adaptive capacity (Gupta et al. 2010; Engle 2011).

While Beardy's has conceived, participated in and and/or led many projects and programs through the PAMF, not all community members have knowledge of the organization itself. Knowledge of the PAMF and other institutions/organizations can be necessary for building the community's adaptive capacity (Table 5.3) (Wall and Marzall 2006). Nine of the 14 interview participants had previous knowledge of the PAMF; however, only four participants had knowledge of how the PAMF operated. Three of those participants had gained this knowledge through one key individual in the community. Although not all community members had first-hand knowledge of the PAMF, all interview participants had knowledge or had participated with the Junior Resource Rangers. This awareness has been achieved through

PAMF's website, the distribution of newsletters, word of mouth, and through the programs and projects.

Participation with the PAMF has resulted in a respectful and on-going partnership between the BOFN and PAMF. This partnership has helped to build and enhance Beardy's adaptive capacity in various ways. One interview participant was quoted in an annual report as saying:

> *I can't stress enough how important the PAMF board has been for us. The benefits of this partnership have opened doors to other partners and opportunities and these have had a major impact for us (PAMF 2012-2013, pg. 4).*

It is clear that the partnership with the Model Forest has had a positive influence on the community's adaptive capacity but the question remains; has this partnership influenced the PAMF, and if so, how?

5.2.2 Enhancement of PAMF's ability to engage the Beardy's and Okemasis First Nation

The PAMF has undergone and continues to undergo many changes and challenges since it was established in 1992 (Bonnell et al. 2012; Interviewees 1 and 6). Throughout it all, the PAMF board and members have worked provide an inclusive atmosphere, help build Aboriginal capacity and engagement. Nevertheless, there are challenges in this regard. As mentioned in Chapter 4, representatives of certain Aboriginal communities and organizations have changed over the years, providing inconsistency in representation, thereby affecting the level of participation with Model Forest activities. The PAMF "opens its doors", "encourages" and is "unique" in the way that the board seeks out Aboriginal partnerships.

While there have been very active Aboriginal members in the past (see Table 3.2), currently BOFN remains the most active and devoted Aboriginal community with the PAMF. This representative does his best to "assert his influence" at board meetings to ensure that an Aboriginal views are heard and discussed during every meeting (Field Notes, April 2013). Furthermore, this person feels that to be engaged with the Model Forest, Aboriginal communities need to be actively involved with or help lead activities. This is how this person describes the PAMF to other First Nations:

> *As a community, Beardy's hosts many PAMF board meetings within the community. That helps to develop awareness within our own administration*

and community of who and what the PAMF is and what they have done for our community. They now understand the importance of being involved with the PAMF and I am making other communities aware of how this organization can help build capacity within their communities.

While the partnership with the PAMF has personally benefitted the Beardy's representative as well the community, other board members recognize and acknowledge the dedication, effort and leadership role that the BOFN and its representative have provided to the PAMF. During interviews, participants in the Model Forest identified Beardy's and its representative as "champions for the PAMF". As "champions", Beardy's demonstrates to other Aboriginal communities the importance and benefit of becoming actively involved in forests and natural resources related activities. The community has progressed from joining the PAMF to becoming leaders and an example to other First Nations.

Beardy's has proven to be an "invaluable" member of and "spokesperson" for the PAMF. However, the Beardy's representative is in "high demand" for activities within and outside the community. The capacity for this community to participate with the PAMF relies on the commitment and capacity of this individual. If this individual becomes incapacitated, there is a possibility the PAMF could not only lose one of its most valuable Aboriginal participants and even the interest from other Aboriginal communities who hold that representative in high regard.

5.3   Adaptive capacity analysis

In the thesis, adaptive capacity refers to the ability of individuals, communities and organizations to access, mobilize and deploy assets in ways that facilitate adaptation to change without degrading those assets (Norris et al. 2008). BOFN study participants were eager to help contribute to the construction of the adaptive capacity framework for their community. Many members felt that researchers and government agencies have not focused on what is important to First Nations communities and only produces outcomes that are favorable to other organizations outside of the community (Field notes, August 2013).

> *These terms, adaptive capacity and vulnerability, I have no idea what they mean…government and scientists need to come and actually spend time in reserves to understand what it is like in the communities….its easy to look at the First Nations culture and make assumptions but spending time in the*

communities would lead to less assumptions and more respect. Then the work
these researchers do would be of value to our communities (Community Elder)

By using participant input, Census and scientific data, I created a framework of adaptive capacity to inform my analysis. Researchers have documented specific kinds of capital that are important for a community's adaptive capacity. I used the categories established by previous research, but asked the participants to provide indicators and variables that were relevant to them. Hence, the framework (Table 5.3) focuses on natural, human, cultural, social, political, economic and built capitals while introducing variables specific to the BOFN context. Once the data were collected for the framework analysis and evaluated, only those indicators that enhanced Beardy's adaptive capacity were selected for discussion.

Table 5.3: Indicators and variables used to identify assets for adaptive capacity of the Beardy's and Okemasis First Nation.

Type of Capital	Indicator	Variable	+/-on AC	Justification	Data source
Natural	Climate	- Perception of climate change - Flood risk	+/- -	Schröter et al. 2005 Vignola et al. 2013	Environment Canada Interviews SRC
	Environment- Forest	-Forest change rate (% per year) -% Forest cover in Island Forests - Harvest allocation in Island Forests	- +/- +/-	Brooks et al. 2005 Adam and Kneeshaw 2008 Fekete et al. 2010	SRC Water Security Agency
	Water resources	-Potable water quality: number of boil adversaries -Potable water quantity	- +/-	Wall and Marzall 2006 Brooks et al. 2005 Adam and Kneeshaw 2008	SRC Health Canada
Human	Educational attainment	- % people with High school degree or higher	+	Wall and Marzall 2006 Morrow 2008	Census Interviews Band Office

Cultural	Language	- Language spoken at home	+/-	Morrow 2008	Interviews Census
	People-place connection	-Connection to place and/ or environment (residence)	+	Maclean et al. 2014 Filbert and Flynn 2010	Interviews
Social	Age	-% Population over 65 years of age	+/-	Morrow 2008 Klenk et al. 2012	Census
	Family structure	- % Families that aren't lone-parent households (married, common law)	+	Ravanera and Rajulton 2010 Klenk et al. 2012	Census
	Mobility status	- Have resided within community for 5+ years	+	Maclean et al. 2014 DiPasquale and Glaeser 1999	Census
	Social cohesion	- Number of community events	+	Morrow 2008 Klenk et al. 2012	Interviews Band office
		- Number of youth programs	+		
	Community networks	- Time period of membership in First Nations Island Forest Management Inc.	+	Wall and Marzall 2006 Maclean et al. 2014	Band Office
		- Type of organizations involved/associated with on and off reserve	+		

Institutional/ Political	Awareness of the Prince Albert Model Forest	- Attendance at PAMF board meetings	+	Wall and Marzall 2006	Interviews Band Office PAMF records
		- Knowledge of PAMF initiatives and activities with the reserve	+		
	Communication services with the Prince Albert Model Forest	-Access to Model Forest information (internet, newspapers, pamphlets)	+		
	Legislation	- Presence of land claims and treaties	+	Keskitalo et al. 2011 Brown 2009	
		- Number of meetings with provincial and federal government	+/-		
Financial/ economic	Income	- Median income per person and per household (aged 15 years or older)	+/-	Klenk et al. 2012 Norris et al. 2008	Census Interviews
		- Number of member businesses (sole properties)	+		
		- People working off the reserve	+/-		
	Budget	- Amount of money spent on disaster relief	-		
		- Amount of money received by the government per year	+/-	Beckley et al. 2008 Wall and Marzall 2006	Band Office
	Labor force activity	- Participation rate	+/-	Klenk et al. 2012	Census
		- Employment rate	+/-		
		- Unemployment rate	+/-		
	Agriculture	- Amount of agricultural land	+/-		Band Office Interviews
		- Importance of agricultural land	+		

Built	Housing infrastructure	- Number of houses on the reserve	+/-	Cutter et al. 2003 Mileti 1999	Census Interviews
	Road Infrastructure	-Number of main access of roads	+	Brooks et al. 2005	Interviews Band Office

5.3.1   Determining assets

Natural capital

Within natural capital, three indicators, that could potentially become assets or hazards, were identified as important to the community: climate change, environment (specifically forests), and condition of water resources. However, enhancement of the community's adaptive capacity through its partnership with the PAMF has focused solely on climate change and water resources. Perception of climate change can be measured using a participant's concern, knowledge and/or engagement in mitigation or adaptive behaviors (Vignola et al. 2013). In Canada, Aboriginal peoples are among those considered at greatest at risk due to climate change (CIER and UBC 2011); BOFN is no exception. Flooding is an extreme weather event that is now being associated with climate change in Canada (Warren and Lemmon 2014). BOFN is a community that has been suffering from devastating flooding events for a number of years, due to a combination of climate change, past government infrastructure mistakes and the connectivity of the landscape (Saskatchewan Research Council and University of Saskatchewan 2013). Flooding in the spring of 2013 affected houses in the southern portion of the reserve, washing out roads, and forcing Chief and Council to use financial resources to build up the main road, which connects the community to the next Rural Municipality of Duck Lake (Field notes, June 2013). Consequently, funds for the reserve were directed to flood-related issues and damages instead of being directed towards other areas, such as community infrastructure or health programs.

All participants acknowledged that flooding negatively affects the community in various ways. The washing out of roads can cause vehicular damage, as well as lack of access of emergency vehicles, and the isolation of houses and community members. Houses on the south side of the reserve are the most impacted and many homes now have mold, which not only causes financial damages but also affects human health. The youth participants indicated that flooding creates longer driving times for the buses to arrive at the schools; therefore, the time

spent in school is decreased by about 30 minutes a day, affecting the education of students. One participant spoke to the damage that flooding has done to the agricultural land in the community: approximately, 3642.2 hectares was flooded at the time of the interview, which led to a loss of productive land and revenue for the community. This loss of land not only impacted the community economically, Elder participants expressed concern over loss of lands used for traditional purposes such as hunting and gathering purposes.

Although most participants did not have a scientific grasp on the concept of climate change, those who have resided in the community for 10 or more years described changes within the region, such as shorter seasons, an increase in precipitation, and changes in flora and fauna species.

> *I see animals moving into and through the reserve that I never saw 20 years ago…bears, more moose, even cougars…it makes it very unsafe for my grandchildren to play out in the yard (Interviewee 19).*

These changes may be associated with climate change (Warren and Lemmon 2014), and the knowledge of those changes can lead to a positive impact for the community's adaptive capacity. Through the partnership with the PAMF, Beardy's has gained an increase in awareness of how flooding is affecting the community as a whole, as well as an understanding of other climate change issues facing the community. This is made possible by the community's participation in the Community Resilience to Climate Change project (see Appendices C and D) (Field notes, March 2013). Cindy Pearce created a guidebook for determing climate change resilience for rural communities (Pearce and Calliboo 2011). She was brought in to help the BOFN understand the potential impacts of climate change and think about how to adapt these impacts. During the workshops, participants identified changes that they have seen take place locally, such as an increase in spring and summer flooding and the loss of medicinal plants (Field notes, March 2013). Participants were then asked to identify community impacts from those changes and establish community goals. Some goals described were an increase in revenue from agriculture, an enhancement of culture and using funding to deliver programs. In order for the community to move forward with a direction towards climate change adaption, participants rated the different goals based on community impact level, high or low adaption/coping ability, and high or low priority. The result of this workshop was a guidebook tailored to help the Beardy's community adapt to changes caused by climate change within their community and a follow up

workshop in 2014. During that workshop, Cindy Pearce was one again brought in to guide the workshop (Field Notes March 2014). Band office members, Elders, PAMF board members, two members from Yellow Quill First Nation, Cindy Pearce and U of S representatives were in attendance. Further climate change observations were added to the climate change community guidebook, as well as any impacts caused from climate change within the community and future opportunities were discussed. For example, one attendee suggested that with the agricultural land becoming flooded, there may be an opportunity to grow wild rice. Furthermore, priorities within the community were discussed and listed and planning and future actions towards those priorities were examined. The workshop concluded with a proactive approach to watch, learn and refine any priorities and/or actions taken by the community, towards climate change issues.

The final indicator within natural capital that was identified by the community as vitally important is the condition of the community's water resources. Community members rely on either piped water from the water treatment plant on the reserve, cisterns, community or private wells (Saskatchewan Research Council and University of Saskatchewan 2013). According to the Saskatchewan Research Council and University of Saskatchewan (2013), an estimated 28 households had experienced boil water advisories since 2009 and approximately 70% of households have experienced boil water advisories since living on the reserve. Between 2012 and 2013, the year that I began my preliminary fieldwork, just over 20 households were on a boil water advisory (Field notes, October 2013).

Many people in the community indicated their mistrust in the quality of water in the lake and rivers within and surrounding the community. As a result, very few people actually use these water sources for recreation or cultural activities, such as swimming and fishing. Furthermore, flooding could have a negative impact on the community's water resources by carrying pollutants and debris into their water system, cisterns and private wells (Saskatchewan Research Council and University of Saskatchewan 2013). There is a growing fear that with flooding and an outdated water treatment plant, water in the community will be no longer safe to drink and boil water advisories will become an everyday occurrence for all members. In a country that boasts a high standard of living and an abundance of water resources, Beardy's water resources appear to be having a negative effect on the community's adaptive capacity.

The condition of the community's water resources is evaluated because the outcome (indicators) is associated with Beardy's partnership with the PAMF. Beardy's completed a

project that examined its water resources within the community, with the SRC. That partnership was formed, in part, because of the pre-existing partnership between Beardy's and the PAMF (Interviewee 1). Thus, without the partnership with the PAMF, Beardy's may not have gained the knowledge and understanding of its water quality and quantity within its community and surrounding area.

Human capital

Human capital can be measured in a variety of ways (Stevenson and Perreault 2008b); however, for participants, only educational attainment was deemed relevant. Educational attainment, measured by the number of people with a High School degree or more, was expressed by some interviewees as one of the most important assets of this community. According to Statistics Canada (2013), 59.8% of community members had obtained a high school degree, certificate or diploma. That percentage is considerably higher than the previous Census, which was 47.3% (Statistics Canada 2007).

This increase can be attributed to a number of factors, such as a change in funding and leadership direction or the hiring of a new principal in the high school on the reserve, are thought of as factors that play a role in the number of students graduating. This research also suggests that Beardy's partnership with the PAMF may have, in part, has, helped to increase educational attainment through the availability, access and use of PAMF programs and projects, for instance the Junior Resource Rangers program. During a regional Aboriginal Youth Survey Workshop that examined the effects and future of the Junior Resource Ranger program, the results from a survey sent out to past SRR graduates were discussed (Aboriginal Forestry Initiative Ranger Survey 2013). Out of 336 respondents, 84% were presently at a high school or had a higher level of educational attainment. Following the SRR program, 70% of survey respondents achieved that level of education after their involvement with the program. Furthermore, survey respondents indicated that the program provides many future employment benefits as a result of the certificates offered through the program. Beardy's had 101 out of the 336 (30%) respondents for the survey. The results from this survey imply that Beardy's partnership with the PAMF may be helping to increase educational attainment for the youth within the community. This conclusion was strengthened by the announcement in March of 2013 that 70% of SRR graduates at Beardy's were not using social assistance. This decline in assistance adds up to a cost savings of $300,000

a year (communication with Beardy's Band office employee). Moreover, Beardy's Lands Departments employs SRR and high school graduates to work for the department. Those jobs include water sampling, GPS work and data collection. Many of those SRR graduates have been able to gain employment and contribute back to the community, which has now led to the community seeing the educational and economical benefits of the SRR program (Interviewee 11). Although it is difficult, if not impossible, to isolate all the variables that may be contributing to the increase of educational attainment at, this research suggests that one can observe a possible connection between the increase of Beardy's educational attainment and partnership with the PAMF.

Cultural capital

Assets within culture can be collective resources that enable First Nations groups to maintain their identities through generations, while experiencing more positive outcomes (Filbert and Flynn 2010). BOFN is a Willow Cree Nation, with a rich culture that features Cree language, traditional knowledge, spirituality and cultural events and activities (Field notes, June 2013). Interview participants gave many descriptions of their community and generally saw their culture as one that is "friendly", " sharing", "supportive", and "people help each other and complete strangers". They also described their community as one that places a high value on family ties, cultural traditions and connection with the land (Interviewees 11, 12, 13, 14, 16, 17, 19, 20, 22, 23, and 24). Their generosity and support were observed during the devastating northern Saskatchewan fires in the summer of 2015. Beardy's opened an evacuation center called "ResCross" within their community, located in their community's hockey rink. Donations, such as food and clothing, poured in, and many people also volunteered their time and expertise to help with the crisis. For example, some mental health workers from the community's health center gave their time and energy to provide mental health support to the people who had been traumatized by the effects of the fires.

Although the indicators for cultural capital identified in the framework were deemed important by the study participants and scientific literature (Table 5.3), the effects of Beardy's partnership with the PAMF on those indicators cannot be positively linked to the enhancement of the community's adaptive capacity. There are many different variables that could affect one's language spoken at home or why an individual decides to remain in their place of birth. The

semi-structured interviews fail to provide an in-depth examination of the entire community's preferred spoken language or mobility status, as well as capturing changes in perspectives over time. Furthermore, Census data gives very little insight into perceptual factors, like how language and mobility status may be affected by partnerships with other organizations. Despite this lack of a direct link of the enhancement of cultural capital due to Beardy's partnership with the PAMF, the Beardy's community has begun to see a benefit to cultural capital within the community (Aboriginal Forestry Initiative Ranger Survey Workshop 2013; Interviewee 11). The programs and projects that Beardy's participates in which there is focus on culture, such as aspects of the Junior Resource Ranger program, traditional mapping, History of Beardy's and Okemasis-Published (see Table 5.1), provide a platform for the community to enrich their culture, preserve TK and involve youth within cultural learning (Interviewee 11). Through its partnership with the PAMF, TK gathering has become a big part of youth involvement within the Beardy's community and there is a strong desire for youth to collect information and document TK through the SRR program (Aboriginal Forestry Initiative Ranger Survey Workshop 2013; Interviewee 11). Although evaluating a definitive link between the partnership with the PAMF and the cultural capital indicators (Table 5.3) may not be possible, the examination of other aspects of cultural capital that may not be tangibly measured, such as youth involvement and youth-Elder interactions, may play a role in identifying how the partnership may be enhancing the community's adaptive capacity, through culture. For the BOFN, cultural capital is valued as a critical capital and could be one of the key components to building and enhancing the community's adaptive capacity.

Social Capital

Besides cultural capital, assets within social capital were described as important to the community's ability to adapt to the changes and challenges it faces. Indeed, social capital contained the highest number of described assets of all the capitals (see Table 5.3); however, only age, social cohesion and community networks were found to be relevant to and attributed to the community's partnership with the PAMF. Age is a relevant asset when examining how the community's partnership with the PAMF may be enhancing its adaptive capacity. The age of a person can have an effect on the number of networks developed and relationships formed: with an increase in age, you would expect to see an increase in those factors, especially in some

Indigenous communities were they can increase significantly as they assume Elder status (Klenk et al. 2012). However, as people become older in age, those relationships and networks may decrease (Iyer et al. 2005). It is worth noting that the age a person and that connection with the number of networks and relationships may be context specific, in terms of the type of community (Indigenous or Non-Indigenous). During this research, it was found that often times the number of networks increased as a person aged, often times due to Elder status (Field notes, March 2014). In Beardy's, the median age for the last two Census collections was around 21 years of age (Statistics Canada 2007, 2013). Since Beardy's appears to place an emphasis on participation in projects/programs that focus on youth involvement (see Tables 5.1 and 5.2), a lower median age within the community may be beneficial for its partnership with the PAMF. Moreover, other projects and programs involving the PAMF require a diversity of age groups (e.g. traditional mapping, climate change and adaptation program, History of Beardy's and Okemasis-Published book); hence, focusing on programs or projects that comprise of a diversity of ages could aid in the enhancement of the community's adaptive capacity.

Interview participants were asked about organizations that they were part of or had been part of in the past, on or off reserve (see Appendix B). Of the four youth that were interviewed, two were graduates of the SRR program; the remaining youth participants had not been part of any organizations thus far within their lives. The remaining participants, mid-age and Elder groups, were and had been part of a diverse range of organizations, including industry, NGO's, government, the PAMF, academia and on-reserve committees. The majority of the interview participants (12 out of 14) has participated or are participating in an on- or off-reserve organization, thus it is reasonable to speculate that many of Beardy's community members have been or are part of an organization, on or off-reserve. Group involvement and participation can be assets of social capital that may have a positive affect on the community's adaptive capacity (Iyer et al. 2005; Stevenson and Perreault 2008b).

Despite a lower median age for the last two Census collections (Statistics Canada 2007, 2013), Beardy's has been able and continues to build relationships and partnerships with organizations outside of the community. BOFN and its members are involved and associated with a variety of organizations, including academia, government (federal and provincial), industry (BHP Billiton and Canadian National Railway), NGO's (Strategic Watershed Action Planning in the Prairies [SWAPP], Boreal Forest Learning Network and the Native Plants

Society), City and towns (e.g., Saskatoon, Rosthern, Duck Lake), on-reserve departments (e.g., Willow Cree Health Centre), other reserves (e.g., Yellow Quill First Nation) and larger-scale Aboriginal organizations (e.g., Prince Albert Grand Council). Many of the participants noted that there was a key individual who served as the champion for developing community networks for the BOFN. This organization has been essential for Beardy's to help "enhance" their community capacity, "provide" future jobs within the forestry sector and "sustain" the Nisbet forest. Leaders, like this individual, help facilitate successful community networks, networks that provide support, give direction and ultimately enhance a community's adaptive capacity (Maclean et al. 2014).

Furthermore, only one of the youth participants indicated that s/he had attended or was involved with community events, such as Pow Wows, feasts, sporting events, dances or ceremonies, whereas many of the other participants attended, led or volunteered for community events.

The final asset considered within social capital is social cohesion. A sense of community cohesiveness featured prominently through the numerous and diverse community events and the descriptions of community life.

> *This community supports one another…we come together in a time of crisis*
> *and emergency….we have so many different programs and projects going on,*
> *they really bring the community together (Interviewee 19).*

Social cohesion can describe attributes of closeness, cooperation and support (Chan et al. 2006). In some cases, strong cohesion can be detrimental for a community. This may take place if cohesion does not allow for new people and ideas to develop. However, for the purposes of this research, social cohesion is considered to have a positive effect on adaptive capacity (Chan et al. 2006). To aid in creating social cohesion, the various departments at the Beardy's band office organizes, supports and leads numerous community events that are available on and off reserve for community members. Local departments, such as Justice and the Health Centre, often work together to provide an event or activity that will bring community members together. Many community events aim to not only provide entertainment or free food but also promote positive outcomes, enhance well-being and adaptive capacity. For example, the Agroforestry Community Garden project (see Appendix C) brings together the Lands and Health Department. SRR graduates help to run and take care of the community garden, and the Health department helps to

harvest the food in the garden, as well as provide a feast of that harvest called the "Harvest Ball". This event helps to showcase how the community can be self-sufficient in producing some of their own food, allows for health programs to be delivered simultaneously, and also demonstrates to the Beardy's community the benefits of the partnership with the PAMF (Field notes, September 2013; September 2014).

The perception of community support and cooperation was apparent in two very different situations that I witnessed: flood preparation for Spring 2013 and the consecutive deaths of four community members. To prepare for the imminent flooding in the Spring of 2013, community members volunteered during their spare hours to fill bags of sand to protect houses that were vulnerable to flooding waters. Many volunteers worked long, hard hours to ensure that households and their occupants would be safe. During the summer of 2013, there were an unfortunate string of deaths in the community. Events were cancelled and main departments were closed out of respect for those who had lost loved ones. Community members, related or not, reached out to those who were grieving, giving them support, cooking them meals and helping make funeral arrangements. These two actions were among the many I witnessed during my time with the Beardy's community, suggesting that the residents valued and took action to maintain a high level social capital.

Political capital

Assets within political capital, including institutions and access to information, can provide communities with access, support and knowledge to adaption options and plans (Wall and Marzall 2005; Keskitalo et al. 2011b). Access and communication with the PAMF was discussed earlier in chapter 5.2.1.

BOFN is a Treaty 6 Nation and has access to approximately 16187.4 hectares of land claims or TLE lands still waiting to be designated. This access to large parcels of land bodes well for the community and could provide them with future access to natural resources and economic opportunities. It could also potentially provide future opportunities for projects and programs through the PAMF or with partnerships with the PAMF.

In terms of number of meetings with the Provincial or Federal governments, this research has found no direct evidence to suggest that the Beardy's PAMF partnership has contributed or influenced this variable (see Table 5.3). However, Beardy's and the provincial

government both sit at the PAMF table and sometimes interact during board meetings (Field notes, February 2013). Perhaps in the future, there is potential for this variable (meetings with the provincial government) to become enhanced[13]. Furthermore, it appears that through leadership, political capital takes time to build and enhance. Leadership is the BOFN is a complex system of Elders, community members and Chief and Council (Field notes, March 2014). There are also other ways leadership that can manifest that were not examined during this research, For now, legislation on the reserve is and has been a vital component of the community's adaptive capacity (Interviewees 11 and 21).

Economic capital

Economic capital and its assets appear to be a primary focus for many studies examining capitals and adaptive capacity (Yohe and Tol 2002; Klenk et al. 2012; Reed et al. 2014). Beardy's has a more limited number of member businesses, private businesses, band-owned businesses or sole properties, operated on and off reserve. There are approximately 18 businesses, most of which are privately owned and operated. As a result, most community members seek employment through the various departments on the reserve or employment off reserve. Interview participants varied in the areas and locations of employment in the past and present. Some study participants were retired or had never/not yet earned an income. Half of the participants responded they currently worked on reserve but had worked off reserve in the past. It was apparent that most participants, at some point in their lives, had worked in and/or sought employment opportunities off the reserve. When asked how they felt about community members seeking employment off reserve, all agreed that it was necessary in order to earn an income. However, some felt that it was "sad" and "unfortunate" that people were "forced to" seek employment elsewhere because there were "limited employment opportunities" within the community (Interviewees 17, 19 and 21 and 23). Two youth participants explained that although they understood that some community members must seek employment outside of the community, they witnessed social issues that they attributed to that absence, such as domestic abuse, drugs and alcohol abuse and family neglect. It appears that community members have

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[13] BOFN was asked to sit in at meetings for the Saskatchewan Forest Management Plan Process in 2014. The community was asked to be involved due to their consistent participation with the PAMF. Although this information falls out of the research timeframe of data collection, this implies that Beardy's partnership with the PAMF has helped enhance Beardy's political capital.

access to employment opportunities, on and off the reserve; however, these opportunities may have negative effects for other capitals. For example, employment off reserve may reduce time available to build the bonds necessary for social capital formation.

Employment income and involvement in the labour force provide economic assets (Klenk et al. 2012). This research cannot provide definite evidence that Beardy's partnership with the PAMF has enhanced income or labor force activity for the First Nation. Nonetheless, this research suggests that the partnership with the PAMF has aided in improving both assets, along with other variables. Programs, such as mapping programs and the Standing Tree to Standing Home project, give employment and income opportunities to youth within Beardy's. Moreover, the SRR and Agroforestry Garden project provide experience and training opportunities for Beardy's youth, which may lead to a contribution to the community's income and labour force participation rate.

The median income for both individuals and households has significantly increased during the two Census collections (Statistics Canada 2007, 2013). Median income per individuals and households in 2011 was $11,737 and $31,277, respectively, while in 2006, they were $6,872 and $19,648, respectively. Although the median income level for individual and households remains below the national medians (Statistics Canada 2013), an increase indicates that the community is gaining access to more economic assets and likely higher quality of employment (see Klenk et al. 2012). Furthermore, the labour force participation rate (proportion employed or seeking employment) also significantly increased, from 30.9% in 2006 to 43.6% in 2011 (Statistics Canada 2007,2013).

Although income and participation rates are important assets, community members expressed that there were two other important assets that should contribute to economic capital for their community: its overall budget allocation and community income from agriculture. BOFN receives approximately 9 million dollars from the federal government every year (Personal communication with a Band Office member on August 9th, 2013). This budget falls well short of meeting Beardy's administrative needs, such as programs or housing (Interviewees 11, 18, 21, and 24). During the years 2012 and 2013, close to 5 million dollars were spent on fixing and moving infrastructure, damaged from the flooding events. These disaster events and the need to direct money to address them hinders the community's adaptive capacity. Beardy's partnership with the PAMF helps to enhance these assets through some of the programs and

project that the community is involved in and with. For example, the Climate Change and Adaptation Program has led to community planning for future flooding events, placement of future houses, protection of agricultural land prone to flooding and has provided an updated emergency preparedness plan (Interviewee 11; Field notes March 2013, 2014). This is turn may help to divert parts of the community's financial resources towards essential programs and projects, instead of towards flooding relief and damage costs.

Although it may be impossible to isolate which variables are directly contributing to the assets (Conley and Moote 2003), this research suggests that Beardy's partnership with the PAMF may be helping to strengthen Beardy's economic capitals, thus helping to enhance the community's adaptive capacity.

Built capital

According to the 2011 Census (Statistics Canada 2013), there are around 310 private dwellings within Beardy's, with just over 100 of them unsuitable for living conditions. In other words, some households have broken windows, mold from flooding, an inadequate number of rooms for the occupancy of the household, and inadequate insulation to deal with the Saskatchewan winters (Field notes, December 2012).

Within Beardy's reserve area, there is only one main road that is paved. It is important to note that this road is not paved in a section that runs near the water that separates the reserve from Duck Lake. All interview participants indicated that the roads within the reserve are "sub par", "fair to poor" and/or "horrible", and the main road is not wide enough. During any precipitation events, the roads are all negatively affected, creating isolation for some community members, as well as damage to vehicles (Field notes, April 2013). Flooding can also create issues for emergency services when roads become impassible. Although all study participants acknowledged that the roads, especially the main road, needed to be fixed, there were mixed opinions about who should be responsible to fix them. Some felt that the community itself should fix them, while others felt that it is the Federal government's responsibility or wished that the Provincial government would step in to fix the main road since it is the road that connects Duck Lake with the reserve. A key contact in the Beardy's Lands Department clearly described a key dilemma:

The Beardy's community itself should be responsible to take care and fix our own road. This is not the case because we do not have the resources to do so ourselves. Those resources are going more immediate to other areas, like fixing a flood damaged house.

The partnership with the PAMF could help to strengthen housing and road infrastructure assets for the community. One such example is Beardy's participation in the Climate Change and Adaption program may help to build capacity for the community, in terms of housing and road infrastructure. Proactive planning for where future houses and roads should be built may lead to less money needed for damages caused by flooding (see Table 5.3).

Housing and road infrastructure in Beardy's are important assets to the community itself. While built capital, such as housing, roads or facilities, is necessary to support community needs and actions (Maclean et al. 2014), Beardy's interview participants felt that this capital was less important than some of the other capitals (e.g., cultural and social). When built capital such as roads is degraded, the Band office does not have sufficient economic capital to fix them. This may lead to an increased economic burden to individuals who may suffer damaged vehicles or it may lead to increased isolation and mental health problems, thereby degrading social capital.

Summary

Resources within natural capital are recognized as vital to the BOFN. According to one interviewee the land and water "give life" to the people, provide economic opportunities as well as for fishing, hunting, trapping and gathering. Furthermore, the land is part of the "identity" of the community and is an important dimension of community strength and connection. Beardy's partnership with the PAMF has opened doors to participating in programs that help to enhance its natural capital assets. This enhancement could allow for more assets, such as money and funding, to be placed into other projects and programs, rather then towards other areas, such as damages caused by flooding.

Although it is not apparent whether the partnership between Beardy's and the PAMF has directly led to an increase in educational attainment for the community, it is evident that the community has received benefits through its partnership, by means of a decrease in social assistance by SRR graduates. Moreover, Beardy's partnership with the PAMF has helped the community progress to form further partnerships with other organizations.

It is apparent that Beardy's has developed an expansive community network; however, what will happen to the community when key individuals and champions can no longer commit or continue to help build those networks? The capacity for those individuals must be taken into consideration and Beardy's needs to begin to place a greater emphasis on producing effective leaders (human and social capital) in order to maintain those networks.

The trend in both income and participation rate in the labour force (both had increased in 2011, from 2006) can be viewed as an important gain for Beardy's. This increase in both indicators suggests that the community is possibly adapting to environmental, social and economic challenges, such as the challenge to find work off of the reserve due to limited employment opportunities on reserve. Furthermore, through some of the PAMF programs, the community will be able to increase its built capital and hopefully allow for more economic capital to become available. Overall, Beardy's has begun to experience an enhancement of the community's adaptive capacity, through improvements of some of the capitals, due to their partnership with the PAMF.

5.3.2   Analyzing requirements for adaptive capacity

Analyzing the adaptive capacity of the BOFN aims at answering the question, do changes that the community face have an effect on the community's adaptability? (Williamson and Isaac 2013). The analysis in this section is focused on the values or priorities (including those at risk) that interview participants identified for themselves and/or for the community. In order to effectively consider the requirements of the community, the study participants identified community strengths and barriers to building and enhancing community adaptive capacity (see Stevenson and Perrault 2008b). This analysis can then be used by the community and the PAMF to help determine where to focus future resources and where future interests lie within programs and projects.

Values

Values varied for interview participants. Participants were asked what values were important to them within the community. Those values could have been ecological, physical in nature, social, etc. In order to reduce the number of values identified, participants were asked to list only three important values (see Appendix B). The values were then placed according to their

correspondence to the seven different capitals. Table 5.4 represents the values identified by the interview participants, which were then placed into the respective capitals. Looking at Table 5.4, more participants identified values in the category of natural capital and the lowest number of responses in the l the category of economic capital. For example, seven interview participants identified access to clean water as their main value, while only four interviewees identified programs (political capital) as a value.

Table 5.4: Number of interview participants to identified specific values associated with different capitals (14)

Capital	Number of participants identifying values associated with each capital	Total number of participants identifying values
Natural	Land (1) Water (clean water) (7) Food security (1)	9
Cultural	Elders (4) Cree language (1) Cree Culture (3)	8
Built	Hockey rink (1) Schools (1) Water treatment plant (2) Grocery store (1) Housing (2) Toilets (1)	8
Social	Family (1) People (2) Trust (1) Connections between people (3)	7
Human	Education (4) Children (1) Elders (1)	6
Political	Programs (2) Youth programs (2)	4
Economic	Money (1) Employment (1) Access to vehicles (1)	3

Study participants mentioned natural, cultural, built and social capitals most frequently. Hence, I placed them above human, political and economic capitals, which were less frequently mentioned (Table 5.4). These findings support the notion that Aboriginal communities may not

place a priority on capitals that sometimes are given higher priority in settler communities such money, skills and political contacts (see Stevenson and Perreault 2008b, pg.276). Stevenson and Perreault (2008b) suggest that Aboriginal communities should be able to identify their own priorities or important values in order to build capacity from the ground up. In other words, in order for Beardy's to address the capacity needs and strengths of the community, the community must identify the values that it sees as crucial to the community's own existence. This allows the community to gain empowerment (Stevenson and Perreault 2008b) and may also encourage an increase in interest in certain programs and projects. For example, when certain funding is granted to Beardy's, Elders are sometimes consulted over what should be done with the funding (Interviewee 11). This practice demonstrates the importance of using cultural capital to evaluate economic capital for this community.

Once community values have been identified, a consideration by the community into what values are at risk can justify a greater investment in enhancing and/or building adaptive capacity according to those values (Williamson and Isaac 2013). Interview participants maintained that nearly all the values or priorities that they had identified were at risk from the changes that the community was facing, with the exception of the community's hockey rink (see 5.3.1). One participant explained that changes in the environment are leading to more disasters in the community, such as flooding, which places "great" risk on the community's water quality and quantity, food security and losses of, and connections to, traditional lands and livelihoods. Flooding also forces some community members to leave their lifelong homes, which can "threaten" established connections with the land.

Interviews also revealed that assets associated with social, human and cultural capitals were perceived to be most at risk from changes that the community was facing. Elder interview participants felt the push to send children to off-school reserves places risk on maintaining Cree language and culture. In Beardy's case, the high school on the reserve brings in Elders to offer Cree language classes, as well as a room and program to practice and gain knowledge of Cree practices and ceremonies, such as smudging and prayer, using resources such as the Elders themselves (Field notes, June 2013). On the other hand, some participants believe that the difference in the quality of education between on-reserve and off-reserve schools places a risk to the "children's futures". The quality of education affects the youth in the community and is leading to students receiving a "minimal education" or dropping out of school before graduation.

Some interview participants believe that lack of education can contribute to a lack of employment opportunities, as well as a choice to join gangs and become engaged in drugs and alcohol abuse. Additionally, connection with and between people is being disrupted by the choice of schools, causing "tension" between parents and affecting feelings of "trust", "love" and "acceptance".

Economic assets at risk, such as employment, money and access to vehicles, may be less significant than other assets for a number of reasons. In the future, there is a possibly of opportunity to participate in the rising forestry industry, which could potentially lead to more employment opportunities, which in turn may lead to more income and access to vehicles. One participant regarded the community's commitment to forestry and other economic ventures as a direction that may help to increase economic development, thereby reducing poverty in the community. Furthermore, income and participation in the labour force have increased in the community since the last Census (see Chapter 5.3.1). This could be a good sign for the community and hopefully in the future, those assets associated with employment will become less at risk than other values.

Strengths and barriers

Examining how a community utilizes and mobilizes certain assets and resources helps one to understand the community's ability to adapt to changes (Adger et al. 2005; Stevenson and Perraeault 2008b; Williamson and Isaac 2013). Barriers to mobilization can leave a community "stuck" and unable to fully reach its intended objectives, goals and vision (Stevenson and Perraeult 2008b). Both mobilization potential and barriers are described below.

For the Beardy's community, a big strength lies in the community's ability to utilize and mobilize assets within cultural capital. Elders, prayers, traditions, the "Indian way of life and beliefs" and "Indian humor" were identified as strengths for the community, especially during uncertain times. One Elder explained:

> *During residential school times, we were not allowed to practice our Indian*
> *way of life. The government and other Canadians were ignorant or afraid of*
> *our culture....we practiced our culture anyways. We found strength in humor,*
> *our language and our knowledge...those things helped and continue to help us*
> *through the good and bad times.*

Those strengths were evident when I attended the annual Elder retreat at Camp Tawow, located on Candle Lake, SK (Field notes, August 2013). This four-day event allows Elders to "escape" and "relax" and "gather thoughts" in an area that lies within their traditional lands. Activities included bingo, large meals, coffee time, times with jokes and laughing, and times of reflection. Elders spoke of the past and the present, the good and bad times, and the changes and challenges that affect the Beardy's community. Through this experience, it was apparent that Beardy's has access to and promotes the use of Elders and traditional knowledge as resources for adaptation. An example that interviewee 11 provided was the use of TK in forestry and forestry-related activities could be used to ensure the Island Forests are harvested in a sustainable way, and ceremonies, such as Pow Wows, can bring together families that have been in conflict with one another.

The Elders themselves are a strength to the Beardy's community. Community members seek out and rely on the knowledge, advice and "blessings" from Elders regarding choices made in the community. There is a deep respect for Elders and their presence in decision making appears to be equal to, if not more important, than Chief and Council (Field notes, September 2013). This respect was noted when witnessing a few community members approach an Elder with questions about considerations for new leadership for the community for the upcoming Chief and Council elections in the spring of 2014 (Field notes, November 2013).

Just as important as cultural capital for Beardy's, strengths in social capital appears to be an integral element of community adaptive capacity. Interview participants spoke of the community's ability to come together in times of crisis and emergencies and a deep conviction to help one another. These strengths have been mobilized effectively during flooding events, as well as isolated emergencies, as seen when a community member's house burned to the ground (Field notes, September 2013). Additionally, there are key people within the community who were identified as vital strengths to the community's adaptive capacity. It is important to note that almost all interview participants identified one person as the champion for youth, lands and forestry development for the community. That person also provides an important connection and multiple networks to other organizations and those networks have helped developed other programs and projects with and for the community (see Chapter 5.2). The development of connections and networks with outside organizations is viewed as a strength by the Beardy's community because it allows for the building of partnerships that may lead to the facilitation of

projects or programs that may enhance the community's capacity to deal with changes. One such example is the community's relationship with the University of Saskatchewan, which has lead to collaborations and projects, such as mold testing in households and the examination of water quality of community in cisterns. Beardy's is seeking connections and partnerships in order to enhance its adaptive capacity.

Two other strengths of the community that are emerging as key components to the community's adaptive capacity is the access to potential natural capital, such as land, and human capital. Due to Beardy's history (see Chapter 3), access to natural capital could not be fully realized; however, leadership is just now evaluating the potential of the Nisbet forest (Interviewee 11). Moreover, the community's work on flood prevention may help to create more agricultural opportunities. Through preliminary research, interviews, community participation and Census analysis, education in the community seems to be perceived as an increasing strength for the community. Along with an increase in the number of community members with a high school education (see Chapter 5.3.1), there has been an increase in the rate of participation in community events and activities (Chapter see 5.3.1). Furthermore, an Indian Teacher Education Program (ITEP) post-secondary program was installed in Duck Lake. This program provides an opportunity for Beardy's members to gain further education and training within trades. In 2012, there were approximately 63 people enrolled within post-secondary education (Interviewee 18). Interview participants stated that more community members want to further their education to seek better employment as well as build "internal confidence". Some participants recognized that in order to further education, community members must leave the reserve. In doing so, they hoped that some of those members will take what they have learnt elsewhere and bring it back to benefit the community. These circumstances suggest that Beardy's is beginning to acknowledge the potential of education to help build and enhance the community's capacity.

There are gaps in the use of certain assets and resources by Beardy's, which could be a factor for the community achieving its ideal adaptive capacity. The lack of financial resources was the most frequently identified barrier to achieving any sort of capacity. Interviewees indicated that this barrier hinders the community in numerous ways: funding for essential programs and projects (such as alcohol and drug abuse programs) is limited, flood mapping is constrained, vehicle purchasing for employment off-reserve is restricted, and post-secondary scholarships are limited. Furthermore, proactive measures to adapt to changes are constrained,

such as more development in the forestry industry through the purchase of a sawmill. Additionally, many participants indicated that Beardy's will always remain "in the hole" and will not be able to fully provide for its community members. Another barrier is the low enrollment of residents in post-secondary education. In comparison to the national average, enrollment in and completion of post secondary is lower (Statistics Canada 2013), which can negatively affect the quality of employment and income for community members (see Klenk et al. 2012).

Mid-age and Elder participants indicated that the quality of leadership could be a strength or barrier to the Beardy's adaptive capacity. The perception of leadership has the ability to affect other assets within other capitals (see Beckley et al.2008). Within Beardy's, these perceptions have affected some of the community member's trust in leadership, resulting in a loss of interest by some community members in community events and ventures.

Although these were also identified as strengths, some interview participants felt that the breakdown relationships with and between people and TK are barriers to adaptation. Interviewees were concerned that community members are losing their connection to one another due to "technology" such as video gaming systems and cell phones, and lack of attendance at community events. One participant said he grows more frustrated as he sees high attendance at community events where incentives are provided, such as a free meal or prizes, and low attendance at ceremonial events, such as a sweat or sun dance. He stated, "Our community members should want to go to events because they visit and see one another, not because they will get something out of it" (Field notes, August 2013).

The loss of TK was also perceived to be a barrier to the community. TK is viewed as a powerful and valuable tool for the community that not only aids in community adaption but also helps in the decisions made to adapt, while maintaining a connection with the land. A loss of TK signifies to community members a potential loss of connection with the land. Moreover, a possible reason for this loss could be the community's inability to combine TK with modern views of technologies. Beardy's is beginning to acknowledge this barrier and attempting to address it. This is evident through the creation and publishing of a book titled "The History of Beardy's and Okemasis First Nation" (BOFN 2013a) where TK of traditional hunting, gathering, fishing and trapping areas was gathered and placed in a GIS mapping system. This combination of TK and GIS will be used in the future by the community to guide development decisions.

Summary

Identifying the assets that can enhance or inhibit community capacity has lead to two observations. First, the Beardy's community places a higher value on assets that lie within natural, cultural and social capitals rather than built, human, economic and political capitals. The identification of key values could be key when the community and the PAMF are determining where to invest their time, interest, funds and potential in programs and projects. Moreover, identifying values that are favored by community members could help to bolster support for programs and projects that focus on those values.

Second, assets perceived to be at risk can be threatened by changes in the community and can be barriers to the community. Determining those assets at risk may allow band leadership to place priority on those assets and become proactive. Once values, strengths and barriers are identified, an evaluation of key community members, goals and necessary resources to achieve an ideal community future can complete the adaptive capacity analysis. This is necessary to create an effective and beneficial partnership between the PAMF and the Beardy's community.

5.2.3 Management of adaptive capacity by examining investments

Management of adaptive capacity can help answer the question, "what can be done?" (Williamson and Isaac 2013). To manage, the community must identify key leaders and identify tasks they want them to do to address adaptive capacity, and examine what they are and could be doing to deal with adaptive capacity issues facing the community. Community members must then describe community goals and desirable outcomes, what resources are still needed to accomplish those goals and how they would like to see their community in the future.

Interviewees identified people within and key organizations outside of the community as key to advancing adaptive capacity. The key people inside of the community included Elders and three specific Band members who work in the band office. Nine of the fourteen participants identified three members who work within the band office as vital to the adaptive capacity for the community. These three people help to develop and facilitate programs and projects, create important dialogue for the community, and work beyond "regular office hours" towards improving the community. Participants expressed a desire for these three people to continue developing partnerships and networking with outside organizations but understand that they are limited by money and time. Elders suggested that these key individuals who should give input on

decisions and community issues. These participants said that residents would bring a cultural perceptive to the table and people could learn more about past experiences.

One of the participants, who worked within the band office, identified outside organizations as key to the community's adaptation including PAMF, Saskatchewan Environment and First Nations Island Forests Management Association. The PAMF was identified due to its key part in facilitating programs and helping to establish partnerships for the community. Three out of the four youth participants identified FSIN and the Ministry of the Environment, two outside organizations, as key entities to the community's adaptive capacity. However, when asked what these organizations could be doing in the future with and for the community, the participants were unable to answer.

The perception of community governance, in the form of band leadership (Chief and Council), is important factors in decisions that are made to cope with or manage changes (Stevenson and Perraeult 2008b; Williamson and Isaac 2013). Some participants felt that Chief and Council has been working with a very limited budget and with a deficit, which creates barriers to enhancing and building capacity in the community. They described a future where Chief and Council could work with a lower or no deficit in order to develop and implement more programs, especially to keep youth busy and "away from the temptations of drugs and alcohol".

An evaluation of adaptive capacity cannot be completed until the goals and desirable future outcomes are identified; this helps to determine the direction of management decisions (Williamson and Isaac 2013). In the case of Aboriginal communities, it is vital for these communities to "own these processes" by giving community members the ability to describe their community goals, where they would like to see their community in the future and what resources are necessary to achieve those goals and future (Stevenson and Perraeult 2008b).

Figure 5.5 describes the goals, necessary resources and the desired future community as conceptualized by interview participants. Community goals were placed into a medicine wheel, which was divided into four parts: physical, emotional, mental and spiritual[14]. The medicine wheel symbolizes a balance that must be maintained among those four parts by Cree people.

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[14] There are many interpretations of a Cree medicine wheel and this one is adapted from: **Department of Canadian Heritage.** 2006. Cree (Nehiyawak) teaching Elder: Mary Lee. National Indigenous Literacy Association. http://www.fourdirectionsteachings.com.

For this research, the physical component (white), of the medicine wheel, represents things relating to the body and properties of matter; emotional (yellow) relates to a person's emotions and feelings; mental (red) relates to the mind and intellectual aspects; and spiritual (black) represents elements that affect a person's spirit or soul. Interview participants identified community goals and each goal was placed into the part of the wheel that best fit that particular goal. For example, Interviewee 7 expressed his/her desire to see more community members attend ceremonial events-this fits into the spiritual (black) section of the wheel.

After interview participants were asked to identify community goals, each participant was asked what resources were necessary for Beardy's to achieve the goals laid out by the participant (see Figure 5.5 and Appendix B). To achieve those goals, necessary resources were identified and can be linked to the different capitals: land for agricultural and resource exploitation can be found within natural capital; training within economic capital; education and educated and proactive leadership can be found within human capital; networks and partnerships within social capital; TK and faith fall within cultural capital; and, more political support falls within political capital. It should be noted that more political support pertains to the perceived battle between the Federal and Provincial government and the implications that "battle" has on the community.

FUTURE COMMUNITY

1. Lower deficit and decreased debt
2. New/and or better housing for some BOFN members
3. Acquirement of more land and proper utilization of current land
4. Further economic development
5. Increased connections with outside organizations
6. Increased participation in post secondary education
7. Re-connections of relationships between community members
8. Increased value of children and families
9. An increase interest in TK and the use of TK in community planning and decisions
10. Re-connection with land
11. Increased community pride

NECESSARY RESOURCES

- Land for agricultural/ resource exploitation
- Training and education
- Proactive leadership
- Networks and partnerships
- More political support
- TK
- Faith

COMMUNITY GOALS

Emotional

- Be more self-sufficient and gain more independence
- Connection and respect between youth and leaders
- Get community out of "hole" and create community prosperity
- Create community vision
- Programs, especially for youth
- Transparent leaders

Physical

- Seize on economic capital through forestry activities
- Upgrade/renovate water treatment plant, schools, roads and houses
- Acquire more land
- Build more and better houses
- Deficit free community

Mental

- Emphasize education
- Educated leaders

Spiritual

- Increase attendance at ceremonial events
- Use more TK
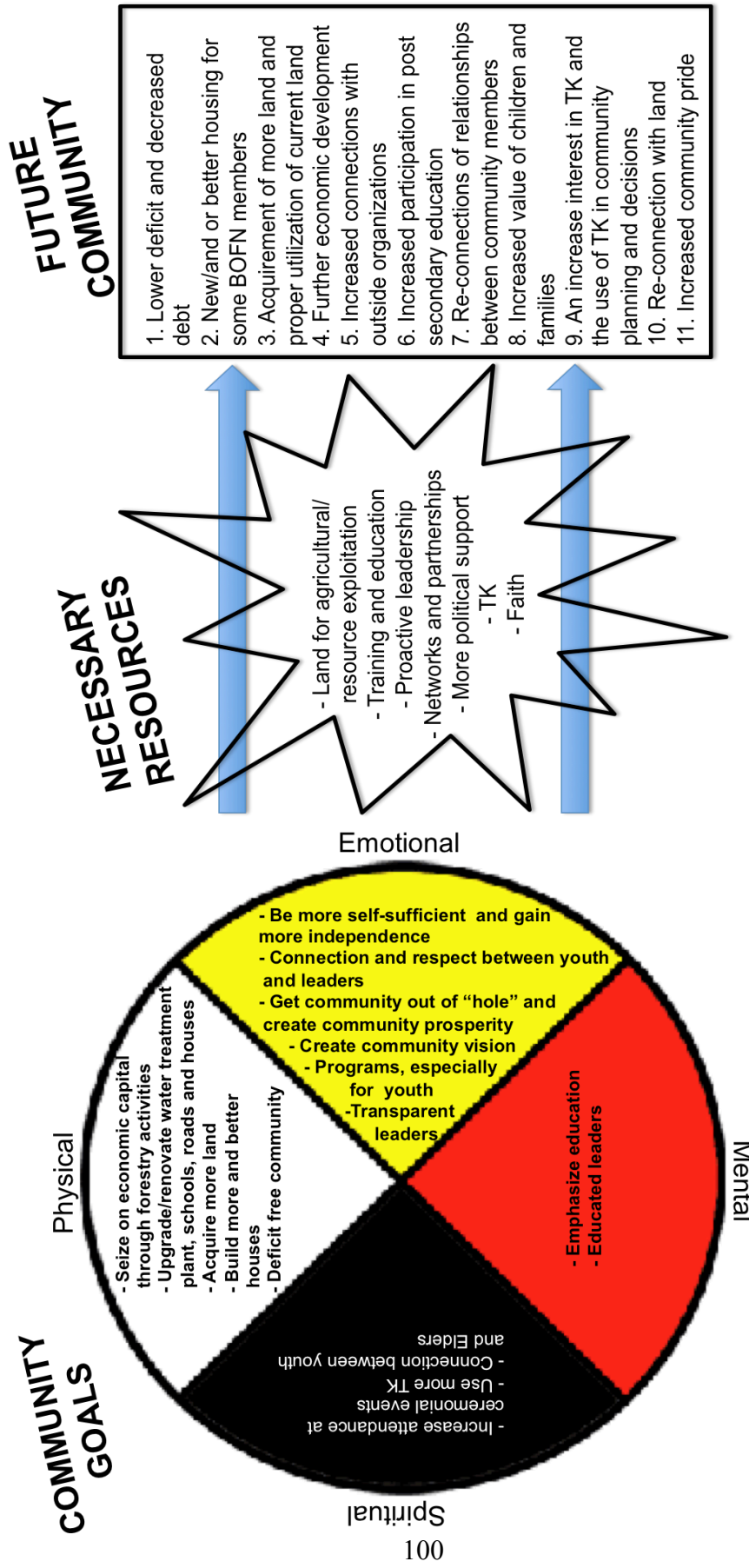- Connection between youth and Elders

Figure 5.5: Goals, resources and future community vision identified by the local community

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If and when the community can acquire, access and mobilize those necessary resources, the desired future within the community can be realized (Figure 5.5). The goals set by the interview participants seemed to vary; however, the high quality of leadership seemed to be a more common goal among the older participants (Interviewees 14, 18, 20 and 23). Moreover, three participants indicted a goal of becoming less reliant on the government and government resources (Interviewees 21, 22 and 24). The idea of becoming less reliant on the government and more self-sufficient stems back to the idea of empowerment for the Beardy's community (Stevenson and Perreault 2008b) and may lead to a sense of community pride among the community and community members. To achieve identified goals, the study participants described resources that are necessary to obtain those goals. Many of those resources stem from lack of perceived financial assets, such as funding for more programs, money for infrastructure and economic development opportunities (Interviewees 11, 12, 13, 15, 16, 18, 19, and 21). On the other hand, other study participants (Interviewees 14, 20, 23 and 24) indicated that there has been a lack of human resources in the community, such as people-people connections, trust, responsibility and respect. This diversity in perception of necessary goals suggests that outside organizations looking at working to work with or fund projects or programs to enhance the community's capacity must understand and acknowledge those different perceptions in order for the community to fully benefit from that relationship or partnership (see also Stevenson and Perreault 2008b). Finally, the goals identified and the required resources will help build the desired future community of Beardy's (Figure 5.5). All interview participants appeared to become more enthusiastic when discussing what they considered the ideal Beardy's community. Although there are many different aspects the future community, having Beardy's and other Aboriginal communities map out and envision their ideal future community could or may lead to more integrated and successful partnerships and collaborations.

These elements, along with community assets, values, strengths, barriers and identified key members and organizations are elements that contribute to the BOFN's adaptive capacity. This chapter provides an understanding on how Aboriginal engagement and adaptive capacity are linked, and provides evidence that Beardy's involvement and partnership with the PAMF has helped to enhance the FN's adaptive capacity. Moreover, it also shows that the BOFN provides active participation and involvement to the PAMF, an influential and active Aboriginal voice on

the PAMF board and continues to demonstrate to other FN communities the importance and benefits of establishing a mutually beneficial partnership with the PAMF.

Chapter 6: CONCLUSIONS AND RECOMMENDATIONS

6.1   Summary of findings

This thesis improves our understanding of how engagement in activities of a Model Forest by Aboriginal peoples can contribute to their adaptive capacity and to advancing the social goals of SFM. I developed an assessment tool that drew on the expertise and insight of the Aboriginal community requiring the collection of both qualitative and quantitative data, as well as meaningful preliminary fieldwork within the community. My research revealed that to adequately and effectively assess a community's adaptive capacity, a researcher must devote a significant amount of time and energy within the community to gain the respect from that community and to understand their key values, goals and visions. This is particularly true for Aboriginal communities where "western" metrics for assessing adaptive capacity may not adequately capture what residents find valuable or sufficient. Combining quantitative and qualitative data in the assessment provided by community participation and input enhanced the understanding of the community's ability to achieve goals and reach their ideal community future. Because each community faces unique issues and challenges, it is crucial to consult and work with individual communities in order to construct a framework for assessment that will be useful at the local level. A value or goal for a community may not match what a quantitative adaptive capacity assessment defines as necessary for the community. For example, a lower median income for the Beardy's community, in comparison to the national median income, may indicate a lack of financial assets and pose a barrier to the community. However, the Beardy's community places more value on cultural and social assets, thus a focus on building and enhancing these assets may be a priority for the community as opposed to gaining financial assets. This emphasizes the importance of working and collaborating with the community, in order to complete an effective assessment.

This research also shows the importance of giving weight to social, human and cultural capitals in addition to natural and economic capitals in assessments of adaptive capacity. It demonstrates, for this First Nations community at least, the connections among capitals, particularly between natural capital, and social and cultural capitals. Proponents of SFM must consider these connections as it moves away from simply sustaining forests and towards sustaining communities as well.

Through their mutual partnership, the PAMF has improved its ability to engage Aboriginal peoples and communities, while the Beardy's community worked to enhance their adaptive capacity. The PAMF gained numerous benefits through its partnership with the Beardy's community: Beardy's has taken the lead in projects, which were in jeopardy of failing (e.g. Agroforestry project), and turned those projects into something beneficial for the community *and* the PAMF. By working with Beardy's, the PAMF gained contacts within the community and with other First Nations communities and organizations thereby enhancing its mission. Additionally, one of the representatives for Beardy's has become a champion for the PAMF. This person has worked diligently to ensure that PAMF initiatives succeed and that there is always a voice for Aboriginal peoples and communities on the board. The partnership with Beardy's and other Aboriginal communities and organizations has also given the PAMF recognition nationally and internationally (CMFN 2014; PAMF 2014; Bullock and Reed 2015; Bullock et al. 2015; Hvenegaard et al. 2015).

The Beardy's and Okemasis First Nation has likewise gained benefits through its partnership with the PAMF. The community has gained valuable contacts and other partnerships with other organizations and institutions, associated with the PAMF (e.g. University of Saskatchewan). By conceiving, leading and being part of PAMF projects, Beardy's can direct those projects to better enhance the community's adaptive capacity. By being directly involved with the PAMF, Beardy's ensures that an Aboriginal voice is provided within the PAMF activities.

This research began from a need to examine how a partnership between an Indigenous and Non-Indigenous can support the goals of SFM, by strengthening Aboriginal engagement and contributing to adaptive capacity. As such, the key findings of this thesis are both conceptual and methodological. Aboriginal engagement within SFM activities can be measured through participation with an organization that demonstrates and commits to SFM practices and/or activities. The next section will identify lessons that can be used and shared for engaging Indigenous and Non-Indigenous communities to meet the goals of SFM. In addition, the research demonstrates how mutual engagement may reshape the definition of SFM. Section 6.3 will further explain this finding.

6.2   Lessons for Aboriginal engagement to meet the goals of SFM

Returning to the idea of mobilizing assets through continuous engagement (Figure 2.1), Beardy's and Okemasis has clearly demonstrated that its continuous engagement with a partner organization can lead to favorable outcomes. BOFN invested time, funds, interest and potential into the PAMF. This investment resulted in access to assets from different capitals, such as social and cultural capitals. This increase of and/or access to assets led BOFN to become more invested and engaged with the PAMF. Their continuous engagement allowed Beardy's greater access to more and different assets, which has helped Beardy's not only improve its adaptive capacity but also to become a model of engagement for other Aboriginal communities.

When examining the partnership between Beardy's and the PAMF, there are key lessons that can be identified to provide insight into a successful engagement through Indigenous and Non-Indigenous relationships and partnerships:

1) An Indigenous community that possesses a devoted, committed member and champion within that community may provide an essential connection for engagement and active participation with that community. Others have suggested that such "social" or "institutional entrepreneurs" are important for driving innovation towards more sustainable outcomes (e.g. Westley et al. 2011). However, when dealing with small communities, the capacity to participate may rely on one person and a loss of that person can result in a loss of participation, thus losing engagement of that community.

2) SFM activities (projects, programs and initiatives) that support Aboriginal participation must be focused on developing social and economic aspects of SFM, not just environmental aspects. The ability to support this evolution has likely contributed to the success of the PAMF as an organization over time (Hvenegaard et al. 2015).

3) Engagement is a two way street: both parties, Indigenous and Non-Indigenous, must have the capacity to participate in activities. Time, funds, interest and potential are all elements that must be considered in order to achieve engagement and nurture a long-lasting partnership.

4) A partnership, based on mutual respect, inclusiveness and openness, must be built between an Indigenous and Non-Indigenous community. That partnership then develops into a relationship, which contributes to the engagement and active participation from the

Indigenous community. This represents the idea of "spiraling up" documented by Emery and Flora (2006).

It is apparent that Beardy's has developed an expansive community network; however, what will happen to the community when key individuals and champions can no longer commitment or continue to help build those networks? The capacity for those individuals must be taken into consideration and Beardy's needs to begin to place a greater emphasis on producing effective leaders (human capital) in order to maintain those networks.

6.3   Re-conceptualizing SFM in Canada

SFM first arose in Canada as a shift in forestry away from sustained yield management of timber towards focusing on approaches that would balance development and forest practices, while meeting the social needs of forest dependent communities (ITTO 2006; Bonnell 2012; Bonnell et al. 2012). As a result of this movement, programs like the Model Forest Program were conceptualized to bridge the needs and wants of multiple stakeholders and rights holders, in hopes that collaboration and partnerships would help translate the theory of SFM into practice (Hall and Bonnell 2004; Bonnell 2012).

The Prince Albert Model Forest has demonstrated that the theory of SFM can be placed into action and can produce positive outcomes for SFM, through initiatives such as Aboriginally driven projects, research collaborations and international partnerships (see also Hvenegaard et al. 2015). But the research has also demonstrated how fostering such relationships over time also contributes to redefining SFM. The PAMF and Aboriginal communities have worked together to stretch and expand our understanding of SFM. Activities of these two partners in the name of "SFM" have expanded to include other natural resource sector activities and now include social, cultural, economic aspects, as well as environmental. Many of the activities do not fit within a conventional Canadian definition of forestry; some of them do not even involve trees. At Beardy's, for example, SFM has expanded to include activities that highlight sustainability in other natural resources, such as placing solar panels on a hockey rink and constructing a community garden. Hence, the approach to SFM has been to build relationships and to develop sustainable economic, social and environmental opportunities from those relationships rather than the other way around. Hence, projects, programs and initiatives have moved well beyond

science and research of forests to examining, building and enhancing the capacity of communities that depend on or live near forests. The broadening of the concept of SFM has allowed for active participation from a broader set of community members, stakeholders and rights holders as well as the inclusion of other vital resources, and activities that focus on enhancing and building capacity.

6.4   Limitations and implications for future research

There were limitations to this research. First, this research was conducted through an academic institution that required the meeting of timeframes and academic needs. This places constraints on financial resources, time to conduct fieldwork and the limits the scope of the research. Due to the vast collection of PAMF documents and the significant change in document storage throughout the years (paper to electronic), some documents were not located and/or crucial information was extracted from PAMF board members. This could limit the accuracy of some of my findings. Furthermore, my position as Caucasian female graduate student could have led to feelings of mistrust and restricted honesty and openness during gathering of interviews in Beardy's. In the position of an outsider, I had to rely on word of mouth and suggestions of willing participants. These factors could have lead people not being completely open or honest with their responses and feelings of repercussions due to the notion that other community members had knowledge of their participation in the research. Despite these challenges and possible limitations, I am confident that my preliminary fieldwork helped to establish a trusting and mutually respectful relationship between the community and my community (see Caine et al. 2009). This process helped to guide my introduction into the community and supported my ambition to provide results that would be of benefit to the community.

This thesis improves our understanding of Model Forests' contribution to SFM by offering an operational definition of SFM, within a Canadian model forest context, and providing a framework of Criteria and Indicators for assessing the engagement of Aboriginal peoples in Canadian Model Forest activities. The research also develops a framework that uses an adaptive capacity approach to examine the engagement of a First Nations community in MF activity. This methodology is supported by the work done by Williamson and Isaac (2013) but also contributes to the examination of social and economic changes that may be facing such communities.

As a result of this research, future research could go in a number of directions. Further studies are needed to examine the effect of Aboriginal engagement on adaptive capacity in other Aboriginal communities. A key challenge for enhancing and building capacity is creating institutions that will adhere to effective Aboriginal engagement, through respect, recognition of treaty rights and cultural aspects, and facilitating and supporting short term and long term solutions (Stevenson and Perreault 2008b). Only when these institutions create efficient and inclusive means of engagement will there be conditions necessary for the enhancement and building of adaptive capacity in Aboriginal communities. Other organizations and institutions that wish to enhance Aboriginal engagement and participation could use the C&I framework (see Appendix C) to examine the effectiveness of their projects, programs or initiatives. Moreover, other MFs could utilize this framework as well. This could be useful in verifying commitments of other MFs towards Aboriginal involvement and participation and provide additional evidence for the importance of maintaining the Model Forest concept in Canada. Model Forests in Canada have begun to disappear, as core funding has been discontinued (CMFN 2014). In addition, concerns have been raised over providing a neutral forum for Aboriginal involvement and input (Interviewee 1). This is exactly what the Model Forest strives to attain and a loss of this forum could mean a loss of Aboriginal engagement within forest and resource-related sectors. Given the activities and partnerships established, such a loss would also diminish capacity in Aboriginal communities and the Model Forest movement.

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Appendix A: Beardy's and Okemasis First Nation Pre interview questionnaire

1) Full name:⟩⟨_____

2) Current place of residency:_____

3) How long have you lived on the reserve? (Circle one)

      a) less than one year
      b) 1-5 years
      c) 7-10 years
      d) more than 10 years
      e) Entire life

4) Do you have any agricultural holdings? Yes or No (Circle one)

5) What do you use that agricultural land for? (Circle one)

      a) Rent it to others
      b) Use to grow crops
      c) Use it to graze animals
      d) Other:_____

Appendix B: Semi- structured interview questions

<u>Part 1: Adaptive capacity in the Beardy's and Okemasis First Nation</u>

<u>Section I:</u> Getting to know the interviewee

These first sets of questions are for me to get to know you a little bit and some background on your community.

1) What is your full name? Were you born on the reserve and how long have you lived in the reserve? What is your role or position within your community?

Prompt: Are you an elder? A student? Are you involved with your Band Council?

2) How old is the house you are currently living in? How long have you lived there?

3) What language do you speak in your home? Why?

4) How would you describe your way of life? What are important elements of your culture? How do you maintain those important elements of culture [just mentioned] today?

5) What types of community events occur here on the reserve? Which events do you like to attend? Are there any programs specifically for youth on the reserve or that the reserve has access to?

6) Have you been part of any organizations or groups now or in the past, in the community or outside of it? Example: PAMF, Boards, Band Council, etc. If so, what are these?

Ok, since I've gotten to know you a little bit better, let's move into some different questions.

7) Did you have the opportunity to finish high school? Attend post-secondary (trade school, college, university)?

Prompt: When I drive within your community, I can't help but notice the beautiful design of the High school. What do you think of the schools and education in your community? What do you think about children seeking an education off reserve?

8) Are you working right now? Where? What type of job is it? For example, construction, education, manufacturing… Is this job on or off reserve? Have you have had any other jobs in your lifetime? Have you ever worked off reserve?

Note: If jobs have been off the reserve, ask questions pertaining to "Have those jobs outside your community affected your family or social life or both?" If the job is on the reserve, ask, "How do you feel about people working off the reserve?"

9) How are the conditions of the roads within the community? If a disaster, such as flooding occurs, how does it affect your roads? How is the access to emergency services within this community?

Section II: Identify dimensions of the community that the community member deems of value or important. Values can be ecological, tangible or physical in nature (infrastructure, the landscape) and social as well (skills, traditional knowledge such as where to gather berries, when the seasons start to change, etc.).

1) For you, what values are important to you within your community? Can you list at least three values?
   Prompt: for example, do you value having a clean source of water to drink, or do you value maintain the Cree language?

Note: This question helps to identify resources or assets within the community (Description)

Section III: Assess features of the community, which are subject to changes, risks or stressors. Those changes fit into:
- Environmental/ecological- flooding
- Economic- forestry industry
- Social/cultural- school

1) In terms of an environmental change, I've noticed and heard from many people that this particular reserve has suffered from numerous flooding events. What do you think is causing these events?

2) How has your life changed from these floods?

3) How has life within the reserve changed within the last twenty years from these flooding events? Prompt: have you ever had to evacuate? Do you have any plans in case of an emergency?

Note: moving to economic change

4) Looking at an economic change, forestry has been an important part of Saskatchewan's economy for over 100 years. It has been an industry employing many workers, including First Nation peoples. Due to strict cutting laws and unforeseen forest fires, this particular industry has experienced many ups and downs in the last 100 years. Do you think these changes have affected your reserve? If yes, how so?

5) It's thought that the value of Saskatchewan's forest production can double within the next decade, especially with openings of new mills. Do you think this could have an effect on your reserve? If yes, how so?

Prompt: could it provide employment opportunities? If activity in the industry were to increase, could it have an impact on the Island Forests?

Note: moving to social/cultural change

6) Moving to a social/cultural change, there have been a lot of reports put out by various institutions and organizations, identifying that more First Nations children attend schools that are provincially or territorially operated. Moreover, a gap has been identified showing that rates of High school completion are lower on reserves than off reserves have you noticed these trends?

7) Why do you think these trends exist? In other words, why do we see these changes/trends occurring?

8) Is there anything that should be done to change the educational systems on reserves? What about off reserves?

9) Are there any other environmental, social/cultural or economic changes that you have witnessed or are witnessing and would like to discuss?

1) Regarding the values that you listed [revisit that values listed in Section II, question 1), have those changes you have witnessed and have been witnessing (forestry, flooding, schooling) affected those values? If yes, how so?

2) Do you see any of those values being at risk because of those changes?

Interviewer Note: this question helps to look into people's perceptions and understandings of changes and adaptation. This question helps to consider which values are at risk (Analysis) and the resources that may make adaption possible (Description)

3) What helps your community deal with changes?
Prompt: when a flooding event occurs, do you have an emergency preparedness plan set up?

4) What are your community strengths for each of the changes (described in Section III, question 1)? In other words, do you think the community has access to resources to deal with these changes? If yes, what kinds of resources? Prompt: these resources can be anything from financial resources to local knowledge

For interviewer: This question is asking "What resources do you have to deal with the changes that you see today? (give an example using the list above). In other words, what are your adaptive strengths?" This question considers resources that make adaptation possible (Description) and assesses of the adequacy of individual resources/conditions of adaptive capacity for the changes occurring in the community (Analysis)

5) In your opinion, what holds back your community from dealing with those changes?

For interviewer: this question is asking "What are your capacity needs to deal with those changes? In other words, what are the capacity weaknesses that you see or improvements that

could be made?" This question assesses of the adequacy of individual resources/conditions of adaptive capacity and identifies assets that may be limiting or constraining adaptation (Analysis)

Section V: Decisions that are made to cope with or manage changes.

Okay, this next set of questions concentrates on how decisions are made about what should or can be done to manage or cope with some of the changes and challenges you have noted above; what groups, organizations or individuals are responsible and so on…
For interviewer: Go through questions 1-3 below focusing on their top 3 ranked negative changes in the community.

1) Earlier, you had mentioned that ------ is changing. How is the community responding to that change/changes? Are there any particular people or groups that are helping to deal with that changes/changes? Who are they and what are they doing? In the future, what else could they do?

2) What is your council doing to deal with these changes? In the future, what else could they do?

3) Are there any groups or organizations outside of the Beardy's community who are responsible for dealing with the changes you listed above? Interviewer- go through each change and who might be responsible for dealing with each change. Who are they, what do they do and in the future, what could they be doing?

For example: The Prince Albert Model Forest- explain about the program and how Beardy's has been involved with it. Ask if the interviewee is aware of some of the initiatives and projects that Beardy's has worked on with the PAMF. Has the interviewee ever attended a model forest meeting? If familiar with the model forest, do you know the key issues that Beardy's worked with model forest?

Note: questions 1-3 examine enhancing adaptive capacity can involve investing in, building, or increasing assets, developing new institutions and approaches to governance or modifying existing ones and establishing new mechanisms for cooperation, collaboration and creation of partnerships by encouraging innovation, learning and adaptive management (Management)

4) Are there any key leaders within the community? Why did you select that person or persons?

5) With regards to the Council, that helps to lead your community, what changes would you like to see them apply?

6) What are your thoughts about the future of this community? For example, "If only we….or if we…." You can finish that sentence however you wish. What are some goals or outcomes that you wish to be accomplished? What resources do you still need to accomplish those outcomes?

Note: questions 4-6 examines consider adaptive capacity outcomes and properties that are desired (Analysis) and developing or modifying existing forms of governance/institutions (Management)

Final Question: I have asked you a lot of questions and most of those questions I've asked are based on a Western framework and understanding of Aboriginal people. We use terms, such as adaptive capacity and vulnerability, to help us describe and identify those communities that may be threatened by changes. For you, is there a different way scientists, academics and governments can approach communities that are dealing with problems, issues or changes? Is there a different kind of terminology or language that can be used? Finally, are scientists and literature focusing on the right issues and changes facing Aboriginal communities?

Part 2- Model Forest Interview Questions

The interviewees for this set of interview questions will be placed into one of two categories: Aboriginal or Non-Aboriginal. Once placed into a category, the interviewee will be

asked a set of questions, either question set 1 or 2, specific to which category he or she was placed into. Once question set 1 or 2 is complete, all interviewees will be asked question set 3. Question set 3 will be used as a link between Aboriginal and Non-Aboriginal interviewees.

Question set 1- Aboriginal

Question set 2- Non-Aboriginal

Question set 3- Both Aboriginal and Non-Aboriginal

Question set 1

1) Can you please tell me you full name? What Aboriginal community are you from?
2) Do you know how long your reserve has been involved with the PAMF?
3) Are people from your reserve aware of the Model Forest program?
4) Has the model forest program provided your community/reserve with ideas, concepts, projects and opportunities to deal with any issues or changes in your community? What are some examples, if you can provide any?
5) Has working with the model forest benefitted you? Prompt: Has being involved with the model forest expanded your opportunities or career?
6) When attending meetings, do you feel welcomed?

Question set 2

1) Can you please state your full name, occupation and which organization you may represent?
2) Do you feel the PAMF encourages an inclusive atmosphere and participation/engagement from Aboriginal peoples? In what way(s) does it or doesn't it?
3) During your experience/time with the Prince Albert Model Forest, have you seen an increase or decrease in Aboriginal peoples participation or interest with the PAMF? Why do you think that is? Have you seen a change in the initiatives set by the PAMF?

Question set 3

1) How long have you been involved with the PAMF? In a given year, out of the ten meetings held, how often would you say you attend meetings? Is there a specific reason why you attend ____ meetings a year?

2) Is there anything that this model forest can do to let other communities and reserves know about the program and encourage more participation and engagement?

**Appendix C: Descriptions of PAMF activities, as provided by the PAMF Annual Reports
(1992-2013)**

Community Resilience to Climate Change- Beardy's and Okemasis First Nation

To address climate change concerns, adaptability and resilience and changing access to traditional lands. The approaches developed in this project can be used to undertake vulnerability assessments and adaptation planning in other Aboriginal communities. The emphasis in this project will be on community led assessment and planning. The project will include of all ability assessment and adaptation-planning framework that is recently been developed by the climate change vulnerability project under the support of the Canadian Council of Forest Ministers.

Saskatchewan Resource Rangers (also Junior Forest Rangers and Junior Ranger camps)

The Saskatchewan Resource Ranger program is a six- week summer work experience program (subject to funding allocation for training), where students between the ages of 16-18 learn about our environment while connecting to their culture and becoming certified in various targeted areas. The program's content focuses on natural resources but it also encompasses practices within the fields of: Traditional Ecological Knowledge (TEK), cultural awareness, forestry, law, fire-management, health & safety, industry and environmental sciences. By combining traditional practices with science & technology, the program adopts a holistic approach that combines teachings from Elders, environment and culture and gives youth the skills to pursue a career in the field of natural resources.

First Nations Island Forest Sustainable Management Plan (also called First Nation Island Forest Capacity Building; (Building Capacity) (Developing and implementing a sustainable forest management planning model for First Nations Island Forest Management Inc.; Develop and implement SFM planning model for FNIFMI; Increasing FN Engagement in Island Forests Management Planning

In anticipation of the Ministry of Environment, Forest Service's development of a work plan for an Island Forests Forest Management Plan (FMP), Aboriginal involvement on the planning team was sought and developed through a series of technical workshops. In the past, this project also involved building capacity for Aboriginals to participate in forestry and forest management through workshops.

Athabasca Land Use Planning- Management Structure Development (also called Joint Management of Athabasca Seasonal and Winter Road Corridor)

This project established an Athabasca community-based resource management structure, beginning August 2003. Coming from an agreement that commits to explore options for delegated decision-making, this management structure was a first for Saskatchewan. Emphasis

has been on capacity building in decision-support systems, sustainable forest management, governance, and integrating management paradigms based on different worldviews. The primary goal was to increase the participation of Athabasca residents in natural resources management decision-making.

Resource Ranger Community Garden, Beardy's and Okemasis First Nation

The purpose of this project is to host a knowledge-sharing conference bringing together interested communities and experts in the field of agroforestry/afforestation. Another goal is to train communities in the use of PAMF business planning toolkit for use in conceptualization, set-up and operation of a sustainable forestry plantation structured as a community-based social enterprise. The goal is to establish an alley cropping community garden at the Beardy's, where local youth will be trained in the planning, development and maintenance, and the community will share in the harvest.

Saskatchewan River Delta- Wetland Centre of Excellence

The Charlebois Community School in Cumberland House, SK will work towards creating a Wetlands Centre of Excellence program within the school system. The program will be designed to educate youth about the Saskatchewan River Delta and become involved in long-term wetland conservation projects. The students will be encouraged to take action in their local community and promote a better understanding of the value of wetlands and the need to conserve them. To complete and develop this program, the Charlebois Community School will work in conjunction with the Northern Lights School Division #113, the community of Cumberland House, Ducks Unlimited Canada and a local project committee comprised of fishers, trappers, wild rice harvesters, community Elders, and resource management agencies and experts.

Collaboration with Vilhelmina Model Forest, Sweden (also called Sweden partnership)

Vilhelmina and Prince Albert are communities facing challenges of sustaining communities in the forest. By documenting and describing land-use patterns, management plans, and legal and political systems at work in each Model Forest, both are beginning a collaborative learning process together. An associated, ongoing project is called *Learning from our Elders.*

Paspiwin Cultural Heritage Interpretative Site (also called Tourism Diversification: Paspiwin Cultural Heritage Site Development; Tourism Diversification Opportunities- Heritage Tourism Development; Tourism Diversification Opportunities

15 Aboriginal groups signed a cooperation agreement between Prince Albert National Park (PAMF) and Paspiwin Cultural Heritage Site Inc. This project explores Aboriginal-based cultural awareness activities, heritage presentation problems and self sustaining economic tourism potential, among a number of Aboriginal communities with connections to PAMF and area.

Sturgeon River Plains Bison Stewardship (SRPBS)

On a local level, the greatest threat to the long-term sustainability of the free ranging bison herd remains local landowner acceptance. At this point, the tolerance level of local stakeholders has been high. This is due, in large part to the efforts of the SRPBS. The group has worked hard to facilitate strong communication between all parties, including the local First Nations, Parks Canada and the Saskatchewan Ministry of Environment. Many successful local projects have been undertaken, including the construction of diversionary fences, controlled hazing of bison off sensitive areas and the education of students and the general public through field days, class visits, local newspaper articles and newsletter, "The Bison Times". These projects were undertaken to address some of the short-term challenges associated with this population. This group has been able identify priorities and is proceeding to take action to address them.

Building Linkages: Kindergarten to Careers

To conduct, enhance, track and measure the success of a targeted recruitment program. A SIAST graduate/ambassador from their natural resource management program will work through the funding of the PAMF to promote this program and its related opportunities.

Pre-high school programs of Askiy-Nih, Northern Lifestyles, the Saskatchewan Learning Practical Applied Arts 20/30 Series Wildlife and Forestry courses, and the Saskatchewan Junior Forest Ranger Program are linked to credit courses at post-secondary levels through Saskatchewan Institute of Applied Sciences and Technology (SIAST) and the Universities of Saskatchewan, Regina, and First Nations University of Canada. Targeted high school programs like this one help to build linkages towards these post-secondary fields and provide a career path for youth.

Cumberland Delta Moose Management project (also called Moose Management Project

A multi-year moose management project in the Cumberland Delta led to the formation of the Cumberland Delta Moose Management Committee consisting of interest groups, community members and Aboriginal peoples using the area. Community workshops have been held and on-the-ground strategies have been developed to renew moose habitat in the area.

Deschambault Lake Traditional Land Use Changes

At the Climate Change meeting in Prince Albert on Feb 3, 2004, an Elder Oscar Beatty was in attendance. During the discussion period, he indicated that he has seen a number of changes in the community and the wildlife surrounding the community and he felt that could be attributed to climate change. He was interested in recording his recollections of the history of the area. This information could also be used in additional climate change workshops that we are planning in the area, Deschambault, Lac La Ronge, Montreal Lake and Sturgeon Lake.

The project was a combination project, similar to the Montreal Lake Region its history and geography that forms the background information, and a Traditional Land Use study similar to the ones completed for the Athabasca Basin Land Use study (i.e., small scale). Basic physical,

geographical, and historical data was collected on area surrounding the town site and the families' traditional areas. Information will be gathered on trapping areas, kill sites for big and small game animals, furbearer's, and birds areas for berry, egg, plant wood gathers as well as difference types of overnight sites, (cabin, tent, open air). The basic information on the interviews was transferred to 1:12,500 forest cover map.

Bull Moose Forest Cutting Plan/Bull Moose Planning Process

Weyerhaeuser, in cooperation the PAMF, solicited community, stakeholder and rights holders participation to create a forest cutting plan through workshops. Public involvement and engagement helped to produce a plan that met the needs of forest dependent people and communities. Montreal Lake Cree Nation became very active participants during this project.

Carriere Caribou Project

The purpose of the project was to understand the change that has occurred in Woodland Caribou distribution using Traditional Ecological Knowledge (TEK). Woodland Caribou, as a threatened species, falls under the Species at Risk Act. To understand the impacts of current and past land management actions on caribou populations, this project gathered knowledge from long-time residents in the study area of La Ronge, Hall Lake, Grandmother's Bay, Stanley Mission and Brabant. Ultimately, it was hoped that this project will raise awareness and increase stewardship of Woodland Caribou and foster a working relationship between government agencies, industry and Aboriginal people.

Buffalo River Dene Nation Woodland Caribou distribution research

The objective of this research was to determine the land management approaches required to protect the habitat required for this threatened species and to promote woodland caribou recovery in northwestern Saskatchewan. A collaborative partnership was developed between Saskatchewan Ministry of Environment, Prince Albert Model Forest, Mistik Management Ltd. and Buffalo River Dene Nation (BRDN) to undertake a three-year study of woodland caribou within BRDN traditional territory. The project focused primarily on fieldwork, which was conducted by BRDN and was designed to verify presence and extent of occurrence within BRDN's traditional territory and relatedness of these woodland caribou to those across the province. The project contributed to our knowledge of caribou distribution and assisted in better planning of forest management activities and other development to the benefit of caribou.

Saskatchewan Environthon

Envirothon is a unique student-centered competition that focuses on current environmental initiatives and combines quality educational training with hands-on learning activities. Each team of five students studies soils and land use, aquatic ecology, forest biology and forestry practices, wildlife, and an environmental theme. Currently, Envirothon is running in over 40 states and 9 provinces. The program targets high school aged students and promotes environmental awareness. The PAMF contribution is used to assist and promote interest in this competition by schools and

individuals from northern communities in Saskatchewan. The goal is to increase the participation from northern communities.

<u>Community Engagement and TEK gathering in Pasquia-Propcupine Canadian Boreal Forest Agreement, SK Regional Working Group</u>

In 2012, the PAMF was contracted by FPAC to report to the Canadian boreal forest agreements Saskatchewan regional working group to provide community engagement and traditional knowledge gathering in the Pasquia porcupine forest management area communities. The focus of the knowledge gathering is around Woodland Caribou but will also include protected areas and other species of concern. Initially, three communities of Cumberland House, Red Earth, and Shoal Lake communities, were the focus for engagement.

<u>Aboriginal Recruitment and Retention Training (also part of the North Central Sask Labour Market Committee Aboriginal Recruitment and Retention)</u>

The North Central Enterprise Region (NCER) is a non-profit economic development agency designed to provide the focus and leadership necessary to build a thriving North Central Saskatchewan Economic Region. In conjunction with our recently developed regional Labour Market Strategy, NCER offered best practice aboriginal recruitment and retention training and seminars to the North Central Saskatchewan business community and agency partners to:
  • Increase the retention rate of Aboriginal persons hired by employers
  • Increase the recruitment rate of Aboriginal persons hired by regional employers

<u>The Agronomics of alley cropping</u>

To establish the first alley crop demonstration site in Saskatchewan and the third of its kind in Canada. The demonstration would help to provide a model for Aboriginal and other rural communities, which could be modified for their own lands. Adoption of similar systems has potential to provide employment, revenue and numerous environmental benefits.

<u>Northern Lifestyles (Askiy-Nih Traditional) Curriculum (also called Askiy-Nih Tradtional Resource Use Curriculum Development; Askiy-Nih Traditional Curriculum Development; Askiy-Nih Traditional Resource Use Curriculum Development K-12; Askiy-Nih Traditional Resource Use curriculum; Askiy-Nih Traditional Resource Use/Northern Lifestyles)</u>

The aim of this curriculum for grades 10, 20 and 30, was to develop skills specific to Northern Saskatchewan and the environment. The lifestyle of people in northern Saskatchewan reflects and defines their identity. Students would focus on preserving, maintaining and enhancing a unique way of life, which is still practiced by people in northern Saskatchewan. Students who study Northern Lifestyles 10, 20, and 30 would hopefully develop a better understanding and gain an appreciation of Northern Saskatchewan lifestyles activities.
  • To promote student participation in varied learning situations and activities that will assist them in acquiring listening, speaking, reading, writing, viewing and representing

skills.
- To develop and understanding and an appreciation of northern lifestyles.
- To promote positive personal and social growth through use of required skills.
- To encourage parental and community active participation with school related activities.

IRM (also called IRM plan-public consultations and research sites assigned, IRM planner, IRM Review and IRM Plan Review)

This Ecosystem-based Integrated Resource Management approach recognized the need for a resource management plan to provide direction for sustainable management of all resources and their use in the area. The Integrated Resource Management working group (PAMF) developed a formal planning framework and strategy for PAMF area. Public consultations and the working group invited over 100 outside organizations to participate in working group and development of management plan. Commitments, development and implementation of IRM plan was finalized. All 10 PAMF board members officially signed the plan on Jan 23, 2001. To determine the progress of plan and actions identified in plan, a student conducted a review using project partner input.

Education program and Science Fairs/Science nights

The PAMF supported the education program as a in classroom forestry education programs offered through the Saskatchewan Forestry Association which introduced students to sustainable forest management, integrated resource management and partnerships. The science fairs/science nights program was intended to introduce students from Kindergarten to Grade 12, to the work of the PAMF and its partners. The PAMF worked with the Federation of Saskatchewan Indian Nations who hired a student Science Demonstrator to coordinate a program in various schools promoting science using traditional knowledge.

Focus on Forests (FOF)- Web-based delivery (also called Focus on Forests- Aboriginal Education Initiative On-Line Project)

To set up a resource based website that teachers and students in Saskatchewan can access for information about the Boreal Forest in Saskatchewan. Earlier in the program, a focus was placed on providing education online that would emphasize Aboriginal teachings and culture in forests.

Non-timber Forest Product Capacity Development

To provide support and coordinate efforts of a recently reconstructed non-timber forest products (NTFP) working committee.

Amisk-Atik– Building First Nations Resource Management Board (also called Training Local First Nations for Forest Management Operations and Planning for Amisk-Atik Projects)

Amisk-Atik Forest Management Inc needed assistance in establishing and training community co-management boards, in further defining the role of Amisk-Atik's Management Board, and in developing processes and best management practices to ensure community representation leads the direction of growth for an emerging, integrated, multi-sector resource management model. The final outcome will be a First Nations landbase managed according to the cultural, social, and economic aspirations of the First Nation, which is able to operate within an economic and operational model acceptable to industry partners.

Aboriginal Afforestation- assessing opportunities

The purpose of this project was inform and finance, the conceptualization, start-up, and operation of a sustainable forestry plantation that is structured as a community-based social enterprise. This led directly to the development of the Resource Ranger Community Garden for the BOFN.

Agroforestry Inventory/Industry Development (also called Establishing Agroforestry Industry and Inventory in the Parkland Region)

The purpose of this project was to inform and finance (through government and private means), the conceptualization, start-up, and operation of a sustainable forestry plantation that is structured as a community-based social enterprise.

Aboriginal Caucus

The concept of the Aboriginal Caucus was first proposed to the PAMF by our Federation of Saskatchewan Indian Nations (FSIN) representative as a way of ensuring a greater Aboriginal voice at the PAMF Board table. The Caucus would create an open forum where First Nations and Métis communities could come together to openly discuss issues of their communities. A member from the Caucus would sit on the PAMF Board of Directors providing the conduit between the two groups. The Caucus could be a forum for training and consultations.

Appendix D: Details of the PAMF C&I analysis

Projects/programs that met all Criteria

Community Resilience to Climate Change- Beardy's and Okemasis First Nation- Project- 2012/2013

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- First project leader was Aboriginal - Community that project was based in and focused on was an Aboriginal community	Yes	
Sustaining Ecosystem Health	- Maintenance of ecosystem and biological diversity, protection of water and riparian sources, and ecosystem-based livelihoods - Respectful inclusion of Traditional Knowledge	Yes	-This project has a big focus on sustaining ecosystem health within the community and surrounding area, in the face of climate change -Project is dependent on inclusion of TK
Economic Sustainability	- Ensures diversity and access to employment opportunities - Provides educational opportunities	Yes	-Community members identified important economic areas and ventures -Project focuses on ensuring the diversity of and access to employment opportunities continues. Moreover, project could allow for new economic opportunities to be discussed (example: planting of wild rice in flooded areas) -Allows for education of climate change effects in the region, which could affect economic capacity development and future economic decisions
Social Sustainability	- Provides educational opportunities to all community members- including youth and Elders	Yes	-Project was dependent on community engagement and participation and was able to provide educational

	- Project has the potential to contribute to community development- Infrastructure and facilities - Promotes cultural revitalization		opportunities to those who participated -TK recognized and promoted as being vital to the success and completion of the project -Future contributions to community developments are dependent on commitment to project and recommendations taken from the project. Shortly after workshop, community developed a new emergency community plan, which had been outdated. This project had helped community participants recognize the need for a new plan
Fair Decision Making	- Inclusive representation and meaningful involvement - Cross cultural learning and respectful inclusion of Traditional Knowledge - Informed and equitable decision making	Yes	-All members of community given the opportunity to participate and people/partners from different backgrounds and organizations involved with project -One of the goals of the project was the transfer and sharing of knowledge (scientific and TK) -Project provides assistance and advice to community for decision-making. Ultimately, decisions made, as a result of the project, are up the community
Effective Decision Making	- Adequate capacity to take and carry on project - Satisfaction with project - Accountability and transparency of project	Yes	-Plans for project to continue into the next year were set-ensures continuity of project -There was adequate interest, time and funds to take on project. The BOFN provides the interest in taking part in the project. -Members appear to be satisfied with project

			-Project information easily accessible and provided to community. Moreover, partnerships effectiveness reported publically -Long-term relationships between project leads had already been established and demonstrated in prior projects; therefore, project is anticipated to have a positive outcome

Saskatchewan Resource Rangers- 2012/2013
Junior Forest Rangers- 2008-2011
Junior Ranger camps- 2006-2008

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Aboriginal program leader - Program focuses on youth from Aboriginal communities	Yes	-One program leader for Saskatchewan Resource Rangers is Aboriginal
Sustaining Ecosystem Health	- Commitment to sustainability - Maintenance of biological and ecosystem diversity, protection of water sources/riparian areas and ecosystem-based livelihoods - Respectful inclusion of TK of ecosystem protection	Yes	-Program educates youth in maintaining ecosystem and biological diversity, as well as protecting riparian/water sources and ecosystem livelihoods -Overall aim of program is to produce graduates that will contribute to protecting and sustaining ecosystem health for current and future generations -Program content includes TK and teachings from Elders
Economic Sustainability	- Builds community capacity development	Yes	-Program provides training and education to youth

	- Ensures diversity and access to employment opportunities		participants in forestry and forest related management and activities -Training allows for graduates of the program to have access to a variety of career opportunities
Social Sustainability	- Provides education and training for youth - Promotes cultural revitalization - Could contribute to community development	Yes	-Provides access to training and educational opportunities for youth -Elder participation and TK inclusion is identified and recognized as vital components to the program -Program provides graduates with future career opportunities and opportunities to contribute to their communities' development
Fair Decision Making	- Cross cultural learning and respectful inclusion of Traditional Knowledge - Meaningful involvement and inclusive representation - Informed and equitable decision making	Yes	-Program allows for transfer and sharing of different forms of knowledge -Many different communities involved, as well as coordinators and partners from different organizations and with different backgrounds -Participating communities have access to program coordinators and partners, for advice and guidance. Also, decisions for types of activities taken in program are decided by communities and the program can tailored to fit community's wants and needs
Effective Decision Making	- Adequate capacity to take and carry on program - Satisfaction with program - Transparency and accountability of program	Yes	-Program has been around for a number of years due to high interest. There has been more then 400 graduates from the program -Communities that wish to participate now must provide

			own funds to participate and must come up with own coordinators for community -According to community and graduate surveys, satisfaction with program is high -Many youth that participate in program go on to complete further education within the natural resource sector -Program information and activities is easily accessible and available -Long-term relationships and communication were fostered due to the program and continue to be effective

1) First Nation Island Forest SFM Plan- 2011/2012
2) Increasing FN Engagement in Island Forests Management Planning- 2010/2011
3) Develop and implement SFM planning model for FNIFMI- 2008-2010
4) (Building Capacity) (Developing and implementing a sustainable forest management planning model for First Nations Island Forest Management Inc.-) 2007/2008
5) First Nation Island Forest Capacity Building- 2006/2007

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project had a focus on Aboriginal communities	Yes	-The focus was on the seven First Nations Island Forest members -Focus of the program was on Aboriginal involvement and participation in forest-relate jobs and management in the Island Forests
Sustaining Ecosystem Health	- Commitment to sustainability - Maintain ecosystem and biological diversity - Respectful inclusion of TK	Yes	-Developed and implemented a successful SFM model, while including TK, could help sustain ecosystem health and protect the ecosystem

	of ecosystem protection - Protection of ecosystem-based livelihoods		livelihoods of those seven FN's -The PAMF board combined this project with climate research occurring in the Island Forests and First Nations lands to ensure a balance between ecosystem health and economic developments
Economic Sustainability	- Provided training and educational opportunities - Ensured diversity and access to employment opportunities - Provided possibility for education in economic development	Yes	-Trained employable workers and operators in heavy equipment -Project allowed for training for basic skill for forestry -Project aimed to identify current and future forestry and forest management opportunities -Helped increase awareness and educate Island Forest communities in forest management economic decisions and forestry opportunities -Although project was postponed until the province could proceed, Forest Management workshops were eventually delivered to representatives from the seven First Nations communities -Future economic development was conditional based on if representatives commit to future workshops
Social Sustainability	- Provided training and educational opportunities to First Nations Island Forests (FNIF) bands, as well as youth - Promoted cultural revitalization - Contributed to community development	Yes	-Some graduates from Junior Resource Rangers were trained in forest related opportunities -Island Forest members were encouraged to participate, introduce and promote their culture (in the form of TK) in the Management Plan

			-Project focused on developing and enhancing capacity within the FNIF bands; however, further community development was dependent on the continued commitment from community representatives
Fair Decision Making	- Cross cultural learning - Meaningful involvement and inclusive representation - Respectful inclusion of FN knowledge - Informed and equitable decision making	Yes	-A goal of the program was to have a knowledge transfer and a sharing of best practices communicated between FN's outside of Island Forest area -Number of partners in the program continued to increase and diversify through the years -This program allowed for the development of long-term working relationships between different FN communities and improved working relationships with those nations, industry and government -Communities involved were able to provide input, and make decisions, in terms of capacity building, that suites their current situation and community
Effective Decision Making	- Adequate capacity to take on and continue this program - Transparency of the program - Accountability of the program	Conditional	-There remained continued interest in the Island Forests, in terms of education, training and management input as well as future concerns over climate change impacts on the forests -Documents, information, activities and draft plans were made available for FN and public review and input -Partnership and project effectiveness openly reported -At one point, management

			plan was unable to continue due to partnership situation; however, workshops were delivered the following year and that partner remained committed to the plan

Athabasca Land Use Planning- Management Structure Development- 2004-2007
Joint Management of Athabasca Seasonal and Winter Road Corridor- 2003/2004

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Project leaders were Aboriginal - Project involved Aboriginal communities	Yes	-The PAGC, which represented many different Aboriginal communities, took a lead in this project
Sustaining Ecosystem Health	- Commitment to sustainability - Maintenance of ecosystem and biological diversity - Protection of water sources/riparian areas - Respectful inclusion of Traditional Knowledge in ecosystem protection	Yes	-Project was focused on SFM and sustainable resource development -Consultation and input from Aboriginal communities allowed for the project to include TK within the area's management plan (example: TK mapping and Elder interviews)
Economic Sustainability	- Built and enhanced community economic capacity - Ensured access and diversity of employment opportunities	Yes	-This project worked to build capacity in local communities and emphasized community-based resource management -Economic environment and opportunities were evaluated in the region -Education and training occurred through consultations, presentations and workshops
Social Sustainability	- Provided educational and training opportunities	Yes	-There was an emphasis on developing a resource

	- Contributed to community development - Promoted cultural revitalization		management structure/plan that was community-based -Education and training opportunities were provided to Athabasca residents, with the aim of increasing the knowledge and participation in natural resource management decision-making -Since project were community-based, community input and decision-making allowed for community development and future community development with the management plan -Traditional knowledge became an important tool for this project, especially when mapping or designating protected/cultural areas
Fair Decision Making	- Meaningful involvement and inclusive representation - Equitable and informed decision making - Respectful inclusion of Traditional Knowledge and cross cultural learning	Yes	-This project placed an emphasis on multiple partners and groups working together to building capacity in equitable and informed decision making and governance in the region -Not only was TK a component within this project, it emphasized the importance and capacity building of sharing and transferring knowledge between different worldviews
Effective Decision Making	- Adequate capacity to take and carry on project - Transparency and accountability of project	Yes	-New and effective partnerships were established from this project. Project participants and partnerships were able to work together in the decision making process and provide input for the management plan

			-There was a high interest for communities to become involved in the project -Project information, data, and draft plans were made available and accessible to the public and project partners/participants through websites, presentations and consultations -Partnerships, capacity building and further analysis, monitoring and research continued into the future for this project

Projects/programs that met two of the Sustainability Criteria

Resource Ranger Garden, Beardy's and Okemasis First Nation (BOFN)- Project- 2012/2013

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project leaders are Aboriginal - Community that project is based in was a First Nation community	Yes	-Garden is intended to be locally managed by BOFN
Sustaining Ecosystem Health	- Maintenance of biological diversity - Protection of water sources and riparian areas - Respectful inclusion of Traditional Knowledge	Yes	-Sustainable methods of planting, using alley cropping principles. Alley cropping techniques can allow for nutrients to be restored in the soils and for diversity in plant species -Garden is located near a river stream; protection of water sources and riparian areas due the non use of pesticides and herbicides

			-Elders take part in project and give advice to garden management
Economic Sustainability	- Possibility for building of future community capacity	No	-Training for use of business planning toolkit was deferred due to lack of funding and lack of qualified capacity/business trainers -Future community capacity could be possible, if business training is made available and is dependent on how well crops far every year. Also, project is fairly new: began in 2012/2013 year
Social Sustainability	- Provides training and education to youth - Could contribute to community development - Promotes cultural revitalization	Yes	-Some students received education about planting and nurturing food crops -Harvests from the garden are to be shared with the community -Current and former Resource Rangers (youth) given the opportunity to manage the garden -Youth educated by other members and Elders in the community about how to care for garden in a sustainable manner. Moreover, TK is acknowledged and recognized (Elder participation) -Did not provide training for business toolkit due to lack of funding and qualified instructors in this area -Could contribute to community development (Grocery store) if training in business toolkit is completed
Fair Decision Making	- Inclusive representation from the Beardy's community (youth, Elders and other members involved in project) - Meaningful involvement	Yes	-Multiple leaders with different backgrounds -Use of TK and alley cropping techniques allows for sharing of knowledge

	- Cross cultural learning and inclusion of Traditional Knowledge - Equitable and informed decision making		-Project partners are available for advisory support and training -Community members are informed and have the opportunity to contribute to the project decisions
Effective Decision Making	- Adequate capacity to take and carry on project - Satisfaction with project - Project accountability and transparency	Conditional	-At this point in time, there are not adequate funds to continue some portions of the project; however, there is a high interest and time by some community members to ensure continuity of project -Community members appear to be satisfied with the project -Partnership effectiveness is reported during PAMF meetings and in reports and information for project is easily accessible (through community members or PAMF) -This project is new and its success and effectiveness in the future is dependent on community maintenance, commitment, participation and engagement with the garden. Moreover, crop growth is highly dependent on climatic activity during the year (area is experiencing effects from climate change)

Saskatchewan River Delta- Wetlands Centre of Excellence- 2011-2013

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of	- Multiple Aboriginal leaders	Yes	

Aboriginal person(s) or Aboriginal community/communities	- Communities and schools involved include those that are Aboriginal		
Sustaining Ecosystem Health	- Maintenance of ecosystem and biological diversity - Protection of water sources and riparian zones/areas - TK is a big part of program	Yes	-This program has a main focus on sustaining ecosystem health, especially water sources, wetlands and riparian zones
Economic Sustainability	- Economic sustainability is not a main focus of this program	No	-May encourage community economic capacity through education of importance and protection of wetlands -By using education and protecting wetlands, this program may help to ensure the diversity and access to employment opportunities
Social Sustainability	- Provides educational opportunities to youth and the public - Contribution to community development - Cultural revitalization	Yes	-Not only provides educational opportunities but encourages youth to become involved in conservation projects in their communities -Has contributed to community development-developing a school program, creation of an interpretive trail, hosting workshops -Program promotes and recognizes importance of TK and inclusion of Elder participation in program
Fair Decision Making	- Meaningful involvement and inclusive representation - Cross cultural learning and respectful inclusion of TK - Informed and equitable decision making	Yes	-Multiple partners, communities and people involved and included -Ongoing discussions with partners and building of collaboration opportunities -Program allows for the sharing and transfer of different knowledge systems, to school, communities and public

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
			-Everyone is encouraged to participate and engage in the program, as well as provide input into the program and can access program information and advice from program leaders and participants
Effective Decision Making	- Adequate capacity to take and carry on program - Transparency and accountability of program	Yes	-There remains an interest, time and funds to carry on and participate in the program -Continuation of ongoing work and collaboration with multiple partners -Program and PAMF provides open and accessible information to the public and effectiveness of the program and partnerships is reported

Collaboration with Vilhemina Model Forest, Sweden- Program- 2008-2013
Sweden partnership- 2005-2007

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Program has a focus on Aboriginal peoples/communities	Yes	-Aboriginal individuals part of the cultural exchange -Focus is the exchange of information and collaboration between two different Aboriginal groups
Sustaining Ecosystem Health	- Maintenance of ecosystem and biological diversity - Respectful inclusion of Traditional Knowledge in ecosystem protection - Protection of ecosystem-based livelihoods	Yes	-Focus on developing, learning and comparing ecological issues facing different groups -Inclusion of two different Aboriginal knowledge systems -Learning from our Elders portion of the program has a focus on species protection

			during climate change
Economic Sustainability	- Economic sustainability is not a main focus for this program	No	-Program could provide the opportunity for development of skills that can be used in the business worlds
Social Sustainability	- Provides educational opportunities for those involved, including youth - Promotes cultural revitalization	Yes	-Both Vilhelmia and Prince Albert communities provided with the educational opportunities to learn and discuss land-use patterns, management plans and political systems in both communities -Goal of program is collaborative learning process, which could contribute to community development -*Learning from our Elders* promotes cultural revitalization for both communities, as well as educational opportunities for youth
Fair Decision Making	-Meaningful involvement and inclusive representation -Cross cultural learning is a priority - Respectful inclusion of Aboriginal knowledge - Equitable and informed decision making	Yes	-Multiple program partners -Inclusion of people with various backgrounds and different communities, from two different countries -Transfer and sharing of different Aboriginal knowledge systems -Both Viliamina MF and PAMF are in close contact with one another and those involved contribute and provide input to program activity and initiative decisions
Effective Decision Making	- Adequate funds, time and interest in project- project began in 2006 and continues on today - Level of satisfaction with program	Yes	-Continued work and partnership between two model forests is ongoing -Exchange students expressed their great satisfaction with the program

	- Transparency and accountability of program		-Partnership allows for collaboration and fosters relationship between two model forests -PAMF was instrumental for the start-up of the Swedish model forest -Leaders have been consistent throughout the years and all program information is made available to the public

Paspiwin Cultural Heritage Interpretive Site- 2007-2013
Tourism Diversification: Paspiwin Cultural Heritage Site Development- 2005-2007
Tourism Diversification Opportunities- Heritage Tourism Development- 2004/2005
Tourism Diversification Opportunities- 2003/2004

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Many Aboriginal program partners - Program has a focus on involving Aboriginal communities	Yes	
Sustaining Ecosystem Health	- Promotion of sustainability - Respectful inclusion of TK - Program maintains biological and ecosystem diversity and protects water sources/riparian zones	Yes	-Program allows for a sizable amount of land to be left intact and remain undeveloped and minimally used -Environmental assessments of the site are conducted, using TK and scientific methods
Economic Sustainability	- Exploration of self-sustaining economic tourism potential	Conditional	-Program allows for the identification of an Aboriginal-based tourism and recreation opportunity -There could be potential for more tourism opportunities-needs to be explored further

			in order to access and diversify employment opportunities
Social Sustainability	- Provides educational opportunities - Program makes promotion of cultural revitalization possible - Contributes to community development	Yes	-Opportunities for the public to attend the various cultural awareness activities and Elders come to many of the cultural activities -Provides communities with a facility, in the form of a heritage site, to practice cultural activities and explore tourism and recreational activities/ventures
Fair Decision Making	- Respectful inclusion of TK and cross cultural learning - Meaningful involvement and inclusive representation - Informed and equitable decision making	Yes	-Program allows for several Aboriginal groups to work in partnerships, who have not historically worked together -Government and Aboriginal groups work together in a good partnership -Aboriginal involvement was instrumental in developing the site, as well as forming and developing protocols and guidelines for events and activities on the site and tourism use decisions
Effective Decision Making	- Adequate capacity to take and carry on program - Satisfaction with program - Transparency and accountability	Yes	-There continues to be interest, funds and time in the program and in the site -Site continues to be in use, indicating satisfaction with the program and site development -There is an effective working relationship between the Aboriginal communities, PAMF and PANP which allows for the continuation and interest in the program -Information about the site and activities readily accessible and PAMF provides information about program in reports

			-Program and partnerships effectiveness reported publically- continued use and continuation of program indicates effective partnerships

Sturgeon River Plains bison Stewardship- 2006-2013

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Aboriginal communities are included in this program	Yes	-Communication and working with Aboriginal communities is essential for the overall success of the program
Sustaining Ecosystem Health	- Protects ecosystem livelihoods - Maintenance ecosystem and biological diversity	Yes	-Management of the species allows farmers, ranchers and First Nation communities to maintain livelihoods and ability to maintain Treaty rights -Although the program deals mainly with bison, the continuance of this species allows for the maintenance of other species
Economic Sustainability	- Ensures continuity of employment for ranchers and farmers - Allows for the employment, training and education of local individuals to manage the program	Conditional	-Although program does allow for some economic development and continuance, it is very limited to one area and does not contribute to diversity of employment opportunities
Social Sustainability	- Provides educational and training opportunities - Promotes cultural revitalization - Provides some educational opportunities for youth	Yes	-Although program may not provide training for youth, it does provide education and information for youth with regards to the bison and human-wildlife conflicts -Allows for ranchers/farmers

			to once again co-exist with bison on the landscape, and for First Nations to hunt bison using a management system that respectfully includes TK -Provides some training opportunities for bison management -Contributes to the maintenance of rancher/farmer community development (infrastructure), but only when infrastructure is damaged from bison -Program provides a model for wildlife-human conflicts that could be used in other locations
Fair Decision Making	- Cross cultural leaning - Inclusive representation and meaningful involvement - Informed and equitable decision making	Yes	-Program allows for fair, informed and equal communication and input for bison management, including First Nation knowledge and right to hunt bison -There are many different partners involved with this group and program facilitates strong communication and participation with First Nation communities
Effective Decision Making	- Adequate time, funds and interests in the program - Satisfaction with the program has increased over the years - Transparency and accountability of program	Yes	-This program has existed for a number of years and is expected to continue in the future. Moreover, program is no longer needs the funds provided by the PAMF as it has now become self-sufficient -Information and management plan easily accessible on website -Program and partnership effectiveness reported publically -Program has become a

| | | | model for other local governance models around the world with regards to human-wildlife conflicts
-The stewards continue to involve and communicate with First Nation communities, often times visiting the communities themselves
-Education, money for fence and crop repairs and inclusion of farmer and rancher opinions had led to more acceptance of the bison presence and less animosity |

Building Linkages: Kindergarten to Careers- 2007-2010

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Leader was Aboriginal
- Program had a focus on Aboriginal youth	Yes	-One of the program's leaders was Aboriginal
-Program had a focus on Aboriginal youth and northern schools
Sustaining Ecosystem Health	- Respectful inclusion of Traditional Knowledge in ecosystem protection
- Could maintain ecosystem and biological diversity and protect ecosystem livelihoods	Conditional	-Many school programs that could build a linkage toward natural resource post secondary education and training do include TK teachings
-This program aimed at promoting linkages in high school to Natural Resource Sector in post secondary and increasing enrolment in training programs within this sector. There is not a main focus on sustaining

			ecosystem health -Promoted training and engagement in this sector could lead to sustainable forestry and management activities for youth, community members and high school graduates
Economic Sustainability	- Community economic capacity- education about Natural Resource Sector - Ensured diversity and access to employment opportunities	Yes	-Program could allow for capacity building and enhancement of economic prosperity within communities -Building linkages between school programs and post secondary allowed for future high school graduates to become introduced, familiarized and prepared for natural resource careers
Social Sustainability	- Provided educational opportunities - Education and training for youth - Possible contributions to community development	Yes	-Workshops, presentations and career fairs were provided and delivered to northern communities and schools -High school programs that can build linkages to post secondary fields could provide a career path for youth -These linkages could lead to capacity building in sustainable forestry and resource management activities, which could enhance social sustainability within communities
Fair Decision Making	- Meaningful involvement from multiple partners and program participants - Inclusive representation - Cross cultural learning and inclusion of Traditional Knowledge	Yes	-Although this program did aim to work with Aboriginal and northern schools, all schools and communities have the opportunity to learn and take part in the program -Some high school programs that can build linkages to post secondary programs allowed

			for TK teachings, as well as current practices
Effective Decision Making	- Transparency and accountability of program - Questionable capacity to take on program for schools and communities	Conditional	-Program information was accessible and program's activities and effectiveness was reported to the public -Presentations, workshops and career fairs were delivered to a number of schools and teacher conferences -Program tracked Natural Resource Technology from northern schools in order to assess the effectiveness of presentations, workshops and career fairs. -There was an examination of implementing/assessing career and educational streaming from one high school program to a post secondary institution. Moreover, Forest Ranger program participants were given a presentation of career and educational streaming into a post secondary natural resource field -A teachers workshop had to be cancelled due to low registration, which could be an indication of low interest, funds or time to take part in program -The ability to carry on this program is dependent on schools and communities interest, funds and time to take part in the program

Cumberland Delta Moose Management Project- 2005-2007
 Moose Management Project- 2003-2005

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Communities involved include those that were Aboriginal	Yes	
Sustaining Ecosystem Health	- Respectful inclusion of Traditional Knowledge in ecosystem protection - Maintain and enhance ecosystem and biological diversity and protection of water sources/riparian areas - Protection of ecosystem livelihoods	Yes	-The goal of this project was to enhance moose habitat. Since this species has a large range, including riparian areas/water sources, enhancing this species habitat would help to enhance habitat for other species, which could have a positive impact maintaining ecosystem and biological diversity -Enhancing habitat for this species protected those that depend on the species for food and sources of revenue -The habitat enhancement strategy involved prescribed burnings and data collected from hunters
Economic Sustainability	- Economic sustainability was not a main focus for this project	No	
Social Sustainability	- Provided educational and training opportunities for at the local community level - Promoted cultural revitalization	Yes	-Project helped to enhance community based SFM -Educational opportunities were available to communities and participants throughout project. Even when project was completed, the project leaders continued to engage with communities and assist in various activities

			-Consultations with Aboriginal communities allowed for TK to be included within project. Moreover, project allowed for the recognition of the importance of including TK within the project
Fair Decision Making	- Informed and equitable decision making - Meaningful involvement and inclusive representation - Respectful inclusion of TK and cross-cultural learning	Yes	-On-the-ground projects were developed through project leaders and community consultations -Community workshops were held with all interested parties and communities within the area -The Cumberland Delta Moose Habitat Enhancement Project report was delivered and presented to project participants. The actual habitat improvement strategy was only implemented after thorough consultation with all project participants -There was ongoing knowledge exchange and communication between leaders and participants through presentations and consultations
Effective Decision Making	- Adequate capacity to take and carry on project - Transparency and accountability of the project	Yes	-Project was a multiple year project. Funds and interest remained high throughout those years -Project helped to foster new relationships between communities, industry and government -Project information was readily and easily accessible to the public and project participants. Also, role of the project leaders was clear and project's partnerships and its effectiveness was reported

Deschambault Lake Traditional Land Use Changes- 2004-2006

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project focus and inclusion of Aboriginal communities	Yes	-This project initially began due to the interest of an Elder and the traditional knowledge the Elder had pertaining to land and land use change in the region
Sustaining Ecosystem Health	- Maintenance of ecosystem and biological diversity and protection of water sources/riparian areas and ecosystem livelihoods - Respectful inclusion of Traditional Knowledge of ecosystem protection	Yes	-Sustaining ecosystem health in the face of a changing climate, while maintaining development and land use, was main objective -TK became part of the climate change project already occurring in the region and lead to the development of this project -A traditional land use report was produced
Economic Sustainability	- Economic sustainability was not a main goal of this project	No	-This project could have indirectly ensured access and diversity of employment opportunities
Social Sustainability	- Cultural revitalization -Provided educational opportunities for local communities - Possibility of community capacity building	Yes	-TK was recognized as important components for present/future land-use management in the area -The project gave communities opportunities to provide traditional land use information, learn from Elders about TK and learn about the region's landscape, from a scientific point of view -Future land-use decisions, education about the region and land-use activities could lead to lead to could contribute to community development

Fair Decision Making	- Informed and equitable decision making - Respectful inclusion of Traditional Knowledge and cross cultural learning - Meaningful involvement and inclusive representations	Yes	-Traditional land use patterns and report could be used as a tool for future land-use management -Participants and partners in this project were able to take part in a sharing and transfer of knowledge -This project developed multiple partnerships and lead to more inclusive representation in current and future land-use management, plans or strategies
Effective Decision Making	- Adequate capacity to take on project - Accountability and transparency	Yes	-There was a definite interest from FN and rural communities to take part in this project -Since this project could be combined with the climate change project, funds and time were not an issue -New partnerships were fostered through this project -Project information was accessible to the public, through workshops and community consultations -Project outcomes (mapping using TK, Traditional Land-Use report, etc) demonstrated effective partnerships

Bull Moose Forest Cutting Plan/Bull Moose Planning Process- cooperation began OCT 1994/ JULY/Aug (workshops) 1995 review of the project

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or	- Project included Aboriginal participants	Yes	

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Aboriginal community/communities			
Sustaining Ecosystem Health	- Sustaining ecosystem health was not a main goal of this project	No	-Non-timber values, such as environmental values, were considered in the planning process; however, only wildlife values were discussed in detail -Some participants felt that ecological perspectives were not maintained throughout the process
Economic Sustainability	- Development of community capacity - Ensured access and diversity of employment opportunities	Yes	-Participants were able to define and create cutting areas that would help promote local economic development -Project aimed to create local employment opportunities
Social Sustainability	- Provided educational opportunities - Cultural revitalization - Could have contributed to community capacity	Yes	-Participants were not only able to take part in possible future economic developments, but also gain knowledge about the area, forestry and resource management -When developing the plan, participants were also asked to consider non-timber values -Interviews conducted of the project participants showed that FN provided invaluable knowledge and project recognized the important role that of FN and local residents play in planning and management of resources
Fair Decision Making	- Inclusive representation and meaningful involvement - Informed and equitable decision making - Cross cultural learning and respectful inclusion of Aboriginal knowledge	Yes	-This project had multiple partners from various backgrounds and organizations and allowed for interested parties to take part in the creation of the forest cutting plan -Project provided a unique

			opportunity for public input and workshops to define the cutting areas and was seen as a success in cooperative decision making -A draft cutting plan was sent out to all participants for review and input -FN representatives were key participants and success of the plan depended on the transfer and sharing of various forms of knowledge -Government representatives may have not have been necessary for the entire three day workshop and could lead to a conflict of interest, as they review and approve the plan in the end
Effective Decision Making	- Adequate capacity to take on project - Level of satisfaction by participants - Accountability of the project - Transparency of the project	Yes	-There appeared to be adequate interest, funds and time to take on project. However, there was a time conflict for some representatives as the workshop was three days -Project participants appreciated the ability to provide input into plan and felt that this was a good example of multi-stakeholder communication and consensus management -Project partnerships effectiveness was reported- it was felt that the researcher group didn't have to be part of the process -Project workshop information was made accessible; however, participants felt that final cutting plan map did not provide enough explanation or narrative

Carriere Caribou Project- 2005-2007

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Person leading project was Aboriginal - Participation of Aboriginal communities	Yes	
Sustaining Ecosystem Health	- Respectful inclusion of Traditional Knowledge - Maintain ecosystem and biological diversity, as well as protect water sources/riparian areas important for Caribou habitat and range	Yes	-Although this project was focused on only one species, Caribou are an umbrella species; therefore, protecting their habitat could maintain and protect other ecosystems and species
Economic Sustainability	- Economic sustainability was not a main focus of this project	No	
Social Sustainability	- Provided educational opportunities, limited training opportunities - Promoted cultural revitalization	Yes	-Engagement occurred within the community -Project helped to raise awareness and educate communities about the threatened species -Main focus of the project was to gather TK on the species distribution, in the past and present and understand that change in distribution using TK. Elders were interviewed and aided in the gathering of TK -Project allowed for the recognition of the importance of including TK within the project -Project did not really contribute to community development in terms of infrastructure or facilities -The project provided

Fair Decision Making	- Cross cultural learning - Meaningful involvement and inclusive representation - Equitable and informed decision making	Yes	-By understanding the change in distribution using TK, an exchange in knowledge between TK and scientific techniques can occur -There are many different project partners involved with the project and partners represent rural and FN communities, industry, government, NGO's and academia -Project allowed for more equitable and informed future decision making, in terms of resource development or planning and future species protection initiatives -Project could help lead and foster relationships between government, industry and Aboriginal communities
			training for a local youth to assist in interviews
Effective Decision Making	- Adequate capacity to take and carry on project - Transparency and accountability of project	Yes	-There was high interest, time and funds to take and carry on this project -Effectiveness of partnerships and project was reported publically -Project information was accessible and open to the public. Communities were approached to take part in the project

Buffalo River Dene Nation Woodland Caribou Distribution Research- 2008-2011

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of	- Leader was Aboriginal	Yes	-One of the leaders of the

Aboriginal person(s) or Aboriginal community/communities	- Focus of research involved an Aboriginal community		project was from the Buffalo River Dene Nation
Sustaining Ecosystem Health	- Commitment to sustainability - Maintain ecosystem diversity for woodland caribou - Respectful inclusion of Traditional Knowledge in ecosystem protection	Yes	-This project had a focus on only one species; however, by maintaining and protecting the habitat for this species, it also maintains and protects ecosystems for other species as well -The goal of this project was to combine traditional knowledge and current scientific knowledge to better define species range and important habitat
Economic Sustainability	- Provided education and training for the BRDN	Conditional	-This project allowed for the training and employment of individuals with the community -As this is a project that focused on one species, it limits the diversity of employment opportunities
Social Sustainability	- Provided training and educational opportunities - Promoted cultural revitalization	Yes	-Project helped increase the community's awareness and interest in woodland caribou through community, consultation and training and employment -Community was able to use TK and Elder consultations to map the traditional and current habitat and range of the species, which would be added to the management plan
Fair Decision Making	- Meaningful involvement and inclusive representation - Cross cultural learning - Respectful inclusion of Traditional Knowledge - Equitable and informed decision making	Yes	-A collaborative relationship between the FN community, industry and government was established -The objective of this project was to better protect this threatened species and its

			habitat by combining traditional and scientific knowledge -Participation of participants from various organizations allowed for informed and equitable decision making
Effective Decision Making	- Adequate capacity to take on project- time, interest and funds - Accountability and transparency in the project	Yes	-The project was completed within the time period expected. Future work is possible and desired, and future collaboration with other Caribou projects is expected -Availability of project information was made available and accessible to the public, as well as the strong working relationship between the project partners

Projects/programs that met one of the Sustainability Criteria

Saskatchewan Environthon Program- 2008-2013

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Aboriginal leader for program - Communities involved include those that are Aboriginal	Yes	-Schools in Aboriginal communities participate and are encouraged to participate, although the program is open to participation from all schools
Sustaining Ecosystem Health	- Focus on maintaining ecosystem and biological diversity, as well as protection of ecosystem livelihoods, riparian and water sources	Yes	-Program focuses on current environmental initiatives and sustaining ecosystem health -Focus is on current environmental initiatives; therefore, there may not be

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			sufficient inclusion of TK
Economic Sustainability	- Economic sustainability is not a main focus of this program	No	
Social Sustainability	- Provides educational opportunities for youth - Possibility for contribution of community development	Conditional	-Program gives youth first hand experience and knowledge with making environmental management decisions -By providing environmental educational opportunities, youth could contribute to future community development -There is no promotion of cultural revitalization
Fair Decision Making	- Inclusive representation and meaningful involvement - Meaningful involvement - Informed decision making	Conditional	-There are multiple partners involved in this program, with different backgrounds and representing different organizations. This can contribute to informed decision making -All schools are encouraged to participate in the program; however, it is recognized that there is a need for more northern community participation -May not include enough TK; therefore, there may be a lack of cross cultural learning and representation of Aboriginal knowledge
Effective Decision Making	- Adequate capacity to take and carry on program - Transparency of program	Yes	-Program has been running for a number of years and involvement of different schools remains high -Program information is easily accessible to public

Community Engagement and TEK gathering in Pasquiq-Procupine Canadian Boreal Forest Agreement, SK Regional Working group- 2012-2013

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Communities involved include those that are Aboriginal	Yes	-One project leader is Aboriginal and from one of the communities involved in the project
Sustaining Ecosystem Health	- Sustaining ecosystem health main focus of project - Inclusion of Traditional Knowledge in ecosystem protection	Yes	-Focus around Woodland Caribou but included other protected areas and other species of concern
Economic Sustainability	- Economic sustainability not a main focus of project	No	
Social Sustainability	- Provides some educational opportunities - Cultural revitalization	Conditional	-Project provides participants with opportunity to learn about region, through TK and engagement -Gathering TK is a main focus of the project and allows for the recognition of TK importance for sustaining ecosystem health -Project's purpose does not provide any contributions to community development objectives or goals
Fair Decision Making	- Inclusion of TK vital part of project - Meaningful involvement and inclusive representation - Informed and equitable decision making	Yes	-Multiple partners, from various organizations and communities, expressed interest in involvement with project -New working relationships were established in the area as a result of project (objective of project) -Project intends to gather and collect TK in order to contribute and further inform

			knowledge of woodland caribou and other species. This could contribute to future species management and development plans in the future
Effective Decision Making	- Appears to gathered enough interest to begin project - Transparency of project	Conditional	-Due to the project just beginning, there are many unknowns in terms of adequate capacity (time, funding, continuity) -PAMF provides accessible information for project -Effectiveness of the different project partners is unknown

Aboriginal Recruitment and Retention Training- Expanded to include and be part of the North Central Sask Labour Market Committee Aboriginal Recruitment and Retention- 2010-2012

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Focused on Aboriginal communities/peoples	Yes	-One of the goals of the program was to increase the recruitment and retention of Aboriginals
Sustaining Ecosystem Health	- This criteria was not a main focus of this project	No	
Economic Sustainability	- Focused on developing community economic capacity - Ensured diversity of employment opportunities and access to opportunities	Yes	
Social Sustainability	- Provided in house training, workshops and sessions for businesses	Conditional	-Workshops and sessions provided to businesses, which included topics of Aboriginal recruitment and retention in the region

			-Could contribute to future community developments, such as facilities and infrastructure -Recommendations were in place to increase the level of training and education for youth -Cultural revitalization was not an objective of this project
Fair Decision Making	- Meaningful involvement from multiple partners	Conditional	-Multiple partners from various backgrounds and organizations were involved with the program and that list of partnerships grew the following year -There could have been a possibility to increase the cross-cultural learning and examine the possibility of including TK in planning and decision making for the program -It seemed like there is room for improvement in terms of including and involving Aboriginal communities in determining the training and workforce areas that are needed or wanted
Effective Decision Making	- Adequate capacity to take and carry on project- time, interests and funds - Accountability of program participants and leaders - Transparency of program	Yes	-Program continued to expand its labour market development program to include attracting immigrants to the region and increasing movement of other Canadians to work in the region -Program anticipated to continue in following years, as strong demand for trades, transportation and equipment is predicted -Updated stats of labour market information posted

			for public, as well as accessible information for the program for public and businesses -Allowed for an in depth examination into labour market forecast in the North Central region as well, as possible future training areas, and recommendations for addressing those workforce and training needs -Program leaders and participants have developed effective communications and strategies to meet the goals of the program

The Agronomics of Alley Cropping- Project- 2009-2012

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Project had a main focus of developing a model for Aboriginal and rural communities for their own lands - One project partner is Aboriginal	Yes	-Beardy's and Okemasis First Nation became a partner at the start of the project. In the 2012/2013 year, this community was able to use these alley cropping techniques to develop their own community garden
Sustaining Ecosystem Health	- Protection of water sources and riparian areas - Maintenance of ecosystem and biological diversity	Yes	-Alley cropping reduced surface runoff and erosion, as well as improving nutrient availability within the soil -This project allowed for the improvement of wildlife habitat
Economic Sustainability	- Training and education to promote local economic development	Conditional	-Did allow for access to employment opportunities and potential revenue development; however,

			employment opportunities are not very diverse (Crops, farming, gardens, selling of crops etc..) -Program was in its infancy and only two sites have been developed in Boreal Plains Eco-zone. This did not allow for enough examination into the effects of this project on economic sustainability
Social Sustainability	- Provided education and training opportunities - Education of the youth	Conditional	-Provided training and education of a new practice that is best for the prairies -Project was highlighted in Conservation Learning Centre's field days, open to the public -The alley cropping concept was introduced to the CLC school program -Program was in its infancy and only two sites have been developed in Boreal Plains Eco-zone. This does not allow for enough examination into the effects of this project on social sustainability
Fair Decision Making	- Meaningful involvement- industry, provincial organizations, Aboriginal community - Informed and equitable decision making	Conditional	-Project have could begun to allow for more inclusion of FN knowledge and cross cultural learning -This project was designed to allow for a model that could be adapted for Aboriginal and rural communities. Any community could take part in this project and has the ability to change/adapt the project to better fit their landscape
Effective Decision Making	- Adequate capacity to take on project - Accountability of project - Transparency of project	Yes	-Project is ongoing with the CLC and BOFN has taken on their own alley cropping project

			-PAMF and CLC provided accessible project information and activities

Northern Lifestyles (Askiy-Nih) Traditional Curriculum- 2010/2011
Askiy-Nih Traditional Resource Use/Northern Lifestyles 2009/2010
Askiy-Nih Traditional Resource Use curriculum- 2008/2009
Askiy-Nih Traditional Resource Use Curriculum Development K-12- 2007/2008
Askiy-Nih Traditional Curriculum Development- 2005-2007
Askiy-Nih Tradtional Resource Use Curriculum Development- 2004/2005

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Program had a focus on involving and including Aboriginal communities and culture	Yes	-This program supported the development of traditional cultural curricula in schools throughout Northern Saskatchewan
Sustaining Ecosystem Health	- Provided education and training for traditional land use and TK - Respectful inclusion of Traditional Knowledge in ecosystem protection	Conditional	-Although sustaining ecosystem health may not be the top priority for this program, it allowed for education and knowledge to be gained in order to protect water sources and riparian areas, as well as maintain ecosystem and biological diversity -Main goal of program was to maintain Aboriginal TK in ecosystem protection
Economic Sustainability	- Provided potential for community economic development - Ensured the diversity and access to employment opportunities, especially for youth	Conditional	-Program provided youth with the chance to get certification in various areas (boat safety, forestry unit, etc.), which can allow those individuals to pursue further education or careers -Training and education occurred in various areas,

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			such as Aboriginal languages, TK, traditional medicines, entrepreneurial skills, and industries of forestry, mining, and energy. This allowed students to gain insight into economic opportunities and jobs for their future
Social Sustainability	- Provided education and training for youth - Cultural revitalization	Yes	-Allowed for the education and training of youth in developing/maintaining traditional skills, language and culture -Certification and training for students could have allowed for further training in resource-based education or careers. Moreover, participants received high school credit for certain activities -Aboriginal education programs, curriculum, language and extra-curricular activities were being introduced into schools, which allowed for the realization of cultural identity and more community involvement and knowledge exchange
Fair Decision Making	- Cross cultural learning - Respectful inclusion of Traditional Knowledge - Meaningful involvement and inclusive representation - Informed and equitable decision making	Yes	-Increased community involvement and knowledge exchange in schools -This program was not only for youth but involved Elders, parents and members of the community -All schools had the opportunity to take part in this program and develop their own curriculum -Various partners and leaders involved in the program

| Effective Decision Making | - Adequate capacity to take on program
- Transparency and accountability | Yes | -This program was ongoing and more schools had become part of the program, which also indicated a good level of satisfaction with the program
-Program information was easily accessible and open to the public. Program effectiveness and partnerships reported publically as well |

IRM Plan Review- 2006/2007
IRM Review- 2001/2002
IRM Planner-1999/2000 and **Integrated Resource Management Plan-** 2000/2001
IRM plan - Public consultations, research sites assigned- 1998/1999
IRM- 1997

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project partners are Aboriginal and represent Aboriginal organizations	Yes	-Project partners include the Montreal Lake Cree Nation and representatives from the PAGC
Sustaining Ecosystem Health	- Maintain ecosystem and biological diversity - Protection of water sources and riparian areas - Protection of ecosystem livelihoods - Respectful inclusion of Traditional Knowledge in ecosystem protection	Yes	-Effective long-term and sustainable use of the forest and forest resources was a main concern and goal -Protection of the region's primary resources, which included water, was a plan principle -Management plan embraced and strives to protect a wide range of forest uses, activities and interests -Decisions made were based on ecosystem health and

			sustainability in the PAMF region -Plan recognized traditional land uses and supported environmentally sustainable land and resource uses
Economic Sustainability	- Economic sustainability was not a main priority for this project	No	-Land uses that were economically sustainable were supported in the project
Social Sustainability	- Educational opportunities - Could have contributed to community development - Promoted cultural revitalization	Conditional	-This project allowed for continuous education about sustainable land and resource use opportunities within the region for project partners and the public. Moreover, interested parties had the opportunity to learn about PAMF activities -Engagement of the public and First Nation's communities was a main objective for this project; therefore, community development was dependent on participation in the project -The project recognized and promoted the inclusion of TK in the management plan
Fair Decision Making	- Meaningful involvement and inclusive representation - Informed and equitable decision making - Respectful inclusion of Traditional Knowledge and cross cultural learning	Yes	-Public consultations were held in order to gain input from the public and raise awareness for the PAMF -Multiple partners, from various backgrounds and organizations, were included in this project, which helped to build and foster relationships. This helped to give the model forest and its partners a direction on how to manage the resources and uses within the PAMF region - Ecosystem- based management planning helps to integrate the interests, goals and objectives of the

			partners, as well as the public within the final plan -Respect for interest of Aboriginal peoples and communities, inclusion of TK and the transferring and sharing of different forms of knowledge to make management decisions became part of the planning principles
Effective Decision Making	- Adequate capacity to take and carry on project - Accountability and transparency	Yes	-There was ample interest, time and funds to begin and continue this project -Plans to continue adapting and modifying the plan were set. An annual review of the Management Plan took place the following year (2001) and an evaluation also took place five years later (2006/2007) -Multiple methods of communication for public input and project information and documents were available (examples: posters, radio, newsletters, public meetings) -Procedures to monitor the implementation and effectiveness of the project and the partnerships were established -According to the IRM annual review in 2001, the majority of the commitments and actions made by the partners and initiating agencies were upheld (93/101). This demonstrated the commitment of the partners and the effectiveness of the project's partnerships -The IRM review completed in the 2006/2007 year showed that the original

| | | | working groups, including the IRM working group, had dissolved. New groups to help carry out new projects in the PAMF, as well as new partners joining the PAMF board, replaced these groups. Moreover, actions in the original IRM plan were generally used as guidelines and some still being worked on by PAMF |

Education Program- 2006-2012
Science Fairs/Science Nights- 2003-2006

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Projects involved Aboriginal communities	Yes	-FN youth participation and engagement were big components of these projects
Sustaining Ecosystem Health	- Maintenance of ecosystem and biological diversity - Inclusion of Traditional Knowledge in ecosystem protection	Yes	-Sustaining ecosystem health was a main objective of the PAMF -Youth and public were educated about SFM and sustainable resource management and activities -PAMF provided speakers and information about the connection of TK and activities within the environment
Economic Sustainability	- Projects did not place a main focus on economic sustainability	No	-As a result of education, youth could have potentially contributed to economic sustainability, but is dependent on future career

| | | | paths
-Did not allow for some access to employment opportunities, through education of resource management and SFM |
|---|---|---|---|
| Social Sustainability | - Education and training for youth
- Promoted cultural revitalization | Conditional | -Presence at schools to produce knowledge transfer and public awareness of PAMF, SFM and sustainable resource management
-Students encouraged to explore and recognize traditional knowledge through the education program and science fairs
-Although involving and educating the public was part of these projects, the main focus was on youth
-Projects could have the potential to contribute to future community development |
| Fair Decision Making | - Respectful inclusion of Traditional Learning and cross cultural learning | Conditional | -These projects raised awareness and provided knowledge sharing and transfer for the PAMF, SFM and sustainable resource management
-PAMF placed an emphasis on connecting with potential partners and developing future relationships using these projects
-There was potential to involve more partners in these projects and have a greater inclusive representation by involving more industry, government and academic representatives |
| Effective Decision Making | - Adequate capacity to carry on activities
- Transparency and accountability of projects | Yes | -PAMF had funds and time to carry out its projects/programs. In order to ensure the continuity of the |

			program and future projects, the PAMF used these projects to gather interest from the public, youth and partners -The PAMF provided accessible information about the program itself, these and other projects, through the website and presentations -PAMF's partnerships and their effectiveness continue to develop

Focus on Forests (FOF)- Web-based delivery Program- 2010-2012
Focus on Forests- Aboriginal Education Initiative On-Line Project- 2009-2010

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project had a focus on Aboriginal communities and schools in those communities	Yes	-Purpose of project was to adopt *Focus on Forests* education program in the reserve school system
Sustaining Ecosystem Health	- Respectful inclusion of Traditional Knoweldge of ecosystem protection - Maintenance of ecosystem and biological diversity	Conditional	-Main aim of project was to introduce Aboriginal knowledge in forest and forest resource management and uses into *Focus on Forests* program -Program provided students to opportunity to learn more about the environment around them -Sustaining ecosystem health was dependent on the use and commitment to the program
Economic Sustainability	- Economic sustainability was not a main goal of this project	No	
Social	- Promoted cultural	Yes	-Project promoted TK in

Sustainability	revitalization - Educational opportunities for youth - Possibility for community development		*Focus on Forests* program -Project was dependent on schools having internet or obtaining a hard copy of the lesson plans, which could be difficult depending on school location -Program not only provided students the opportunity to learn about the environment around them but could have allowed them to gain more knowledge about future career choices in resource management and protection -Community social development was dependent on teachers providing awareness and knowledge of the program to their students
Fair Decision Making	- Inclusive representation - Meaningful involvement - Cross cultural learning and respectful inclusion of Traditional Knowledge - Equitable and informed decision making	Yes	-Various leaders and partners, with difference backgrounds and from different organizations involved -This project helped to transfer and share knowledge between different worldviews. It aimed to bridge traditional knowledge and historical uses of the forest with current management and uses of forests and forest resources -Depending on project feedback from schools and teachers, project and its lessons were modified -Program was promoted at workshops at teacher conventions and during classroom visits -Target group for FOF was expanded to include elementary students, as well as high school students

Effective Decision Making	- Adequate time, interest and funds - Transparency of project and program	Yes	-The FOF program had already existed: this project allowed for a linking of the core curriculum to TK of forest uses and management, which was of interest to many schools and the program became tailored to Saskatchewan interests -*Focus on Forests* program was now available to all teachers in Saskatchewan and has an emphasis on forestry management in Saskatchewan -Information about project and participation in developing project was accessible to schools. FOF program was easily accessible to teachers and schools

Agroforestry Inventory/Industry Development- 2008-2010
Establishing Agroforestry Industry and Inventory in the Parkland Region- 2007/2008

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project partner was Aboriginal - Project had a focus on Aboriginal participation	Yes	-Initially, it appeared Aboriginal participation and inclusion was not as high an interest. As the years of the project progressed, Aboriginal involvement and participation become more of a priority
Sustaining Ecosystem Health	- Maintaining and enhancing ecosystem and biological diversity - Respectful inclusion of Traditional Knowledge	Conditional	-One of the objectives of this project was to re-establish forest cover, which would bring environmental benefits to the region, such as

			allowing new flora and fauna to become established, decreasing to effects of erosion and water runoff, etc. -Re-establishing forest cover could have affected and change the already existing flora and fauna in the region -As the project progressed, there was more of a consideration of including Aboriginal afforestation techniques and concepts -The concept surrounding this project was sustainability forestry plantation
Economic Sustainability	- Ensured access and diversity of employment opportunities - Promotion of local economic development - Training and education opportunities and options were explored	Yes	-One of the economic goals of this project was to develop a community-based model that would bring together the local development interests and help identify possible regional benefits -Training for the use of a toolkit, developed by the PAMF, that would help guide those involved through the start up and business of a forestry plantation, did not occur. This could have been possible due to lack of interest -BOFN did seize on the opportunity to take the funding for training and use it to develop an agroforestry project in the community, in the form of a self-sustaining and self-managed community garden. Alley cropping techniques were also used in their project
Social Sustainability	- Possible contributions to community development - Provided education and training, including youth	Conditional	-One of the objectives of this project was to develop a forestry plantation structured as a community based social

			enterprise -The development of a locally managed project could have helped in the development of community infrastructure and facilities. For example, planted trees could eventually be constructed into houses. -Funding for this project went to help train Resource Ranger graduates in the BOFN to maintain and manage the garden -School children were engaged and educated about planting and nurturing food crops -This criteria was not fully realized due to evolution of the project and its impact on only one community,
Fair Decision Making	- Meaningful involvement and inclusive representation - Cross cultural learning - Respectful inclusion of Traditional Knowledge - Informed and equitable decision making	Yes	-Communities has the opportunity to decide if they were interested in taking part of the project -Considerable research and strategic readiness were gathered on Aboriginal afforestation. This allowed for knowledge transfer and sharing to occur between current techniques and Aboriginal afforestation (TK) -During the course of this project, new relationships were struck between different project partners and participants. Moreover, partners and participants came form various backgrounds and organizations -Communities that shared interest in developing projects can develop a plan

			and project that best fits their community and has easy access to partners who have the knowledge of starting up the project
Effective Decision Making	- Possibility of adequate capacity to take on project - Transparency and accountability	Conditional	-Although communities had an equal opportunity and displayed interest in developing a project, only one community followed through with their interest -The project within the BOFN will hopefully continue on into the future, due to funds and interests -There was availability and openness of project information -Information and accountability of project leaders was clear within PAMF reports and partnership performance is reported as well -Main leader of the project left, which led to a redirection of the project

Projects/programs that only met Criterion 1

Non-timber Forest Product (NTFP) Capacity Development- Project- 2012/2013
- Initial efforts began in 2010- only found in the 2012-2013 report

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project interest began with Montreal Lake Cree Nation and the NTFP committee struck due to community's initial efforts	Yes	-PAMF acted as a coordinator to attempt bring together interested organizations and partners
Sustaining	- Project never began;	No	

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Ecosystem Health	criterion was not met		
Economic Sustainability	- Project never began; criterion was not met	No	
Social Sustainability	- Project never began; criterion was not met	No	
Fair Decision Making	- Project never began; criterion was not met	No	
Effective Decision Making	- There was a lack of interest, funds and qualified individuals to get project off the ground - No continuity of project - PAMF did provide transparency of project by reporting in the PAMF reports	No	

1) Amisk-Atik-Building First Nation Resource Management Board and
2) Training Local First Nations for Forest Management Operations and Planning for Amisk-Atik Projects
Project 1 directly relates to project 2
-   Began in 2007-2010

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Project leader was an Aboriginal community	Yes	-Amisk-Atik Forest Management Inc. is wholly owned by Peter Ballantyne Cree Nation -Focused on involving Aboriginal communities
Sustaining Ecosystem Health	- Respectful inclusion of Traditional Knowledge - Maintenance of biological and ecosystem diversity	No	-Projects could have provided the opportunity to sustain ecosystem health through sustainable development and resource management, environmental consideration and TK; however, project did not commence
Economic Sustainability	- Goal was to implement forest management model for	No	-The long-term goal of training local First Nations

	the Aboriginal communites, promote local development and ensure access to employment opportunities - Economic capacity-building did not occur through these projects		was to extend control of those communities to multiple aspects of forest management. This would have been possible through providing various opportunities in forest management and forestry training. -Projects did not commence
Social Sustainability	- Project could have possibly contributed to community development and provided training and education opportunities for members of the community	No	-Criterion was not reached, projects did not commence
Fair Decision Making	- There was meaningful involvement of project partners from various backgrounds and organizations - Respectful inclusion of TK - Would of provided the community with the ability to conduct equitable and informed decision making	No	-Criterion was not reached, projects did not commence
Effective Decision Making	- There was not adequate capacity to take on the projects	No	-There was a downturn in the industry, the PAMF's involvement was discontinued and the projects did not commence

Aboriginal Afforestation-assessing opportunities
-    Training scheduled for 2010-2011, was postponed until 2011-2012, no work occurred that year
-    Training was further postponed to 2012-2013; however, no activity occurred that year

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or	- One of the projects leaders was Aboriginal - Project put a focus on an	Yes	-Initially, it was conceptualized that many different communities would take part in

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Aboriginal community/communities	Aboriginal communities		the program. The program shifted its funding to one project in one Aboriginal community
Sustaining Ecosystem Health	- No other aspects of ecosystem health considered - Project did not begin	No	-Sustainable forestry plantation was a main goal for this project
Economic Sustainability	- Project activities did not begin	No	-Project intended on providing community economic capacity-training -Could have provided access to employment opportunities
Social Sustainability	- Project activities did not begin; therefore, criterion could not be fulfilled	No	-Program could have contributed to community development and provide training and educational opportunities
Fair Decision Making	- Project activities did not begin	Conditional	-TK not considered in project plans -Various groups expressed desire to be involved with program; however, project might have benefitted from more Aboriginal involvement and engagement
Effective Decision Making	• No adequate capacity to carry on project	No	-Overall interest in the project may have been low -Transparency- PAMF provided information about the program and the changes that were made to it -Although the project may not have lived up to its initial expectations and plans, it evolved into a new project-Beardy's Resource Ranger Community Garden

Aboriginal Caucus- 2008-2012

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)

Participation of Aboriginal person(s) or Aboriginal community/communities	- Project leaders included those who are Aboriginal - Focus of program was on Aboriginal individuals and communities	Yes	-Initially, there was a high interest from many different Aboriginal organizations and communities
Sustaining Ecosystem Health	- This criteria was not a main focus for this program	No	
Economic Sustainability	- Program intended to ensure diversity and access to employment opportunities	Conditional	-There were a few workshops, and planning sessions that helped to deliver information and gather feedback in capacity development within the area of environmental assessment participation of FN communities -The training and education for economic development was limited -Initially, program was designed for ensuring a greater Aboriginal representation on the PAMF board to develop greater community economic capacity in participating communities
Social Sustainability	- Provided some training and education for community capacity	Conditional	-Keen individuals and communities continued to use Caucus for continuing training purposes and engaging within other collaborative opportunities through PAMF -If this program met its initial intentions, it could have contributed more to community social development and providing training/education for youth
Fair Decision Making	- Meaningful involvement - Respectful inclusion of Traditional Knowledge	Conditional	-Multiple project partners -Initially, there were a few Aboriginal organizations and communities expressing

			interest in the program; however, the involvement with the program began to dwindle over the years -All FN communities or organizations had the opportunity to be part of this program and contribute to PAMF project and program decisions
Effective Decision Making	- Program did not have adequate capacity to carry on - Transparency and accountability of program	Conditional	-PAMF made information about program public and easily accessible through various forms of communication. -Program and partnerships effectiveness publically reported -In different reporting years, program was put on hold due to gaps in representation and drive -Project did not continue on due to underrepresentation and interest, which did not allow some of the Criterion to be fully met -PAMF fully supported the program, but there are many questions on how board could proceed - Program's partnership's effectiveness was clearly and publically reported

Projects and Programs that required more information

Wapus Lake Elk Re-establishment project- 1997/1998
-   1999, 276 elk released into Wapus lake area, 600 to 1200 animals expected to relocate throughout five-year program
Elk Restoration Survey- 2002/2003

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Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/communities	- Aboriginal community involved with project	Yes	-Montreal Lake Cree First Nation took part and helped fund the project - Helped develop and implement management plan and organize and take part in survey
Sustaining Ecosystem Health	- Aimed to maintain species and genetic diversity - Promoted the protection of ecosystem-based livelihoods	Conditional	-Project was focused on only one species; however, reintroducing and sustaining species could have a positive impact on other species diversity -Results form the survey showed that the relocated elk had adapted to a greater range in the region and had increased in population -Maintaining and monitoring species allowed for sustainable hunting of species to continue
Economic Sustainability	- Economic sustainability was not a focus of this project	No	
Social Sustainability	- Provided educational opportunities	Conditional	-FN community members were given the opportunity to become educated about the species and its habitat - Further information regarding project impact on social sustainability difficult to locate
Fair Decision Making	- Promoted inclusive representation and demonstrated meaningful involvement - Respectfully included Traditional Knowledge	Conditional	-Multiple partners were involved with this project -Project only involved one First Nations community -This project provided information of the effectiveness of the reintroduction and

Effective Decision Making	- Adequate interest to begin project and carry on project	Conditional	-There was a definite interest by the MLCN to take part and help lead this project -Project successfully re-established elk population -Information and accountability about project difficult to locate -Follow-up information about the impact of reestablished population on MLCN difficult to locate or does not exist
			management plan developed and formed by the province and the MLCN

A Cultural and Natural History- Shoal Lake and Red Earth First Nations- 2003/2004
   - Unsure if project continued on the subsequent year

Criteria	Indicator	Meets criteria: Yes, no or conditional?	Project outcome(s)
Participation of Aboriginal person(s) or Aboriginal community/com munities	- Project leader was Aboriginal - Project had a focus on Aboriginal communities	Yes	-Project was similar to one undertaken at MLCN
Sustaining Ecosystem Health	- Strove to maintain of ecosystem and biological diversity and protect ecosystem-based livelihoods - Respectfully included Traditional Knowledge in ecosystem protection	Conditional	-One objective of the project was to demonstrate awareness and knowledge, to the public, gained through SFM practices -Project encouraged the adoption and development of innovative SFM tools -Project resulted in the collection of local history of the area, using literature and oral histories from Elders -Fulfilling criterion was dependent on public

			awareness and knowledge gained from the project and future programs, projects and initiatives that may have been influenced by this project
Economic Sustainability	- Economic sustainability was not a main goal of this project	No	-Project hoped to create long term opportunities in the development and implementation of SFM to improve economic benefits
Social Sustainability	- Provided educational opportunities - Created a possibility for future community development - Promoted cultural revitalization	Conditional	-The collection of data, using a variety of means, would have helped improve skill development in the communities -Project aimed to provide long term opportunities to improve social benefits, while developing and implementing SFM -TK was recognized and promoted to be part of the project
Fair Decision Making	- Intended to promote meaningful involvement and inclusive representation - Inclusion of TK allowed for cross cultural learning	Conditional	-Project hoped to form new partnerships, bring an increased knowledge of past and current development in the area and share and transfer various forms of knowledge and skills -Project appeared to not carry on the following year, thus the meeting of its objectives within this criterion is questionable
Effective Decision Making	- Questionable capacity to take on project	No	-Although there appeared to be initial interest in the project, the project was not carried out in the next fiscal year

Not enough information found:
Three-year study of Montreal Lake History completed- 1994-1996

Strategic planning for First Nation forest sector Saskatchewan- 1997/1998
Training for business and employment opportunities and Innovative Forest Management-
1999/2000