

*Special section: Protected areas and sustainable forest management in Canada*

## Promoting Sustainable Forest Management Among Stakeholders in the Prince Albert Model Forest, Canada

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### Abstract

Model Forests are partnerships for shared decision-making to support social, environmental, and economic sustainability in forest management. Relationships among sustainable forest management partners are often strained, but the Prince Albert Model Forest (PAMF) represents a process of effective stakeholder involvement, cooperative relationships, visionary planning, and regional landscape management. This article seeks to critically examine the history, drivers, accomplishments, and challenges associated with the PAMF. Four key phases are discussed, representing different funding levels, planning processes, research projects, and partners. Key drivers in the PAMF were funding, urgent issues, provincial responsibility, core of committed people, evolving governance, desire for a neutral organisation, role of protected areas, and potential for mutual benefits. The stakeholders involved in the Model Forest, including the forest industry and associated groups, protected areas, Aboriginal groups, local communities, governments, and research groups, were committed to the project, cooperated on many joint activities, provided significant staffing and financial resources, and gained many benefits to their own organisations. Challenges included declining funding, changing administrative structures, multiple partners, and rotating representatives. The PAMF process promoted consultative and integrated land resource management in the region, and demonstrated the positive results of cooperation between stakeholders interested in sustainable forest management.

**Keywords:** sustainable forest management, stakeholders, protected areas, Prince Albert National Park, Prince Albert Model Forest, Canadian Model Forest Network, Saskatchewan, Canada

### INTRODUCTION

The historical relationships among partners with a concern for sustainable forest management (SFM) have been

often characterised as tense, fractious, and antagonistic (Hvenegaard et al. 2009). The negative outcomes from these kinds of relationships (Wiersma et al. 2010) can result from a lack of awareness, differing mandates, and isolation. However, there are also examples of positive relationships involving joint planning and cooperation (Hvenegaard et al. 2009), which might derive from common biophysical conditions, environmental stressors, and community interests.

This special section explores the relationship between protected areas and SFM in Canada, and this particular paper provides perspectives from a nationwide program to “provide national and international leadership for sustainable development in forestry” (Pollock et al. 2013: 13) derived

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from a case study of the Prince Albert Model Forest (PAMF). The purpose of this paper is to critically examine the history, accomplishments, drivers, and challenges associated with the PAMF's efforts to seek SFM. Based on our analyses, the relationship between protected areas and SFM is supported by cooperative, accountable, and participatory processes, with a broad vision for the regional landscape. In particular, the PAMF had some successes because it involved not only industry and protected areas, but also Aboriginal groups, local communities and community groups, various levels of government, research groups, and forestry organisations. In this paper, we examine how the relationships among SFM stakeholders, facilitated by the PAMF, evolved over time in response to internal change and external pressures. These points support Wiersma et al.'s (This issue) concepts of multiple values and management effectiveness. We argue that commitment, cooperation, and strategic infusion of resources have played a significant role in this project. The process and results of the PAMF have encouraged a consultative and integrated land resource management approach, and serve as a model of the potential positive results of cooperation between protected areas and the SFM sector. Our work offers new insights about promoting SFM from a nationwide and multi-sectoral approach, with the reciprocal support of national and international SFM networks.

Recent investigations into the relationships between SFM and associated stakeholders have revealed several important challenges that require identification, discussion, and understanding, failing which they might become sources of tension. These include using consistent language for forest values and management paradigms by the SFM and protected area sector (Duinker et al. 2010), identifying overlapping SFM and nature protection activities, respecting appropriate jurisdictional authority (Wiersma et al. 2010), understanding the impact of management decisions across jurisdictional boundaries (e.g., Wiersma et al. 2004; Waskesiu Community Council 2007; National Park Service 2009), incorporating research about collaboration (Wiersma et al. 2010), understanding the benefits and concerns of forest certification schemes (Gullison 2003; Tikina and Innes 2008; Putz and Romero 2001), and determining the role of benchmarks in evaluating change (Arcese and Sinclair 1997; Davis et al. 2004; Hvenegaard et al. 2009). Additional research is needed to further examine these challenges, in the context of impacts, management options, and criteria for success.

One attempt to address the challenges of coordinating and/or integrating activities associated with stakeholders and timber-producing forests is through the 'Model Forest' Program. Model Forests are built on the desire for sustainability networks (Ponte and Cheyns 2013), and the potential of multi-stakeholder approaches (El Abboubi and Nicolopoulou 2012; Dentoni and Veldhuizen 2012) and multi-level governance structures (Marcucci and Stathopoulos 2013; van de Grift and Vervoort 2013). Other multi-stakeholder initiatives that promote sustainability in natural resource-based context include, but are not limited to, Biosphere Reserves (with a focus on conservation, socio-economic development,

and demonstration of sustainability; Pollock et al. 2013) and community forests (with a focus on community-led management of sustainable forestry; British Columbia Ministry of Forests, Lands and Natural Resource Operations 2011).

Model Forests are forest landscapes managed through voluntary and inclusive partnerships, with a focus on sustainability, through dialogue, experimentation, and innovation (Natural Resources Canada 2012). Model Forests promote six core principles (IMFN 2006). First, the landscape involves a geographic area with some forest cover and boundaries appropriate to the local setting. Second, typical partners include, for example, forest industries, protected areas, local communities, and Aboriginal groups, who are committed to an open, transparent, and dynamic relationship focused on sustainability goals. Third, Model Forest partners work together to develop sustainability goals appropriate for the site. Fourth, the governance model chosen is unique to each site, but seeks to be representative, participatory, transparent, accountable, and collaborative. Fifth, Model Forest partners seek to achieve common sustainability goals through a variety of activities, including research, monitoring, communications, capacity-building, and networking. Last, Model Forests seek to share knowledge among partners at the local, national, and international levels. Designation as a Model Forest requires a series of steps towards developing partnerships and a strategic plan (IMFN 2006). Over 60 Model Forests have been adopted in more than 30 countries (Natural Resources Canada 2012).

In 1992, Canada was the first country to develop a Model Forest Program, responding, in part, to a desire for more equal consideration of the environmental, social, and economic components of the forest (Brand and LeClaire 1994; Canadian Model Forest Network 2010). The Canadian public was concerned about the future supply of timber, long-term forest conservation, and forest management practices (Ayling 2001). In Canada, Model Forests use a "consensus-driven partnership, working with shared decision-making to achieve social, environmental, and economic sustainability in forest management" (Bouman and Kulshreshtha 1998: 255). While each Model Forest is unique (e.g., biophysical, ownership, and governance characteristics), all promote sustainable management on a diverse resource base, collaborate through stakeholder partnerships, and support joint learning (Ayling 2001). Program leadership, structure, and seed funding were provided by the Canadian Forest Service, a department of the Canadian government. There is no legal basis for Model Forests, except in the agreements made among partners. Model Forests are different from other Canadian forests in terms of the level of partnerships and their focus on sustainability. Each site can serve as a model from which other interest groups can learn in advancing their sustainability goals.

At present, 11 Model Forests have been established in Canada to encourage dialogue about forest management issues among diverse partners, experiment with and demonstrate innovative forest practices, and engage Canadians in decisions regarding forest land use (Canadian Model Forest Network 2010). The Model Forests created a non-profit corporation,

the Canadian Model Forest Network, to facilitate the sharing of information, tools, and best practices to help support forest-based communities. The International Model Forest Network works to support individual Model Forests and Model Forest Networks within countries (IMFN 2006).

There are many strengths of the Model Forest approach. Model Forests encourage inputs from a wide range of stakeholders, provide institutional structures for collaborative decision-making, develop a culture of adaptive management, increase awareness of the importance of SFM, and help achieve a greater recognition of Aboriginal values (Ayling 2001; Makhoul 2006). Weaknesses in the Model Forest approach include a potential lack of willing participation due to increased risk associated with potential compromise in undertaking new partnership approaches and a need for rapid demonstration of progress and results (Ayling 2001).

The Prince Albert Model Forest (PAMF), located in central Saskatchewan with a current area of 4,382,417 ha (IMFN 2010), was one of the founding Model Forests in Canada. The Model Forest, with 15 partner organisations, spans all of Prince Albert National Park, many rural communities, First Nations Reserves (tracts of land owned by the federal government and administered by Aboriginal Affairs and Northern Development Canada for use by a specific First Nations band), and forest land owned by the Government of Saskatchewan and licensed by the Ministry of Environment's Forest Service to industry for SFM through a Forest Management Agreement. The current PAMF land extends from La Ronge in the North to Prince Albert and Tisdale in the South, and from Pelican Narrows in the East to North Battleford in the West (Figure 1).

## METHODOLOGY

The authors were involved in the PAMF in various positions and at various stages in its history. In preparing this analysis, the authors examined PAMF documents (e.g., annual reports, publications, meeting minutes), reflected on past experiences (e.g., stakeholder meetings), and consulted comparative documents about other Model Forests.

The PAMF is contained within the mid-boreal upland ecoregion of the Boreal Plain Ecozone of Canada (PAMF Association Inc. 2000). This ecoregion has a subarctic climate with a mean annual precipitation of 452 mm. Summers are short and cool, while winters are long and cold. The ecoregion lies on top of a rolling glacial plain, with numerous uplands and lakes. A wide range of soils are found in this ecoregion. Water bodies comprise 15% of the area (PAMF Association Inc. 2000).

The overstory vegetation is dominated by trembling aspen (*Populus tremuloides*), balsam poplar (*Populus balsamifera*), white birch (*Betula papyrifera*), jack pine (*Pinus banksiana*), white spruce (*Picea glauca*), black spruce (*Picea mariana*), balsam fir (*Abies balsamea*), and tamarack (*Larix laricina*; PAMF Association Inc. 2000). About 48% of PAMF is forested; of that, 49% is covered by softwoods and about 52% is over 80 years of age (PAMF Association Inc. 2000). A wide range of plant species are found in the shrub and ground layers.



**Figure 1**  
Current focus area of the Prince Albert Model Forest as part of the Forest Communities Program

The PAMF contains abundant large mammal populations, including moose (*Alces alces*), elk (*Cervus canadensis*), white-tailed deer (*Odocoileus virginianus*), woodland caribou (*Rangifer tarandus caribou*), wolf (*Canis lupus*), and black bear (*Ursus americanus*). The area has high biodiversity and contains healthy populations of birds, fish, amphibians, and reptiles. The PAMF contains four species listed by the Committee on the Status of Endangered Wildlife in Canada as threatened (plains bison (*Bison bison bison*), woodland caribou, common nighthawk (*Chordeiles minor*), and Canada warbler (*Wilsonia canadensis*), and another three species under the category of special concern (rusty blackbird (*Euphagus carolinus*), horned grebe (*Podiceps auritus*), and northern leopard frog (*Rana pipiens*); COSEWIC 2010).

The original inhabitants of the PAMF used the forests for hunting, gathering, and ceremonies. Following contact with Europeans around 1690, trapping of fur-bearing animals intensified (PAMF Association Inc. 2000). After treaties with the federal government in 1874 and 1876, Aboriginal people eventually settled onto Indian Reserves (PAMF Association Inc. 2000). The Indian Reserves in the Model Forest area (total of 141,755 ha) represent twelve First Nations, including Montreal Lake and Lac La Ronge First Nations, both current partners of the Model Forest.

Several protected areas are found within the PAMF. Two provincial protected areas (Candle Lake Provincial Park and Whiteswan Lakes Recreation Reserve), totalling 13,749 ha, are intended to provide for outdoor recreation and education,

and to protect areas representative of the provincial natural and cultural landscapes. Federally, the Model Forest contains all of Prince Albert National Park (387,400 ha), which was established in 1927.

Later on, the PAMF region was also used for hunting, fishing, trapping, protected areas, forestry, education, mining, cottage development, ecotourism, farming, ranching, outfitting, and wild rice production. As central Saskatchewan was settled by Europeans in the 1800s (Prince Albert city was founded in 1866), demand for timber grew. The Prince Albert Lumber Company was dominant in the early 1900s, but closed due to forest fires and falling market prices. The Sturgeon River Forest Reserve was established in 1914, within the southern part of the future Prince Albert National Park. Harvesting occurred here until the 1960s. The Prince Albert Pulp Company ran a wood treatment plant and pulp mill during the 1960s and 1970s. This company was owned by the Saskatchewan government from 1981 to 1986 and by Weyerhaeuser Canada from 1986 to 2010. Weyerhaeuser was the largest timber harvesting company within the PAMF, requiring an annual volume of about 2.1 million cu. m for its mills (PAMF Association Inc. 2000).

## ARGUMENT

### Status of the Prince Albert Model Forest

The PAMF began in 1992, and has received most of its funding from the Canadian Forest Service, with smaller cash and in-kind contributions from partner organisations. While membership has varied over the years, the PAMF comprises 15 partners at present (Table 1). These partners come from the federal government, provincial government, municipal government, First Nations, the forest industry, community groups, research groups, and provincial forestry groups.

Each partner and group represents a wide variety of interests and contributions; this diversity is represented on the PAMF Board of Directors. Following is a brief elaboration of a few partner groups.

Two units of the federal government participate in the PAMF. The Canadian Forest Service served as a catalyst in terms of core funding and provided key logistic and administrative support. Parks Canada administers national parks which are dedicated “to the people of Canada for their benefit, education and enjoyment . . . . And the parks shall be maintained and made use of so as to leave them unimpaired for future generations.” (PANP 2008: 4). Furthermore, the first priority for managing national parks is the “maintenance or restoration of ecological integrity, through the protection of natural resources and natural processes” (PANP 2008: 5). To achieve these goals, Parks Canada has long been supportive of cooperative networks such as Model Forests and biosphere reserves (Birtch 2010). The national park’s early interests in the Model Forest centred on the opportunity to contribute to discussions on regional land management, in particular activities adjacent to the national park’s boundaries.

In its efforts to promote SFM of the province’s forest resources, it was natural that the provincial government supported the goals of the Model Forest (Government of Saskatchewan, Environment, Forests 2011). The provincial government promotes SFM through reporting systems, forest management audits, legislation, regulations, licensing, enforcement, research, and planning (Government of Saskatchewan, Environment, Forests 2011). Municipal governments, such as those representing Candle Lake, are engaged in the Model Forest to enhance services and programs in its municipality.

The PAMF is known nationally for its significant Aboriginal involvement. The PAMF covers reserve lands for twelve First

**Table 1**  
*Prince Albert Model Forest’s current partner categories, names, and mandates*

Partner category	Partner name	Mandate relevant to PAMF
Federal government	Canadian Forest Service (Natural Resources Canada); observer status only	Demonstrate sustainable forest resources and communities, develop models of community engagement, multi-sectoral direction
	Parks Canada (Prince Albert National Park)	Promote biodiversity conservation and recreation
Provincial government	Saskatchewan Environment	Sustainable development of forest resources
Municipal government	Resort Village of Candle Lake; City of Prince Albert	Provide sustainable services and programs for municipality
Aboriginal groups	Umbrella Group (Federation of Saskatchewan Indian Nations; Prince Albert Grand Council; First Nation Island Forest Management Inc.; First Nations Agricultural Council of Saskatchewan)	Represent interests of provincial and local First Nations
	Individual First Nations (Lac La Ronge; Montreal Lake)	Represent interests of individual First Nations
Forest industry	Weyerhaeuser Ltd. (Saskatchewan Division)	Develop forest resources
Community group	Sturgeon River Plains Bison Stewards	Promote stewardship and sustainable use of Canada’s only free range bison;
	Prince Albert Regional Economic Development Authority	Provide business and tourism development services
Research group	Saskatchewan Research Council; Native Plant Society of Saskatchewan	Encourage research; promote links to other research institutions
Provincial forestry group	Canadian Institute of Forestry-Saskatchewan Chapter; Saskatchewan Forestry Association; Independent Forest Operators of Saskatchewan; Forest First	Promote stewardship and sustainable use of forests; provide education and professional development opportunities; promote the forest industry for independent operators

Nations, of which two are current stand-alone partners (other First Nations and a Métis organisation were also members in the past). Aboriginal groups were interested in the PAMF for many reasons, especially those related to SFM, knowledge and technology transfer, non-timber values, and community development (PAMF Association Inc. 2000). A few umbrella groups represent the interests of First Nations groups in the areas of treaty rights, agriculture, and forest management.

The forest industry has been dominated by the Weyerhaeuser Company which was the licensee on the Forest Management Agreement area from 1986 to 2010. Weyerhaeuser harvested and processed wood for softwood lumber, oriented strand board, and plywood. According to Spencer (1997), Weyerhaeuser chose to become a PAMF partner for two main reasons—to strengthen relationships with other forest stakeholders, and to create an accurate database about Saskatchewan's forests. However, Weyerhaeuser sold its pulp mill to Domtar in 2007, which in turn sold it to Paper Excellence in 2011. Weyerhaeuser's former Forest Management Agreement area was sold to Sakâw Askiy Management Inc., involving six forest companies and two First Nations groups. In addition, a few forestry umbrella groups are partners to promote sustainable forestry through stewardship, education, and business promotion. Two research groups are partners to promote research for sound decision-making. Last, two community groups promote their unique interests—the two partners in this category are focused on environmental stewardship and economic development.

### History of the Prince Albert Model Forest

Bouman et al. (1996) highlight some of the original sustainability challenges associated with the PAMF. First, the colonial legacy resulted in primarily state-owned forests, reliance on government management, and lasting and substantial effects on Aboriginal cultures of conversion from a subsistence lifestyle to a fur-trade economy and beyond. This legacy created imbalances in power, including access to resources, influence on decision-makers, and opportunities for employment. Second, throughout the various stages of history in the PAMF region, there have been increased and often unsustainable uses of forest resources, whether they were fur, timber, or tourism (Hugh Walker Consulting Enterprises Ltd 1996). Bouman et al. (1996) also highlight new approaches to achieve sustainability that had varying levels of success. For example, limits on harvest were placed within forest management units by allocating pre-determined harvest periods. Moreover, sustainability was sought through provision of constant timber yields and an even flow of monetary benefits from the forest. As a result, prior to the formation of the Model Forest, there were tensions between many current partners regarding access to timber, goals, accuracy of information, and land claims processes.

For example, there was tension between the Montreal Lake First Nation and Parks Canada for two key issues: 1)

creation of the national park resulted in the displacement of some Woodland Cree and Métis groups living near some of the park's lakes (PANP 2008), and 2) Parks Canada's high-profile portrayal of Grey Owl, a well-known Canadian conservationist in the early 1900s, as an Aboriginal person (he was actually an Englishman). There was tension between this First Nation and the forest industry over the level of cutting. There was concern by Parks Canada over potential logging by the forest industry along the edge of the national park (Parks Canada desired a buffer zone). The La Ronge First Nation was concerned that joining the PAMF would influence their land claims process. Finally, there was both desire for, and concern about, the relatively new concept of co-management involving shared management of forest and park resources. In this case, co-management didn't involve shared responsibility, but it did imply opportunity and responsibility for all partners to provide inputs into management ideas of other partners. Despite some apprehension about these tensions, there was no opposition to the PAMF since partners viewed the process of developing and joining the Model Forest as an opportunity to address concerns and to promote their own mandates (Table 1). The process of joining the PAMF resulted only in changes that were accepted by all partners (i.e., a consensus model of decision-making was used). In some cases, partners made some agreed-upon compromises for improved sustainability, while in other cases involving considerable disagreement, the PAMF partners avoided making policy decisions.

The PAMF can be considered in the context of four historical phases, each with different funding levels and accomplishments. The federal government, the largest and most stable supporter, provided CAD 1 million per year for 1992-1997, dropping to CAD 500,000 per year for 1997-2002, and to CAD 375,000 for 2002-2007. In 2007, the federal contribution started at CAD 325,000 per year, and was gradually reduced to none by 2014. The annual budget of the PAMF has closely followed the federal contribution, but has increased considerably on occasion in response to undertaking specific projects that involved 'in and out' money for those projects. In the years when the budget exceeded the federal contributions, the remaining funds were contributed by a variety of PAMF partners and other government agencies for specific SFM-related projects.

Phase 1 (1992-1997) began with the federal government's announcement of the new Model Forest Program. Despite some initial suspicion, interested partners engaged in considerable networking, identified other potential partners, and conducted research on potential projects in order to prepare a competitive application. The PAMF's initial goals were to: 1) ensure a sustainable and predictable supply of forest-based ecological, social, and economic benefits through management of forest ecosystems; and 2) to raise awareness of, and commitment to, the concept of sustainability, integrated resources management, and ecosystem management among forest users, researchers and managers, at the local, regional, national, and international levels (PAMF 1994).

At the beginning of this phase, the PAMF set the groundwork for ongoing collaboration. Staff at the PAMF and original partners worked to solidify partners, determine boundaries, establish common goals, begin a strategic planning process (including public consultation), and establish financial and in-kind contributions from the federal government (CAD 1 million annually for five years) and partners (PAMF 1993; 1994). In order to provide legal continuity, the PAMF was incorporated in 1993 (PAMF 1993). Early research and development efforts, involving close collaboration with partner agencies and the scientific community, examined the economic value of forest resources (Kulshreshtha et al. 1994; Kulshreshtha 1995; Loewen and Kulshreshtha 1995a, b), documented the hydrological and ecological effects of timber harvesting (James et al. 1995; Mazur et al. 1995; Granger and Pomeroy 1997; Pomeroy and Granger 1997; Hobson and Bayne 2000a, b), conducted a forest inventory (Golder Associates 1994), and prepared a history of the Montreal Lake region (PAMF 1996). Outreach included participation in an International Model Forest conference, and technology transfer with Montreal Lake youth, university students, and park visitors (PAMF 1996).

Phase 2 (1997-2002) involved efforts to clarify the role of the PAMF, identify additional partners, and start the planning process for an integrated resource management (IRM) plan. The PAMF (1998) articulated a new vision to show SFM as a method to enhance all values associated with a healthy forest, and the well-being of forest users and communities. This phase kept the same goals as in Phase 1, but clarified its key objectives. These objectives, each supported by a specific working group, were to maintain PAMF as a healthy ecosystem, maintain the Model Forest as a renewable and sustainable source of economic and social benefits, generate employment and revenue from forest-based activities, develop inventories and operational planning tools for IRM, implement IRM for the Model Forest, promote understanding of SFM and improve credibility of resource management, and identify and apply local criteria and indicators linked to the Canadian Council of Forest Ministers criteria and the PAMF Goals and Objectives (PAMF 1997; 1998). These indicators were primarily focused on biodiversity conservation, ecosystem health, soil and water conservation, ecological cycles, multiple benefits, and society's responsibility (Canadian Council of Forest Ministers 1996).

Core funding was reduced to CAD 500,000 per year during this phase. The PAMF partners engaged in several key projects—re-established elk to Wapusk Lake, conducted strategic planning for the First Nations forest sector in Saskatchewan, solicited traditional knowledge on forestry issues from the Prince Albert Grand Council, established research sites, managed riparian zones, and trained for forest-based business and employment opportunities (PAMF 1998, 1999, 2000; Parkins et al. 2001). Most notably, after many years of data collection, extensive consultation, and review, Model Forest partners signed the IRM plan at the end of this phase (PAMF 2001).

The purpose of the IRM plan was to provide a framework to “integrate the activities of the forest industry, government, First Nations and the public” (PAMF Association Inc. 2000: 1). The objectives of the IRM planning process were to ensure a high level of involvement from the public, resource users, Aboriginal people, and local residents; be mutually beneficial to all Model Forest partners and the public; support management decisions based on principles of ecosystem-based or integrated resource management to help ensure social, economic, and environmental sustainability; and adopt principles of adaptive management. The IRM plan was based on considerable public involvement and a sound planning process (PAMF Association Inc. 2000). The plan identified areas of concern, suggested changes to current land management practices, and suggested better approaches to integrated decision making. The IRM plan resulted in specific goals, objectives, and messages for each working group that existed at the time. Key implementation strategies involved plan monitoring, assessment, review, public involvement, and dispute resolution. The plan solidified commitment to common sustainability principles, allowed for communication of key concerns, and enabled partners to devise joint strategies to respond to address these concerns.

Phase 3 (2002-2007) resulted in implementation of the IRM plan and several new activities, even though federal funding was reduced to CAD 375,000 per year. The working groups from Phase 2 were maintained. Additional contributions from partner agencies allowed new activities related to research, communications, and extension programs. First, new research efforts focused on disturbance studies of hydrology and riparian ecotypes and the effects of climate change on wood supply, ecosystem boundaries, and woodland caribou management (PAMF 2004). Later research examined habitat connectivity for woodland caribou, technology for fish research and bird monitoring (PAMF 2005), and use of traditional knowledge for caribou management (PAMF 2006). Efforts like these led to the development of a moose management plan and support for the Athabasca Land Use Management Plan. Second, the PAMF developed or improved communications efforts related to its website, newsletters, annual reports, conferences (including a 5-year review through the PAMF Legacy Conference), workshops, fairs, poster contests, field tours, and an interpretive fuel break trail in Waskesiu townsite in the national park (PAMF 2004). Third, extension programs expanded. The ‘Beyond our Boundaries’ project promoted SFM practices beyond the Model Forest, with efforts focused on moose management, tourism diversification, and building community relations (PAMF 2004). In addition, the PAMF helped establish the Paspawin Cultural Heritage Interpretive Site, promote a FireSmart Community Program, support use of traditional knowledge in northern school curricula (PAMF 2005), and establish a Junior Forest Ranger Program. Importantly, the PAMF and its General Manager at the time, Gene Kimbley, through mentoring and exchange, inspired the creation of Europe's first Model Forest, Vilhelmina Model Forest, in Sweden (PAMF 2006; 2007).

Phase 4 (2007 onward) began as the Canadian Forest Service changed its funding priorities from Model Forests to a new program called the Forest Communities Program. The Federal Government decided that the Model Forest Program had mostly accomplished its goals, and wanted to expand the mandate to promote sustainability in forest communities even if forest management wasn't central to those communities. The Forest Communities Program sought to address several issues and impacts related to increased competition in the forest sector, forest company consolidation, changing workforce, and increased interest in the benefits and management of our forests. Participating partners in Model Forests across Canada knew that funding through the Model Forests Program was coming to a close, but they recognised value in continuing in some fashion. Because of the name recognition, some participants kept the name 'Model Forests', while others changed to 'Forest Communities' or other locally-relevant names. There was some initial apprehension about proceeding with an application to this new program (i.e., new partners, new funding model), but the PAMF was a successful applicant to the Forest Communities Program in 2007. Funding was reduced further to CAD 325,000 per year, with a gradual phased-in reduction to zero by 2014. Again, partners provided additional funds for specific projects, while the federal money supported ongoing administration.

Thus, the Model Forest kept its name and carried on with most of its existing activities, with slight alterations (Johnston and Carr 2006; PAMF 2008). The new vision of the PAMF was "vibrant, resource-based communities where local people are equipped with the capacity to work together to engage in informed decision-making and implement actions that build economic diversity and foster sustainability for future generations" (PAMF Association Inc. 2007: 12). To achieve this vision, the PAMF outlined the following objectives:

- To pilot ideas, conduct experiments and develop models that assist forest-based communities to build capacity and meet the opportunities and challenges of a forest sector in transition.
- To develop and share integrated, multi-sector approaches, based on science and innovation, to address community transition that involves new and existing natural resource stakeholders.
- To work with industry and other community-level stakeholders to develop new forest-based opportunities for rural Canada.
- To develop and share sustainable forest management knowledge, practices, tools, and experiences with international forest-based communities and their Model Forests, in keeping with Canada's international forest agenda (PAMF Association Inc. 2007: 12).

This phase has seen the continuation of many previous projects and the development of several new projects. The PAMF and its partners assisted the Nipawin biomass ethanol new generation cooperative, developed youth capacity projects, and collaborated internationally with the Ibero-American Network of Model Forests and with the Vilhelmina Model

Forest in Sweden. The PAMF continued research on climate change impacts on island forests and woodland caribou management. Stewardship activities flourished in this phase, particularly the Candle Lake Subwatershed Stewardship Committee and the Sturgeon River Plains Bison Stewards (PAMF 2010). In addition, the Model Forest hopes to broaden involvement with non-timber forest products (Aboriginal and commercial) in its partnerships with Model Forests in Sweden and Chile (Mitchell 2008).

What is the future prognosis for the PAMF? The 2013-2014 Work Plan (PAMF Association Inc. 2013) sets out goals for delivering activities in a multi-stakeholder manner, focusing on sustainable finances, ongoing operations (e.g., communications, administration), national and international partnerships, and support to existing programs. While the PAMF has been fortunate to receive federal funding since 1992, this support ended in 2014. Nevertheless, PAMF partners remain committed and are working hard to attract external funders and to request alternative federal support. It is too early to predict the outcome of these funding efforts.

### **Key drivers**

Since 1992, several key drivers, not listed in any order of importance, motivated participation in the PAMF and sustained the support of key partners. First, the considerable financial incentive provided from the federal government at the start provided a basis to begin research studies, nurture partnerships, and reassure partners that the costs of developing plans and implementing projects would not be borne by partners alone. Second, at the time of establishing the Model Forest, there were significant issues to address, including land use conflicts, lack of coordination of multiple stakeholders, lack of awareness, and lack of background information. Stakeholders and future partners wanted a forum to address these issues. Third, with responsibility to deal with land use issues, the provincial government was quick to signal its involvement and encourage others to join as well. Fourth, a core of committed people acted as spokespersons for their agencies and served as effective leaders of the newly formed PAMF. Fifth, the Model Forest allowed governance to match current needs in the organisation (e.g., working groups, rotating presidency). Sixth, the Canadian Forest Service started the Model Forest Program to assist forest regions resolve land use conflicts; in this case study, the PAMF served as a neutral organisation to resolve such pre-existing conflicts. In fact, it took the first five years of dialogue promoted by the Model Forest to establish an effective working relationship that could promote conflict resolution. Last, mutual benefits could be gained by recognising that there was considerable research information and expertise available for sharing. For example, Prince Albert National Park had significant important resource inventories, biophysical data, and geographic information systems expertise. Thus, the Model Forest partners quickly recognised that protected area uses would need to be part of the solution in balancing use in the region. Other partners brought different benefits to the PAMF.

## Major accomplishments

The PAMF resulted in some significant accomplishments over the life of the project. These can be categorised into several key areas that illustrate relationships among partner groups. First, in 2000, the PAMF partners developed the IRM plan that demonstrated the ability of diverse stakeholders to develop a common vision and plan for sustainable and integrated resource management in the region. This was the first resource management plan in Saskatchewan that was developed and approved by a multi-stakeholder group. The process of developing the plan generated a cooperative approach to information sharing, project development, resolution of land-use conflicts, and improved forest management. The process was eventually copied by other Model Forests in Canada, and served as a template in Saskatchewan for other resource management plans.

Second, the PAMF has resulted in a successful partnership among a very diverse group of stakeholders (Johnston 2007). The partners developed and agreed upon operating principles and procedures for sustaining cooperative working relationships. The partners and other stakeholders were part of the planning processes, signed off on the IRM plan, and actively worked to implement the plan, to the benefit of all. Moreover, the partnership was able to develop criteria and indicators to evaluate achievement of SFM goals. For example, most indicators regarding forests (i.e., forest birds, wildlife diversity, plains bison population, and fire frequency) appear good, but there are still forest-related concerns regarding forest fuel reduction near the park, prescribed burning, and the impacts of forest activities near the park (PANP 2008). Protected areas in the Model Forest, particularly the National park, learned a lot about its neighbours, allowing it to work as a regional partner, support community capacity building, and actively participate in the planning process. Moreover, the protected areas provided information and expertise that supported ecosystem management within and beyond their boundaries (e.g., bison, woodland caribou).

Many of the tensions that existed before the PAMF (i.e., communication, logging levels and locations, cooperative management) have been reduced. For example, a national park employee said that

the Model Forest brings various stakeholders together where they can meet and become more knowledgeable about each other's concerns... They are listening to our concerns about roads and timber harvesting along our boundaries and are making changes, like putting in gates... (Searle 1998: 45).

Third, the Model Forest activities resulted in a substantial body of research. The cooperative partnership helped develop a process for establishing research priorities and implementing projects. This helped generate funding from other sources and provide research expertise. The PAMF addressed key research areas such as the impacts of climate change on forest

ecosystems and local communities, effects of forest harvesting and fire on various ecosystems and local communities, and ecological restoration. For example, the project to reintroduce elk into the Wapus Lake area resulted in important publicity and was showcased on the Discovery Channel.

Fourth, PAMF partners shared knowledge with local stakeholders, Canadian partners, and international interest groups. The Model Forest facilitated many workshops to support local SFM practices (e.g., riparian zone management, forest harvesting and natural disturbances, measuring impacts of forestry on aquatic ecosystems, and measuring community sustainability). The PAMF emphasised communication in many formats (e.g., newsletters, reports, school visits, teacher training, posters, travelling displays, brochures, and websites). The 'Beyond our Boundaries' program was developed to transfer experience and knowledge to other forest-based communities in northern Saskatchewan and also internationally. The PAMF participated in national and international networks to receive and give support to Model Forest Programs throughout Canada and in Russia and Chile. The PAMF hosted and participated in national and international conferences related to SFM research.

Fifth, many agencies broadened their mandate in response to the work of the PAMF. For example, as the Model Forest expanded its focus to sustainable community development, Parks Canada also evolved towards being more responsive and consultative within its regional setting. The most recent national park management plan (PANP 2008: 1) promotes an integration "with that of the larger ecological and cultural landscapes through partnerships with organisations such as the PAMF" and to "sharing leadership, engaging Aboriginal communities and facilitating active stewardship" (PANP 2008: 17). The national park plan names the PAMF as a key regional partnership for these goals.

PAMF partners recognise that reciprocity is valuable. Currently, Parks Canada has a formal agreement with the PAMF providing for a Parks Canada employee to work on secondment for the Model Forest. In return for this in-kind contribution, the PAMF workplan includes projects that benefit the national park. These projects have included support of the Sturgeon River Bison Stewards, a non-profit group working in support of the wild population of free-roaming bison living in and around the western edge of the park; contributions to the development and operation of Paspiviwin Cultural Heritage Site, a site in the park managed as a cultural site by Paspiviwin Inc., a non-profit group with representatives from 14 First Nations and Métis communities and organisations; and other funding for research on caribou and towards involvement of youth.

Last, the PAMF was a Canadian leader in reinforcing the important role of Aboriginal groups in SFM. The PAMF gathered the contributions of Aboriginal people, and integrated those contributions into the planning process and working relationships (e.g., Montreal Lake, elk restoration, and Lake Trout study). Traditional Aboriginal knowledge has been embraced in several ways, particularly capacity building and research. For example, the First Nation Island Forest



Management Inc. has coordinated workshops with provincial forest planners, trained local Aboriginal people, and promoted traditional mapping to assist management plans for the area. In addition, a 'Learning from our Elders' program trained local students to gather traditional knowledge about woodland caribou in northern Saskatchewan, paralleling a similar process in Northern Sweden about domesticated caribou.

### **Lessons learned**

After over two decades of relationship-building, research, and projects, many lessons have been learned by PAMF partners. First, the initial baseline research programs provided an opportunity for partners to set research priorities, answer key questions, and allow time to develop relationships for future programming. Second, international connections helped raise the Model Forest's profile, established useful partnerships for information sharing, and provided opportunities for collaboration with experts from around the world. In particular, membership in the Canadian and International Model Forest Networks provided important organisations and people with whom to share information. Third, it was also important to develop local connections and appropriate governance models with partners and non-partners in industry, government, local communities, Aboriginal groups, and beyond. As individuals moved into and out of positions connected to the PAMF, these additional connections helped relationships mature and solidify. Many other Model Forests have indicated the importance of devising governance models for multi-stakeholder collaboration that recognise local circumstances (Elbakidze et al. 2010). Fourth, it was important to develop processes that allowed partnerships to remain open, transparent, collaborative, and inclusive. This generated an atmosphere of trust and commitment for all partners. Fifth, and connected to the previous point, it was important to establish the PAMF as a neutral forum for problem-solving and idea-sharing in a non-judgmental and equitable manner. This allowed for partners to raise concerns and feel ownership in the agenda-setting process. Last, the PAMF, with the approval of all partners, allowed for an evolving form of governance, responding to different needs at different times. For example, responding to changing federal government priorities, the PAMF was able to shift from the Model Forest to the Model Forest Communities program. Similarly, in the early years, the PAMF used a rotating presidency in which partners would occupy the presidency of the Model Forest for one year before passing that role on to another partner. After several years, partners agreed that, given the level of trust developed and the need for continuity in the position, the presidency would be held for a few years at a time.

### **Challenges**

Notwithstanding these accomplishments, the PAMF has faced critical challenges throughout its history. Financially, annual contributions from the federal government have declined

steadily, and have been phased out in 2014. In addition, the forest industry financially struggled at times. For example, Weyerhaeuser virtually shut down in 2006, and later its mill and management area changed ownership. As a result, there was uncertainty about the continuity of many programs. Another challenge emerged out of the transition from the Model Forest Program into the Forest Communities Program. While many goals remained the same (i.e., sustainable use, capacity building, multi-sectoral approaches, and sharing best practices), the new program placed more emphasis on developing new forest economic opportunities. At times, abrasive personalities of people in critical positions threatened partners' trust of, and commitment to, the Model Forests' mandate and process. Involving multiple partners presented another challenge, in that every partner continually faced its own re-structuring into more efficient bodies, each with different interests, capacities, and abilities to offer financial support. Last, challenges arose when representatives from the Model Forest partners were rotated in and out of their organisations (affecting memory and continuity within the PAMF), and when people serving on PAMF boards and committees represented multiple organisations, and thus multiple interests.

### **CONCLUSION**

The PAMF represents a process in stakeholder involvement, collaboration, planning, regional landscape management, and accountability. This type of multi-governance process has led to enhanced trust among partners and improved ecosystem management (Armitage et al. 2009). Although the PAMF involves many stakeholders, key partners were committed to the project, cooperated on many joint activities, provided significant staffing and financial resources, and gained many key benefits that promoted the goals of their own organisations. The process of being involved in, and supporting, the PAMF has helped promote more consultative and integrated resource management in the region and beyond, and demonstrated the positive results of cooperation between all stakeholders, including protected areas, the forest industry, community groups, Aboriginal groups, and more, all with important contributions to SFM that support the goals of the Model Forest Program.

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