Towards new Institutional arrangements for managing forest commons in Northwestern Ontario

Lynn Palmer[1], Chander Shahi and Peggy Smith

Faculty of Natural Resources Management
Lakehead University
955 Oliver Road, Thunder Bay, Ontario, Canada, P7B 5E1

ABSTRACT

The forest industry has been the backbone of local economies in many remote locations in Canada. While this industry, which has focused on commodity products such as pulp, paper and lumber, thrived until the early part of this century, in recent years it has faced a major downturn that has resulted in extensive mill closures and unprecedented job losses to forest industry workers. Although municipalities that once benefited from the forest industry through employment and taxation are now experiencing negative social and economic impacts, Indigenous (First Nation) communities have generally been marginalized and historically received little benefit from the forest industry. This study examines the emergence of new institutional arrangements for the management of forest commons in northwestern Ontario (NWO) as an approach to improve the resilience of the communities that inhabit this vast boreal forest region. The study utilizes a qualitative approach based on semi-structured interviews with participants from 10 municipalities and 18 First Nation communities throughout NWO. The study participants include community leaders (mayors, chiefs, council) and key informants familiar with the forestry situation (former loggers and mill workers, lands and resources staff, and economic development officers). The study results have been used to formulate policy recommendations to develop a long-term economic vision to support sustainable local communities and the forest ecosystems that they depend on.

Key words: community economic development, First Nations, forest-based communities, institutions, Northwestern Ontario, partnerships

INTRODUCTION

The forest industry has been the backbone of local, rural economies in many remote Canadian locations including the boreal region of Ontario. This industry employed close to 50,000 people in Ontario as of 2004, with 10 percent in logging, 40 per cent in the wood industry, and 50 per cent in pulp and paper (Bogdanski 2008). The predominant forest management system for Crown (public) forests involves centralized decision-making by the provincial government. The tenure system for these forests typically involves licensing of timber for low value commodity forest industries that focus on export, primarily to the U.S. With minimal diversity of actors and forest products, the forest management system emphasizes economic production and scientific

Email primary author **clpalme1@lakeheadu.ca**

management to supply timber to the industry (Burton et al. 2003). It has subjected both the industry and the communities that depend on it to boom-and-bust cycles associated with the commodity markets. This inherently unstable situation has steadily worsened over the years and has led to a forestry "crisis" in forest-dependent communities throughout the country including the boreal region of northwestern Ontario (NWO). The crisis is marked by extensive mill closures, dramatic declines in forestry employment, increased outmigration particularly of youth, erosion of the local tax base, service reductions, a loss of social capital, and a pervasive lack of community well-being (Bogdanski 2008, Patriquin et al. 2009). Employment in the pulp and paper and logging sectors is currently at its lowest level in 20 years, having declined by more than 30 percent in the past decade (NRC 2009).

NWO is a vast and remote part of Ontario that stretches from the Manitoba border in the west to the mid-point of Lake Superior in the east, and northward to Hudson Bay. This part of the province is sparsely populated with about 250,000 residents: approximately half of this population lives in the city of Thunder Bay. The remainder are in smaller municipalities and First Nation (FN) communities. The forest-dependent municipalities are commonly single-industry towns with few employment options other than in the forest sector. FN communities are on reserves and fall under the jurisdiction of the federal government. Unlike municipalities, FN communities are growing rapidly in population. However they face disproportionate economic challenges and joblessness in relation to the municipalities.

The forests of NWO are allocated for harvest through Sustainable Forest Licences (SFLs), held either by one or a group of forest companies that possess a processing facility such as a sawmill or pulp mill. Forest management occurs predominantly in FNs traditional territories which encompass large areas of Crown forest lands outside of the reserves. Traditional territories are those lands which have been and are currently used by Aboriginal communities (Smith 1998). All traditional territories in the region are subject to one of three treaties that were signed between FNs and the federal government from the mid 1800s to the early 1900s. In addition to high levels of unemployment, communities in the boreal region of Canada have been found to have higher levels of poverty and lower levels of education than rural communities in non-Boreal regions of Canada (Patriquin et al.2007).

The current forestry crisis in Canada has been attributed to acute forest industry competitiveness issues related to changes in global supply and demand, an unfavourable export market currency exchange rate and competition from lower cost foreign producers (CFS 2006). While these recent changes have had a negative impact on the industry, the fundamental problem is due to the Canadian staples economy. Staples are raw or unfinished bulk commodity products sold in export markets with minimal amounts of processing, as is the case for most Canadian forest products (Howlett and Brownsey 2008). Staples theorists point to factors that exacerbate the "staples trap" including: 1) reliance on foreign capital and volatile international markets that create the familiar boom-and-bust cycles of commodity markets and 2) state-industry relationships that often exclude other actors such local and Aboriginal peoples

and consideration of other values and environmental concerns. Staples theory provides a social criticism that demonstrates the systematic flaws of a forest management system that has alienated citizens in NWO from decision-making on matters fundamental to the economic, social and cultural future of the region. These decisions have largely been at the discretion of a highly centralized provincial government historically influenced by large industrial players. The NWO economy has not significantly diversified and is currently experiencing the third phase of staples development (Clapp 1998) with the forestry industry in crisis and decline.

Negative socio-economic impacts resulting from long-term dependence on a forest staples economy are now widespread among NWO municipalities. While FN communities in the region have also experienced varying degrees of negative impacts from the crisis, they face additional challenges due to historical exclusion and a lack of significant benefit from forest management in their traditional territories. Aboriginal economic development is known to be inhibited unless FNs have shared decision-making authority over their traditional land base and resources (AFN 1996, Ross and Smith 2002). However constitutionally-recognized Aboriginal and treaty rights in Canada, which should protect FN forest values, have been largely ignored by the government of Ontario when licensing traditional FN territories to forest industry.

The Ontario government recognized the need for an improved forest tenure system to address the forestry crisis and the concerns of forest-dependent communities when a process of tenure reform begun in 2009. A strategic discussion document (MNDMF 2009) was prepared as a basis for developing a new framework for forest tenure in the province and that started a series of public and Aboriginal consultations. A proposal for a new forest tenure and pricing system framework was released in April 2010 (MNDMF 2010). The proposal calls for a new forest tenure model that would replace SFLs with Local Forest Management Corporations (LFMCs) to manage much larger forest management units created by amalgamating existing units. The proposal states that it intends to provide opportunities for increased local and Aboriginal community involvement while making the forest sector more competitive. However it is unclear to what extent LFMCs would be responsive to community and FN interests. Furthermore, the proposal focuses only on the harvest of timber, with no mention of other uses of the forest, such as diversifying production to include value-added products to promote economic development in the region. A second round of public consultations to obtain perspectives on the proposal was undertaken until late June 2010. The new forest tenure policy is yet to be released. There has been widespread interest by communities in the development of more diverse, smaller-scale, value-added forestry enterprises either through the existing tenure system or the implementation of new forest tenure institutions to support community-based forest management (CBFM). For both of these approaches, communities are actively pursuing the development of new partnerships and joint ventures.

In order to assess community perspectives about the forestry crisis and the optimum direction for future forest management to best support community sustainability in NWO, we undertook a qualitative study with members of FN and non-FN communities

throughout NWO. This paper focuses on the emergence of partnerships between FN and non-FN communities (municipalities) that advocate shared management of their local forest commons and development of community-based forest enterprises (CFEs) in order to promote sustainability of both the communities and forest ecosystems they depend on. We examine how these innovative partnerships are being created to jointly promote forest-based economic development in NWO communities and, if implemented, how they would function as new forest tenure institutions within Ontario's state-regulated common forest property system. We next evaluate these emerging initiatives in relation to key factors for success identified in the literature on forest commons and community-based forest enterprises. Finally, because the FNs who are integral partners in all of the initiatives have unique concerns in relation to their rights and interests, we evaluate the initiatives in terms of the Aboriginal Economic Development (AED) and Aboriginal forestry literature. We conclude with policy recommendations based on the findings to promote a long-term economic vision for the region.

METHODS

The research was undertaken during 2009-2010. It involved collection of qualitative data from semi-structured interviews to allow an open and unbiased exploration of participants' responses to open-ended questions about the impacts of the forestry crisis and views about the future direction of forestry. A purposive sampling strategy was used to identify suitable research participants from selected forest-dependent communities in NWO. This approach allowed the participant selection process to be systematic and logistically manageable given the large area under study. The research proposal was approved by the Lakehead University Research Ethics Board prior to the interview selection process. To select participants, community leaders (mayor and town council) of the major municipalities and all FN communities (chief and band council) throughout the region were contacted beginning in November 2009 to request participation in the study. Initial contact with the municipalities was done by email which in all cases elicited a positive response. For FN communities, contact was made by phone since this approach elicited the best response. In addition, key informants familiar with and interested in the forestry situation recommended by the community leaders were also contacted to request participation. Several FN organizations were also contacted. While this sampling approach is not statistically representative of all communities in NWO, it reflects a cross section of perspectives from community members who are aware of and interested in the current state of forestry in the region.

A total of 40 interviews were conducted with participants from 10 municipalities and 18 FN communities as well as one FN political organization and one Tribal Council (Fig. 1). In a number of cases there were several participants from the same community. Interviewees from municipalities consisted of mayors and councillors, economic development officers, laid off forestry workers, retirees from the forest industry and the manager of an idled mill. Interviewees from FN communities consisted of chiefs, councillors, and economic development or lands and resources/forestry staff. Some

interviews were done over the phone while others were done face-to-face in the communities. The type of interview depended on logistics such as travel distance and winter driving weather as well as the preferences of participants. The majority of interviews were done with a single individual. However in several cases group in-person interviews were done to save time in terms of travel logistics. Group sizes ranged from two to a maximum of five, the latter which was only in one case. Interviews lasted from 30 minutes to two hours depending upon interest and response of the interviewee(s). Interviews were tape recorded on audiotape other than in one case where the participant was not comfortable with doing so and notes were taken instead.

All interviews were transcribed and then reviewed by the participants for accuracy and interpretations prior to data analysis. The transcripts were analyzed using Atlas.ti v.6.1.1, a qualitative data analysis program designed around the grounded-theory methods (Muhr 2009). After initial open coding of all transcripts, the data were sorted into themes and categories based on the research questions. Trends and differences in perspectives among interviewees and (where relevant within) communities were examined for each theme to assess regional variation in perspectives as well as differences or similarities depending on community type (i.e. municipality vs. FN).

The results focus on a subsection of the whole study relevant to the theme of partnerships between FNs and municipalities for joint management of their local forests. Additional information was also obtained through informal discussions with two participants in November 2010 in order to include recent developments relating to the partnership theme.

RESULTS

Trust and Relationship-Building as a Foundation for Partnerships

Widespread recognition was evident among communities that local forests are critical for future livelihoods of all citizens in the region since forestry, in a new form, will always be a part of the region. Participants conveyed that breaking down the cross-cultural barriers that have historically existed between FN and non-FN communities to develop positive working relationships is now crucial to address the economic challenges facing the region. One FN participant stated, *"It's not natives and non-natives. We're not separated".* Another from a different community stated:

"We'd like to just work with everybody. We don't want full control or to be the main people, we just want to be included as a valued partner. If we're going to succeed we need to do it together. We need to stop this whole divide and conquer with regards to FNs. We all live in these forests. We're all affected the same way. If we put our heads together and do this we'll succeed."
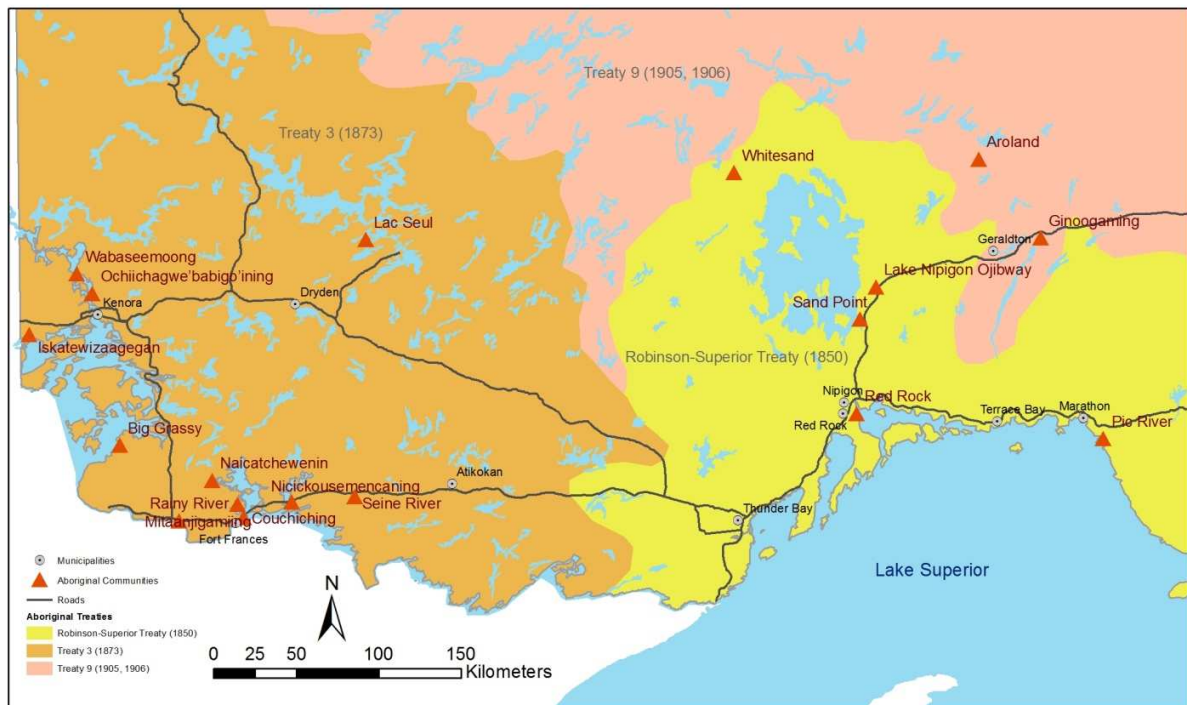
Figure 1. Communities sampled in Northwestern Ontario.

Although many participants discussed the need for collaboration among communities to achieve mutual goals, communities are at different stages in this process depending upon the specific circumstances in their locations. In some cases trust has been established, relationships are well-developed, and partnerships have already been formed to work toward local solutions for Crown forest management. This paper focuses primarily on these cases. In other locations, while understanding of the need for collaboration to improve forest-based economic development was clearly present, no steps have yet been taken to develop joint initiatives for Crown forests. At the far extreme, the basis of trust and good relationships has not been established so no form of partnering for community-based forest initiatives is underway. A FN participant in a community near a municipality where the dominant forestry employer, a pulp and paper mill, is still operating, but where there are concerns that it could close at any time, revealed the stage of interaction between these communities:

> "We have talked about partnership with the town to get the region back to what it should be but we cannot do this yet in our community. The shutdown of mills affects everyone. Partnership is key to keeping the area alive. But there is too much animosity right now to partner. That needs to be resolved before we can

6

explore partnerships. It's very political and difficult to work together. We do have a seat on the Chamber of Commerce so we stay involved."

Emerging Partnerships

Participants in various communities described several new partnerships between FNs and municipalities that are being established to promote greater community control of local forest management.

1. Marathon, Manitouwadge and Pic River FN Big Pic Forest Co-op SFL

A partnership has been developed between the municipalities of Marathon and Manitouwadge as well as Pic River FN. This partnership is to pursue an alternative model for forest management of the Big Pic Forest, current Forest Management Unit (FMU) # 67 (Fig. 2). All partners in this initiative are in agreement that they need control of the forest to obtain local benefit. A proposal developed jointly by the partners was submitted to the provincial government during the tenure reform consultations. The Big Pic Forest is currently licensed to a single shareholder forest company. The partnership has recommended that under their proposed structure, the license be revoked f by the provincial government and given to a local community corporation where partners are equal shareholders. This corporation would manage the local forest commons governed by a local board of directors. The policy decisions for management would be based on the best interests of the community and the environment in order to produce local employment and community economic development. The community organization would allocate timber and other forest resources based on business proposals, therefore leading to the development of new CFEs. Professional forestry staff would be hired by the management board to undertake forest management planning.

A municipal participant who is actively involved in promoting the initiative provided the following perspective about how it is needed for local economic development:

> *"We're the communities that are affected most by what's happening in the forest. Traditionally we have had no control over what happened in the forest. We want that control. We need to look at allocation of the wood to bring value locally. We want to see more manufacturing in the community/region. We want the decisions to be made locally with due diligence process."*

A member of the Pic River FN provided a similar perspective: *"We hope to build partnerships and move forward in the right direction. We want to have decision making authority as an outcome of tenure reform".* The municipal respondent provided a perspective about how the new management institution would promote greater diversification than exists with the current system with a shift to smaller-scale, value-added production of new types of forest products. This participant also indicated that additional partnerships will be essential to move in this direction especially for research and training with various academic institutions in northern Ontario as well as with other research organizations such as the Centre for Research and Innovation in the

Forest Management Units in Ontario - April 2010

Forest Management Units

30, Spruce River Forest	350, Kenogami Forest	615, Algoma Forest
60, White River Forest	360, French-Severn Forest	644, Kenora Forest
67, Big Pic Forest	370, Black River Forest	680, Northshore Forest
110, Abitibi River Forest	390, Nagagami Forest	702, Lac Seul Forest
120, Trout Lake Forest	405, Crossroute Forest	754, Nipissing Forest
130, Wabigoon Forest	415, Ogoki Forest	780, Ottawa Valley Forest
140, Mazinaw-Lanark Forest	421, Pineland Forest	796, Lakehead Forest
175, Caribou Forest	438, Gordon Cosens Forest	840, Red Lake Forest
177, Dog River-Matawin Forest	444, Armstrong Forest	851, Pic River/Ojibway Forest
178, Black Sturgeon Forest	451, Algonquin Provincial Park	853, Sapawe Forest
210, Spanish Forest	490, Whiskey Jack Forest	889, Sudbury Forest
220, Bancroft-Minden Forest	509, Martel Forest	898, Temagami Forest
230, English River Forest	535, Dryden Forest	930, Romeo Malette Forest
260, Lake Nipigon Forest	565, Magpie Forest	994, Whitefeather Forest
280, Timiskaming Forest	601, Hearst Forest	

Plan Renewal Year

- 2010*
- 2011*
- 2012**
- 2013**
- 2014**
- Parks

* Forest Management Plan Phase 1
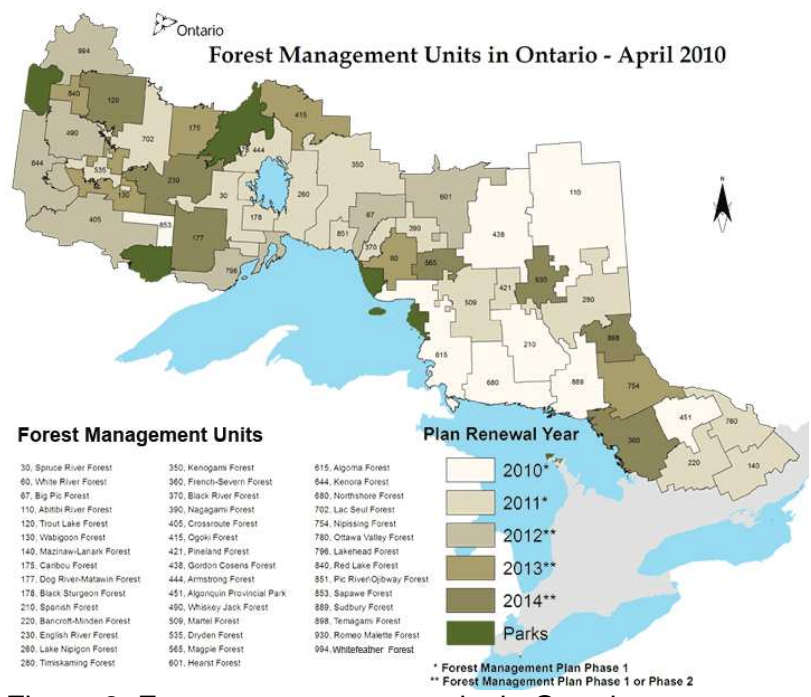** Forest Management Plan Phase 1 or Phase 2

Figure 2. Forest management units in Ontario.

Bioeconomy (CRIBE), a new provincial initiative recently established to help transform the forest products industry in Northern Ontario.

> *"There will be a future but it will be one where organizations work together, such as CRIBE, to develop non-traditional forestry products (e.g. bioplastics for car manufacturing). We have innovative thinkers to get there but we need a grand vision change of what forestry is. Value is still in the wood but we need to think about what to do with the wood to bring value to the local economy. To me that means complete value-added manufacturing, complete research components, looking at producing our own electricity. That is economic development in its truest sense."*

2. Whitesand Community Sustainability Initiative

Whitesand FN has spearheaded a community-based forestry initiative for the Armstrong Forest, current FMU #444 (Fig. 2), which roughly coincides with Whitesand's traditional territory. The initiative involves a partnership between Whitesand FN, the nearby municipality of Armstrong and the Unincorporated Area of Collins that is home to the Namaygoosisagagun FN, a non-status Ojibwa FN. A respondent from Whitesand FN discussed how the community has historically seen little benefit from forest operations undertaken in the Armstrong Forest although the forestry crisis provides a new

opportunity to change this direction. The forestry company that held the license is no longer in operation and license has been returned to the province. The communities see this situation as a "golden opportunity" to create a new forest governance model where the communities play a major role. The initiative proposes that the communities will assume full responsibility for all forest management that takes place on Whitesand's traditional land base. Leaders of the initiative feel that local control of forest management will provide better opportunities for diversification to new, value-added forest products. The Whitesand FN respondent stated:

> *"We've done some extensive lobbying with industry and government to say this is how we view our community sustainability initiative under this new tenure system. And basically we're trying to shape it and mould it in anticipation that the government at the end of the day is going to take it as what the tenure system is going to look like. I think that where we really need to pursue the Ministry is with the idea of community forests. I think not only as FNs but as Northwestern Ontarians we need to lobby really extensively to say this is how we view a community forest. I think that industry because they don't really know what it is they are not going to really accept it outright."*

The initiative is also focused on the development of a CFE using forest resources from the local forest to create local employment and economic development. The proposed enterprise would undertake forestry operations (harvesting, reforestation, silviculture) and produce new forest products using currently underutilized and unmerchantable northern hardwood species, birch and poplar. The enterprise plans to operate: 1) a small sawmill to manufacture value-added products for local markets, 2) a planer and dry kiln to supply the local market with construction material and 3) a wood pellet plant to supply a local co-generation plant and to be sold to the residential wood stove market. Wood pellets would also be shipped for use in converted coal-burning plants in the region as well as to southern Ontario. The co-generation plant would also provide heat and electricity for the communities therefore eliminating the need for diesel-power generators that are currently the only option in remote communities. Heat from the plant would also be utilized to dry lumber and wood pellets and ideally to run a year-round greenhouse to provide fresh produce for the communities which would also help support local food security. Leaders of the initiative feel that it will serve as a model to other northern communities wishing to develop long-term employment opportunities and energy sustainability through the development of CFEs with resources obtained through local management of forests. Also noted was that moving in this direction will also provide a greater opportunity to achieve a balance between economic and environmental concerns, and the incorporation of FN traditional values in forest management in comparison with the industrial model.

The Whitesand FN participant emphasized that economic development would be done in balance with maintenance of the environment and FNs culture, noting that direction about these values has been given by the community's elders. The participant stated:

> *"The way I've always envisioned our involvement in forestry is that in order to be*

in harmony with the traditional lifestyle that we live, there has to be that balance between economic development and the environment. We've always maintained that and that's how I envision us managing our forest in the future".

The participant added that focusing on value-added opportunities is *"A way to strike that balance between traditional forest use and the non-traditional".* This participant described how the initiative evolved from an earlier attempt in 1992 to become part of the Canadian Model Forest program: *"Back then, the communities in and around the Armstrong area decided to get together to put forward a proposal to the government and the industry to consider becoming the Armstrong Model Forest. In that model it talked about the very issue of bioeconomy as we are talking today".* Although the 1992 proposal was not chosen to be part of the model forest program, the process of building relationships between the local communities laid a foundation for development of the current initiative. When in the last several years the provincial government proposed amalgamating the Armstrong Forest and another nearby forest unit without adequate local input, Armstrong community members approached Whitesand FN to obtain their support for a voice in the process. Whitesand FN responded positively.

Recognition was expressed by the FN participant about the need for support by a range of partners to achieve success with the community initiative. The 1992 proposal included partnerships with various organizations including industry, the provincial government and the local university (Lakehead University) and college (Confederation College) in Thunder Bay. The current initiative follows the same approach. Whitesand has recruited a team of experts to assist with the technical aspects of forest products manufacturing and forest management, financial management, training and capacity building and government relations and has ongoing partnerships with the university and college.

3. Greenstone Community Forest Inc.

A proposal has been submitted to the province to establish a community forest, Greenstone Community Forest Inc. The proposal is to obtain a community forest license for 300,000 to 500,000 hectares of the Kenogami Forest, current FMU #350 (Fig. 2). There is currently no forest industry operating on this forest due to the forestry downturn. The Municipality of Greenstone, which encompasses the communities of Geraldton, Nakina, Longlac, Caramat, Jellicoe, Beardmore, Macdiarmid and Orient Bay (Fig. 3) would be the incorporating shareholder. Three local First Nations - Aroland, Ginoogaming, Long Lake # 58 (Fig. 3) who have portions of their traditional territories in this forest - would also be equal partners. The proposed model would incorporate the current Geraldton Community Forest Inc., one of the pilot community forests established in the mid-nineties that did not obtain community forest tenure. The current initiative aims for local forest management through a cooperative structure that provides broad representation of shareholders in the regional cluster of forest-dependent communities.

A municipal participant who actively promoted the initiative described the concept for the proposed community forest:

"We in Greenstone have made representation on tenure and we made it very plain that no one company should be granted these large blocks anymore. The identified forests need a new tenure, need a new management scheme. Communities, FNs, the contractors and the tourist outfitters all need to be part of the board that administers it. We need to go more to an economic model where all the wood is not tied to one company. There's a tremendous resistance from the companies. But the forest is a resource and it should be used for the benefit of the people who live in and around it."

This participant also indicated that the local forest industry *"has to be there but not have the veto power. Equal input is needed from all the representatives. You would provide first right of refusal to the current industry"*. The participant also described how the initial model will require stimulus funding from the province and proposed the following approach for funding both the startup and subsequent operating phases:

"*You take it out of Forestry Futures Trust or stumpage to test this model. As the model is utilized and revenues are achieved then it's like anything else. You make money doing it and you put money back into the operation. We need to have a look at stumpage fees and how we determine them and what the money is being used for.*"

A major focus for the community forest is to provide the forest resources to support a new CFE, Kenogami Industries Incorporated (KII). This enterprise is a three-way equal partnership among Rocky Shore Development Corporation of Ginoogaming FN, Boreal Resource Industries (BRI), a group of former local forest industry workers and Greenstone Development Ltd., the economic development arm of the Municipality of Greenstone. KII purchased the assets of a now closed forest company located in the community of Longlac. The partnership arose with the goal of maintaining the former company site to stimulate local economic activity. The enterprise plans to develop a co-generation facility to supply local power from forest biomass and produce wood pellets and other value-added products.

Figure. 3. Communities in Greenstone Community Forest Inc. and Matawa Co-op SFL

A municipal respondent described how local benefit through diversification of the local economy is expected from this new CFE in conjunction with a community-based forest:

> *"They are more likely to make decisions that are going to help the local economy if they are locally based. And that's the whole idea with KII, that it's going to be a locally based company. Everything's going to be employment driven and more worker-centred. It's going to have more of a social impact than a company out of the province or country that is concerned at the end of the day with just their bottom line. I think that local control would be much more likely to look at diversification in the markets, not simply saying we're a saw mill, or we're a plywood mill. What's starting with KII is an example already, looking at what products they can make with the available wood, and where the markets are. I think you're going to see a lot more innovation and entrepreneurship with local control of the forest because the desire to keep things successful is going to be far greater than for a company that's from elsewhere."*

Although the proposed community forest initiative and associated CFEs indicate clear intentions for strong partnerships among local FNs and the municipality, the proposal was submitted to the government with minimal FN input. However the municipal participant who strongly promoted the initiative indicated how there are good relations between the municipality and local FNs and that the FNs are interested in the community forest concept.

4. Matawa Co-op SFL

Matawa Tribal Council, a regional FN organization that provides policy and direction to its 10 member FNs, has developed an alternative tenure model that was submitted to the provincial government in August 2010. The model is for a license that will be co-owned and co-managed as a limited partnership by FNs in the Tribal Council and their partners which would include the municipality of Greenstone and potentially Terrace Bay. The government of Ontario would also be a key partner in a co-management model for the FNs' land base. A board of directors with members appointed by the partners would oversee all forest operations and forest management planning, research and marketing. The proposal is for all of the Kenogami and Ogoki (current FMU # 415) (Fig. 2) forests where no forest operations are currently taking place. Therefore, as with the Greenstone and Whitesand proposals, implementation of this proposal would not require taking back an existing license from a forest company. Similar to the Whitesand proposal, these FNs see this situation as an unparalleled opportunity to become involved in forest management in their traditional territories. The initiative would encompass the forest area, the three FNs and the eight municipalities included in the Greenstone Community Forest Inc. proposal as well as a much larger forest area and many more communities (Fig. 3). Although five of the FNs are located on reserves well north of the Kenogami and Ogoki forests and the current limit to forest operations in the province, these communities, like all of the FNs included in the model, have at least some portion of their traditional territory in one of these two forest units.
The focus of the initiative is to move from a commodity to a modified commodity-value

added based market system that is open both to new and old markets. It proposes the production of new value-added forest products from currently underutilized species such as tamarack, black ash and balsam poplar. The model would provide the forest resources for KII and require new facilities and value-added production through development of CFEs that would result in the creation of many new jobs for all partners. It is the intention of the Matawa SFL to provide both FN communities and municipalities with employment, economic benefits, capacity building and long-term sustainable economic independency. While the Matawa SFL proposal recognizes the two involved municipalities as key partners, it was submitted to the government without input from these communities.

Concerns about CBFM

Most FN participants were in full support of implementation of CBFM. However concerns presented by several FN participants included: 1) lack of capacity for communities to undertake CBFM, 2) a sense of disempowerment to advocate for local control since the industry owns the mills, 3) sustainability might not be achieved if the community objectives are based primarily on economics and 4) fear that FN rights and interests may not be accounted for adequately in a structure that is not comprised solely of FNs. However, the one FN participant who expressed this last concern also indicated support *"as long as we have an overarching body that would manage that."*

A municipal respondent from Terrace Bay where the local pulp and paper mill reopened in October 2010 after an extended closure indicated uncertainty about CBFM and support for the status quo: " The large forest companies require guaranteed access to timber in order to be able to operate." However the participant also suggested that other tenure approaches should be an option in locations where circumstances are different.

DISCUSSION

The Movement towards CBFM

FN communities and municipalities in NWO developing CBFM initiatives for their local forest commons are embracing the current worldwide trend toward devolution of forestlands to local communities (White and Martin 2002). This development in NWO is a resurgence of a movement for local control of Crown forests that arose in the 1990s in northern Ontario (Duinker et al. 1991) and throughout Canada (Allan and Frank 1994, Duinker et al. 1994, Dunster 1994, McGonigle 1997, 1998, Beckley 1998, Booth 1998, Haley and Luckert 1998, Luckert 1999, Nadeau et al. 1999). The Ontario government's response to the movement resulted in the establishment in 1991 of four five-year pilot community forests in Northern Ontario including the Geraldton Community Forest (Harvey and Hillier 1994). However, the pilots did not obtain devolution of authority over forest tenure to local communities and achieved limited success while they lasted. Community forests have since been increasingly established in a number of Canadian jurisdictions (Teitelbaum et al. 2006). In British Columbia (BC) for example, while community forest tenures remain a minority on Crown forests, these tenures have

created space for 54 forest-dependent communities to advance their local agendas (Pinkerton et al. 2008). In NWO, a FN in the far northern part of the region is developing a form of community managed forest not subject to the forest tenure system that regulates the licensed forests further south (Pikangikum First Nation 2006). Advocacy by communities to similarly implement their CBFM initiatives as an outcome of the tenure reform process is supported by current scholarly discussion in the province and throughout Canada about the need to create alternative forest tenure arrangements to reinvent the faltering forest sector, promote sustainable development in forest-dependent communities through diversification to a wider range of forest products and better support FN goals and values (Kennedy et al. 2007, Nelson 2008, Tedder 2008, Robinson 2009 a,b).

Development of a Forest Commons System

All of the NWO communities proposing community-based management of local Crown forests have either established or are working to establish CFEs. The operation of CFEs in conjunction with local forest management in NWO would exemplify the convergence between community-based enterprises (CBEs) and the commons (Orozco-Quintero and Davidson-Hunt 2010). This direction follows an emerging trend in FN and non-FN forest-dependent communities in Canada (Anderson et al. 2006, Robinson 2010) and around the world, notably Mexico (Orozco-Quintero and Davidson-Hunt 2010). Community interest in developing CFEs as a means to promote economic development is the driving force to obtain control of the local forests. Communities concur that CFEs are key to the survival of local economies in a world dominated by global forces (Orozco-Quintero and Berkes 2010). The CFEs would follow an alternative economic model that provides for broader political, social, cultural and environmental goals than those of utilitarian economic models (Berkes and Adhikari 2006). The development of commons-based CFEs in NWO would contribute to the strengthening of culture, socio-economic empowerment and better environmental stewardship, outcomes being seen worldwide where commons-based CBEs have developed in rural and Indigenous communities (Antinori and Bray 2005, Berkes and Davidson-Hunt 2007, Orozco-Quintero and Davidson-Hunt 2010). Given these distinct advantages of CFEs, their integration within a forest commons system in NWO would support community aspirations to achieve a better balance between economic development and environmental stewardship.

Elements of commons-based CBEs that have been found to be necessary for their emergence and success include: leadership, trust, operation in local, national and international markets, a range of partnerships and security of tenure over the required resources (Antinori and Bray 2005, Anderson et al. 2006, Berkes 2007, Berkes and Davidson-Hunt 2007, Seixas and Davy 2008, Orozco-Quintero and Davidson-Hunt 2010, Seixas and Berkes 2010). The CFEs being created by the NWO communities contain many of these elements. Because these CFEs would ideally function in conjunction with local forest commons, the presence of these elements for the development the CFEs also fosters the development of the CBFM initiatives.

Leadership and Trust: The lack of leadership and/or trust evident in some locations in NWO has limited movement toward the initiation of commons-based CFEs, despite the interest that has been expressed in some cases. For the initiatives that have been developed, it is the political and economic development leaders who are driving the initiatives. Communities that have a history of working together, such as those involved in the Whitesand initiative, have established a high level of trust that has fostered the development of their initiative. A high level of trust also appears to be established among communities proposing the Marathon/Manitouwadge/Pic River FN co-op SFL, even though it is more recent. These communities were motivated to propose the initiative after the closure of the local pulp and paper mill in 2009 and the opening of the forest tenure reform policy window. The Greenstone and Matawa initiatives exhibit strong leadership in terms of development and advocacy of the proposals. However they appear less evolved in terms of establishment of trust since both groups submitted separate proposals without full discussion with each other.

 Although the relationships between FN and non-FNs developing commons-based CFEs in NWO varies, they are nevertheless engaged in "creating new space for social and cultural cohesion to emerge when land and CBE are integrated" (Orozco-Quintero and Davidson-Hunt 2010).This bridging of cross-cultural barriers follows a trend that has emerged over the past decade in BC in conjunction with the community forest movement. Robinson (2010) documented the case of a municipality and FN community who have successfully created a new cross-cultural paradigm through joint management of a community forest despite the communities having distinct cultures and histories and no prior association. The drivers for these communities to break existing cultural barriers to work together for mutual benefit were, for the municipality, the BC government's requirement that community forest proposals include FNs, and for the FN, their interest in benefiting from the greater forestry experience of the municipality.

Markets: All of the initiatives have a major focus on providing new value-added products for local and regional (northern and southern Ontario) markets (e.g. biomass for energy, wood pellets, construction materials). They also intend to market conventional and new products to existing and/or new international markets.

Partnerships: Recent studies of partnerships in commons-based CBEs have found that successful enterprises typically interact through horizontal and vertical linkages with a range of supportive partners that have different skills and capabilities to satisfy a diversity of needs (Berkes and Adhikari 2006, Berkes 2007, Seixas and Berkes 2010, Orozco-Quintero and Berkes 2010). These partners include local and national NGOs, local, regional, and national governments, international donor agencies, private sector organizations, regional indigenous organizations, unions, universities and research centres. They provide multiple services and support functions including raising start-up funds, institution building, business networking and marketing, innovation and knowledge transfer, technical training, research, legal support and infrastructure. The NWO community-based forest initiatives have either already established or plan to establish partnerships and linkages with many such organizations to obtain support for

similar kinds of functions. While international donor agencies are not involved in these initiatives, vertical linkages would exist for all initiatives between four levels of government: municipalities, FN governments and the governments of Ontario and Canada. Since Matawa Tribal Council is a regional FN organization that represents all of its members with respect to power structures in their traditional territories, it is also a vertical linkage that is in place for the Greenstone/Matawa SFL initiatives. The provincial government would be an essential political-level partner for all initiatives which can only be implemented in a favourable policy environment for community forest tenure. Because the provincial government is the steward of all Crown forests, it would maintain a regulatory role and set minimum provincial standards for all forest management activities regardless of institutional structure. An additional role that communities consider crucial for the province is to provide start-up financing and capacity building for the initiatives. Such supportive partnerships for capacity building were found to be a major factor relating to success of Indigenous conservation-development commons-based CBEs around the equator (Berkes and Adhikari 2006). The federal government is an important partner since it has constitutional responsibility for FNs and their lands and often provides funding for natural resource initiatives.

Horizontal linkages in place or under development for the initiatives are regional and national academic institutions (universities and colleges) and research centres such as CRIBE which supports the production of new value-added forest products in Northern Ontario. Partnering with these institutions provides essential training, technical, and research support to foster both CFEs and forest commons management. Certain horizontal linkages for information exchange and support are already in place such as with Northern Ontario Sustainable Community Partnership. This inclusive NGO has brought together a range of stakeholders and FNs to promote CBFM in the region since 2006. Other such horizontal linkages could be established with regional and national organizations from a range of sectors (i.e ENGOs, community forest associations) that support the implementation of CBFM.

Tenure Security: The key missing element for success of the proposed community-based forest initiatives is tenure security of local forest commons. Under the existing forest tenure system that licenses timber only to large forest companies, communities have no secure access to the forest resources required to support the CFEs. It is therefore imperative that communities obtain local forest tenure security if the CFEs are to have the best chance of success.

Support for First Nations

Boyd and Trosper (2010) present a framework for AED that includes goals such as business structure, profitability, employment and capacity that are similar to those of the standard community economic development approach. These goals have been established for all of the community-based forest initiatives. However, AED also includes additional goals: 1) contribution to the preservation of FNs culture and values for the FNs partners and 2) control over FN traditional territories and decision-making in forest management at both the operational and strategic levels. Implementation of the

proposed CBFM initiatives would therefore lead to a new form of forestry considered to be "forestry with First Nations" (rather than "for" or "by") in Wyatt's (2008) framework of FNs participation in forestry. This form of forestry requires new forest tenures and significant modifications to existing forestry regimes to allow equal sharing of power and responsibility in forest management with FNs through joint ventures, joint forest management and/or co-management as a means of recognizing Aboriginal rights. Since "forestry with First Nations" still operates within existing regulatory frameworks, it does not achieve Wyatt's highest level of Aboriginal forestry, where FN interests and institutions are dominant. While this level may be the single goal for some FNs, as was suggested by one FN participant not involved in the community-based forest initiatives, Wyatt (2008) and Wyatt et al. (2009) suggest that Aboriginal rights or title do not guarantee Aboriginal control of forest management since most treaties and agreements do not include details relating to forestry. Wyatt (2008) therefore recommends that Aboriginal rights and title should be seen as a "step towards governance structures that enable FNs to develop their own management systems and to negotiate forest land management with other parties". Wyatt et al. (2009) suggest that strong mechanisms for Aboriginal roles in controlling their traditional territories are also necessary. Joint decision-making institutions that include equal representation of FNs and non-FNs and the setting of goals and principles for forest management, as proposed by all of the initiatives, would provide such mechanisms. Thus, following Wyatt (2008), the FNs who are developing new CBFM initiatives with local municipalities have accepted the "forestry with FNs" concept as a compromise between Aboriginal rights and the interests of their non-FN neighbours. This approach has been adopted for the Likely/Xat'sull FN Community Forest in BC that is considered to be an important step in recognizing FN rights, but not the appropriate place to deal with larger political issues (Robinson 2010). Other FNs in BC, who have established community forests with municipalities or independently, view them as interim measure agreements to strengthen and protect their interests on the land until they are resolved through the completion of formal treaties (Cathro et al. 2007).

Implementation of the initiatives would support Stevenson's (2006) "two-row Wampum belt" analogy of coexistence between Indigenous and scientific approaches to forest management. With this approach, Aborginal forest management institutions are re-established on FN traditional forestlands to complement mainstream systems rather than compete with them. Joint management of the Likely/Xat'sull Community Forest provides an example of this approach where forest management goals combine traditional ecological knowledge with the dominant economic paradigm (Robinson 2010).

CONCLUSIONS

This paper contributes to an understanding of how the new alternative of community-based forest enterprises that involve communities forming enterprises based on a common property forest are arising in northwestern Ontario and how the convergence of forest commons and these enterprises could function as new forest tenure

institutions. Investigating the development of these initiatives adds to the recent body of literature that is bringing together commons theory and community economic development.

The industrial forest system in northwestern Ontario has systematically failed to generate progressive, forest-based development in forest-dependent First Nation and non-First Nation communities throughout the region. Decision-making about forest management and use has been dominated by large forest companies with limited input from local communities. This system, which focuses on the production and export of timber-based commodities, has subjected both the industry and the communities that depend on it to the boom-and-bust cycles associated with commodity markets. This inherently unstable situation, known as a "staples trap" has steadily worsened over the years and has led to a forestry "crisis" in the region. A lack of local control over local forest resources has left forest-dependent communities alienated from decision-making in forest management and economic decisions. Negative socio-economic impacts are now widespread among municipalities that historically benefited from the forest sector. First Nation communities have also been negatively impacted in some cases but face additional challenges due to historical exclusion and a lack of significant benefit from forest management in their traditional territories.

A policy window for reform of the existing forest tenure system has opened in Ontario due to recognition by the provincial government of the need for an improved tenure system to deal with the forestry crisis. The call for public input to develop a new forest tenure policy framework has been a driver for communities to advocate for community-based management of their local public forest commons. A number of communities are simultaneously developing new community-based forest enterprises that will utilize forest resources from the same forest commons as an approach to foster local economic development.

The interest by communities for implementation of community-based forest management to support community-based forest enterprises follows a trend that has recently emerged both in other Canadian jurisdictions and around the world. First Nation and non-First Nation communities with distinct histories and cultures but who share a dependence on the same local forests for their livelihoods and culture are bridging cross-cultural barriers to develop partnerships to promote shared management of local public forest commons.

 The community-based forest initiatives emerging in northwestern Ontario are geared for success. They already contain a number of the elements considered necessary for the successful creation and operation of commons community-based enterprises. Strong leadership led to the creation and advocacy of the initiatives and trust is being established by the different cultures that recognize the need to work together for mutual socio-economic benefit. The initiatives are targeting appropriate markets for the forest products they intend to produce and are establishing a range of linkages and partnerships at multiple levels for a variety of support functions. Given that First Nations are key partners in all of the initiatives, they are designed to meet the unique goals of

Aboriginal economic development in addition to those of conventional community economic development. Implementation of the initiatives would also support the concept of "forestry with First Nations" where forest management is shared among First Nation and non-First Nation communities as a means of recognizing Aboriginal rights.

The key missing element that would allow these community-based forest initiatives to move forward is forest tenure security to provide secure access to the forest resources from local forest commons. There is, therefore, a strong need for enabling forest tenure policy in Ontario that allocates rights to the forest resources needed by these initiatives and supports local community management of the forests that would provide the resources. Improving the regional economy through economic development based on these initiatives would help move northwestern Ontario out of the staples trap. The stage has been set by communities to lead the region in this more sustainable direction. It is now up to the Government of Ontario to act.

We recommend the development of a new forest tenure framework that supports the proposed community-based forest initiatives and meets objectives mutual to both the government and communities including: 1) an improved regional economy based on a stabilized forest industry, 2) a more cost effective forest management system that provides a greater return on forest resources, 3) opening of the forest market place to new players and businesses, particularly value-added businesses and 4) a new relationship with First Nations that reduces conflict and increases their involvement in forestry. We propose that such a framework includes the following attributes: 1) adequate flexibility to allow variation in the structure of local institutions depending upon local needs, 2) new regulations that do not place a heavy burden (including financial) on communities and 3) Ontario government acts as a key partner for capacity building and overseeing stewardship of forests.

LITERATURE CITED

[AFN] Assembly of First Nations. 2006. Royal commission on Aboriginal people at 10 years: a report card.

Allan, K. and Frank, D. 1994. Community forests in British Columbia: models that work. Forestry Chronicle 70(6):721-724.

Anderson, R.B., Dana, L.P. and Dana, T.E. 2006. Indigenous land rights, entrepreneurship, and economic development in Canada: "opting-in" to the global economy. Journal of World Business 41:45-55.

Antinori, C. and Bray, D.B. 2005. Community forest enterprises as entrepreneurial firms: economic and institutional perspectives from Mexico. World Development 33(9):1529-1543.

Beckley, T.1998. Moving toward consensus-based forest management: a comparison of industrial, co-managed, community and small private forests in Canada. Forestry

Chronicle 74(5):736-744.

Berkes, F. 2007. Community-based conservation in a globalized world. Proceedings. National Academy of Sciences 104:15188-15193.

Berkes, F and Adhikari, T. 2006. Development and conservation: indigenous businesses and the UNDEP Equator initiative. International Journal of Entrepreneurship and Small Business 3(6):671-690.

Berkes, F. and Davidson-Hunt, I.J. 2007. Communities and social enterprises in the age of globalization. Journal of Enterprising Communities: People and Places in the Global Ecnomy1(3): 209-221.

Berkes, F. and Davidson-Hunt, I.J. 2010. Innovating through commons use: community-based enterprises. International. Journal of the Commons 4(1):1-7.

Bogdanski, B.E.C., 2008. Canada's boreal forest economy: economic and socioeconomic issues and research opportunities. Natural Resources Canada, Canadian Forest Service, Pacific Forestry Centre.Victoria, B.C. Information Report BC-X-414.

Booth, A. L. 1998. Putting "forestry" and "community" into First Nations' resource management. Forestry Chronicle 74(3):347-352.

Boyd, J. and Trosper, R. 2010. The use of joint ventures to accomplish Aboriginal economic development: two examples from British Columbia. International Journal of the Commons 4(1):36-55.

Burton, P.J., Messier, C., Wetman, G.F., Prepas, E.E., Adamowicz, W.L. and Tittler, R. 2003. The current state of boreal forestry and the drive for change. Pp 1-40 in Burton, P.J., Messier, C., Smith, D.W. and Adamowicz, W.L. (eds). Towards sustainable management of the boreal forest. Natural Resources Canada Research Press, Ottawa, Ont.

Cathro, J., Mulkey, S. and Bradley, T. 2004. A bird's eye view of small tenure holdings in British Columbia. B.C. Journal of Ecosystems and Management 8(2):58-66.

[CFS] Canadian Forest Service. 2006. The state of Canada's forests 2005-2006: forest industry competitiveness. Natural Resources Canada, Ottawa, ON.

Clapp, R.A. 1998. The resource cycle in forestry and fishing. Canadian Geographer 42(2):129-144.

Duinker, P.N., Matakala, P.W. and Zhang, D. 1991. Community forestry and its implications for northern Ontario. Forestry Chronicle 67(2):131-135.

Duinker, P.N. Matakala, P.W., Chege, F. and Bouthillier, L. 1994. Community forests in

Canada: an overview. Forestry Chronicle 70(6):711-720.

Dunster, J. 1994. Managing forests for forest communities: a new way to do forestry. International Journal of Ecoforesry 10(1):43-46.

Haley, D. and Luckert, M. 1998. Tenures as economic instruments for achieving objectives of public forest policy in British Columbia. Pp 123-151 in Tollefson, C. (ed.). The Wealth of forests: markets, regulation and sustainable forestry. University of British Columbia Press, Vancouver.

Harvey, S. and Hillier, B. 1994. Community forestry in Ontario. Forestry Chronicle 70(6):725-730.

Howlett, M. and Brownsey, K. 2008. Toward a post-staples state? Pp. 3-15 in Howlett, M. and Brownsey, K. (eds.). Canada's resource economy in transition. Emond Montgomery Pub. Ltd., Toronto.

Kennedy, M.L., Beckley, T.M. and Lantz, V.A. 2007. Expanding socio-economic considerations in the management of New Brunswick's Crown land forests. Forestry Chronicle 83(5): 708-713.

Luckert, M. 1999. Are community forests the key to sustainable forest management? Some economic considerations. Forestry Chronicle 75(5):789-792.

M'Gonigle, M. 1997. Reinventing British Columbia: towards a new political economy in the forest. Pp. 15-35 in Barnes, T. and Haytor, R. (eds). Troubles in the rainforest: British Columbia's forest economy in transition. Canadian Western Geographical Series No. 33, Western Geographical Press, Victoria, B.C. Canada.

M'Gonigle, M. 1998. Living communities in a living forest: towards an ecosystem-based structure of local tenure and management. Pp. 152-185 in Tollefson, C. (ed.). The Wealth of forests: markets, regulation and sustainable forestry. UBC Press, Vancouver.

[MNDMF] Ontario Ministry of Northern Development, Mines and Forestry. 2009. Ontario's forests, Ontario's future: modernizing Ontario's forest tenure and pricing system. A strategic discussion. Sault Ste. Marie, ON. 21 pp.

[MNDMF] Ontario Ministry of Northern Development, Mines and Forestry. 2010. Ontario's forests, Ontario's future: a proposed framework to modernize Ontario's forest tenure and pricing system. Sault Ste. Marie, ON. 23 pp.

Muhr, T. 2009. Atlas.ti version .6.1.1. Berlin, Germany: Scientific Software Development.

Nadeau, S., Shindler, B. and Kakoyannis, C. 1999. Community forestry. Forestry Chronicle 75(5):747-754.

Nelson, H. 2008. Alternative tenure approaches to achieve sustainable forest management: lessons for Canada. Sustainable Forest Management Network, Edmonton, Alberta. 40 pp.

[NRC] Natural Resources Canada. 2009. Canada's forests.statistical data. http://canadaforests.nrcan.gc.ca/statsprofile/economicimpact/on November 28, 2010.

Orozco-Quintero, A. and Berkes, F. 2010. Role of linkages and diversity of partnerships in a Mexican community-based forest enterprise. Journal of Enterprising Communities: People and Places in the Global Economy 4(2):148-161.

Orozco-Quintero, A. and Davidson-Hunt, I. 2010. Community-based enterprises and the commons: the case of San Juan Nuevo Parangaricutiro, Mexico. International Journal of the Commons 4(1):8-35.

Patriquin, M.N., Parkins, J.R., Stedman, R.C. 2007. Socio-economic status of boreal communities in Canada. Forestry 80(3):279-291.

Patriquin, M.N., Parkins, J.R., and Stedman, R.C. 2009. Bringing home the bacon: industry, employment and income in boreal Canada. Forestry Chronicle 85(1):65-74.

Pikangikum First Nation (PFN). 2006. Keeping the Land – A Land Use Strategy for the Whitefeather Forest and Adjacent Areas. Prepared in collaboration with the Ontario Ministry of Natural Resources. http://www.whitefeatherforest.com/stewardship/our-land-use-strategy/ Nov. 29, 2010.

Pinkerton, E., Heaslip, R., Silver, J.J., & Furman, K. 2008. Finding "space" for co management of forests within the Neoliberal paradigm: rights, strategies, and tools for asserting a local agenda. Human Ecology 36(3):343-355.

Robinson, D. 2009a. The science of community forests. Part I: Approaching regime change systematically. Department of Economics, Laurentian University. 9 pp.

Robinson, D. 2009b. Forest tenure systems for development and underdevelopment. Institute for Northern Ontario Research and Development, Laurentian University. 20 pp

Robinson, E. 2010. The cross-cultural collaboration of the community forest. Anthropologica (in press).

Ross, M.M., and Smith, P. 2002. Accommodation of Aboriginal rights: the need for an Aboriginal forest tenure (synthesis report). Sustainable Forest Management Network, Edmonton, Alberta. 47pp.

Seixas, C. and Davy, B. 2008. Self-organization in integrated conservation and development initiatives. International Journal of the Commons 2(1):98-123.

Seixas C. and Berkes, F. 2010. Community-based enterprises: the significance of partnerships and institutional linkages. International Journal of the Commons 4(1):183-212.

Smith, P. 1998. Aboriginal and treaty rights and Aboriginal participation: essential elements of sustainable forest management. Forestry Chronicle 74(3):327-333. Stevenson, M. 2006. The possibility of difference: rethinking comanagement. Human Organization 65:167-180.

Tedder, S. 2008. Tenure and the management of non-timber forest products in British Columbia. Sustainable Forest Management Network, Edmonton, Alberta. 52 pp.

Teitelbaum, S., Beckley, T. and Nadeau, S. 2006. A national portrait of community forestry on public land in Canada. Forestry Chronicle 82(3):416-428.

Wyatt, S. 2008. First nations, forest lands, and "aboriginal forestry" in Canada: from exclusion to comanagement and beyond. Canadian Journal of Forest Research 38: 171-180.

Wyatt, S., Fortier, J.F., and Hébert, M. 2009. Multiple forms of engagement: classifying Aboriginal roles in contemporary Canadian forestry. Pp. 163-180 in Stevenson, M.G. and Natcher, D.C. (eds.) Changing the culture of forestry in Canada: building effective institutions for Aboriginal engagement in sustainable forest management. Research and insights from the Aboriginal research program of the Sustainable Forest Management Network: Vol. 1.Occasional Pub. No. 60, CCI Press and Sustainable Forest Management Network.

White, A., and Martin, A. 2002. Who owns the world's forests? Forest Trends, Center for International Law, Washington, D.C.