

# Are community forestry principles at work in Ontario's County, Municipal, and Conservation Authority forests?

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## ABSTRACT

Ontario's County, Municipal and Conservation Authority forests have received little attention within the academic literature on community forestry in Canada. These "Agreement Forests", as they were once called, are a product of the early 20<sup>th</sup> century and have been under local government management since the 1990s. Most are situated in Southern Ontario. In this article we investigate the extent to which community forestry principles are at work in these forests. Three principles—participatory governance, local benefits and multiple forest use—are analyzed using a composite score approach derived from survey data collected from nearly all of these forest organizations (response rate = 80%). Results indicate that most of these organizations do display attributes associated with community forestry principles, including a local governance process, public participation activities, local employment and multiple-use management. Traditional forestry employment is less strong than in similar studies of Crown land community forests; however, there is an important emphasis on non-timber activities. The article concludes that the County, Municipal and Conservation Authority forests represents a unique approach, which reflects the specific geographic and socio-economic context in which it resides.

**Key words:** Community forestry, Ontario, Community-based management, local governance, community economic development, sustainable forest management

## RÉSUMÉ

Les forêts cantonales, municipales et des offices de conservation de l'Ontario n'ont reçu qu'une faible couverture dans la littérature scientifique sur la foresterie communautaire au Canada. Ces « forêts d'entente (*Agreement Forests*) », comme on les appelait avant, ont été créées au début du XX<sup>e</sup> siècle et gérées par les autorités locales depuis les années 1990. La majeure partie de ces forêts sont situées dans le sud de l'Ontario. Dans cet article, nous cherchons à voir jusqu'à quel point les principes de foresterie communautaire sont mis en application dans ces forêts. L'étude porte sur trois principes – la gouvernance participative, les bénéfices locaux et l'utilisation polyvalente de la forêt – qui furent analysés avec l'approche de résultats combinés utilisant les données d'un sondage effectué auprès de presque toutes ces organisations forestières (taux de réponse = 80 %). Les résultats indiquent que la plupart de ces organisations présentent effectivement certains attributs rappelant les principes de la foresterie communautaire, incluant un processus de gouvernance locale, des activités de participation du public, l'embauche locale et l'aménagement à des fins d'utilisation polyvalente. Les emplois forestiers traditionnels ont moins d'importance que dans les études similaires des forêts communautaires établies sur des terres publiques; par contre, on accorde beaucoup d'importance aux activités sans prélèvement de bois. L'article conclut que les forêts cantonales, municipales et des offices de conservation constituent une approche unique qui reflète bien le contexte géographique et socio-économique spécifique dans lequel elles sont établies.

**Mots clés :** foresterie communautaire, Ontario, aménagement communautaire, gouvernance locale, développement économique communautaire, aménagement forestier durable



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## Introduction

Community forestry is an approach to forest management whereby communities play a central role in decisions concerning local forests (Arnold 1992). In Canada, the application of community forestry remains limited compared with industrial approaches but there is forward momentum in several provinces. Academic research looking at community forestry is also flourishing. There is an increasing number of studies looking at the case of British Columbia and the implications of a recent community-based tenure created there (e.g., McCarthy 2006, Reed and McIlveen 2006, Bullock *et al.* 2009, Ambus and Hoberg 2011). Research is also emerging in Quebec, where a grassroots movement has existed for decades (Chiasson *et al.* 2005, Gélinas and Bouthillier 2005). In Ontario, there is increasing interest in community forestry, illustrated by the growing list of reports, public meetings, and media coverage discussing the concept in the context of recent tenure reform (see for example Rosehart 2008, Clark *et al.* 2010). Indeed, the recent provincial announcement confirming the creation of two Local Forest Management Corporations in northern Ontario has amplified interest (OMNDMF 2011).

However, theoretically grounded and empirical research on Ontario's community forests remains limited. Existing works review the Ontario pilot projects implemented during the early 1990s (Harvey and Hillier 1994) and describe the single case of Westwind Forest Stewardship, a community-managed license (Clark *et al.* 2003). Several articles also draw comparisons between community forests in Ontario and those in other provinces (Teitelbaum *et al.* 2006, Bullock 2007). However, there remains a need to systematically characterize the full range of community-based approaches used to manage Ontario's forests.

This article bridges a conspicuous gap in the academic literature by examining another model that remains peripheral to the Ontario community forestry debate. The "Agreement Forests", as they were once called, are a product of the early 20<sup>th</sup> century and have been under community management since the 1990s but have received scant attention in the Canadian research literature. They encompass forests owned by local government organizations and Conservation Authorities (in this article we call them County/Municipal and Conservation Authority forests). In theory, these local forest organizations appear to be a good fit with the concept of community forestry—they have a local governance structure and a mandate to serve the surrounding populations. They were also included in the only comprehensive national survey of community forestry initiatives in Canada (Teitelbaum *et al.* 2006). However, the lack of published research describing these organizations in terms of the adequacy of community engagement and representation, and the scale and economic importance of forestry operations, indicated a need for a more systematic examination. Consequently, a research project was designed aiming to answer the question—are community forestry principles at work in Ontario's County/Municipal and Conservation Authority forests?

This article presents a broad portrait of County/Municipal and Conservation Authority practices in three areas commonly described as underlying principles of community forestry, namely participatory governance, local economic benefits and multiple forest use (Duinker *et al.* 1994, Brad-

shaw 2003, Albert 2007). Exploratory and descriptive, the research findings allow us to depict similarities and differences amongst these organizations, in terms of their management objectives, their governance arrangements and their commitment to engaging with local communities. As such, we can better situate them within the "universe" of community forestry approaches in Canada.

## Observations from Canadian Community Forestry Research

The literature on community forestry in Canada was initiated in the early 1990s when several select surveys were published that sought to examine similarities and differences in applied models (e.g., Duinker *et al.* 1994, Masse 1995). This period saw the beginnings of a debate about the merits of the "municipal model" of community forestry, drawing on several examples in British Columbia (Allan and Frank 1994, Clogg 1997, Beckley 1998).

The introduction of a specific community forest tenure on Crown land, called the Community Forestry Agreement License (CFAL) in British Columbia in the late 1990s, represents a watershed moment, and much of the recent research has examined practical and theoretical dimensions of initiatives created under this tenure. Scholars have studied British Columbia community forests for coherence with alternative economic approaches (Ambus *et al.* 2007, McIlveen and Bradshaw 2009), pluralism and participation in governance and civil society (Reed and McIlveen 2006, Davis 2008), social conflict and cross-cultural challenges and opportunities (Bullock and Hanna 2008, Bullock *et al.* 2009), and the influences of neoliberalism (McCarthy 2006, Pinkerton *et al.* 2008).

Overall, perspectives on the outcomes for community forests in British Columbia appear to be mixed. McCarthy (2006: 84) describes the CFAL as a "comparatively strong form of control over public forests". However, others describe challenges with program design and implementation, such as a mismatch between the regulatory framework and local conditions, unclear management rights, and a lack of provincial financial and technical support for communities (Bullock *et al.* 2009, McIlveen and Bradshaw 2009, Ambus and Hoberg 2011). Ambus *et al.* (2007) describe the BC community forests thus far as having limited success in differentiating themselves from conventional forestry companies through pursuit of value-added processing or non-timber forest products. Others emphasize the difficulty of capturing the diversity of the community within governance, whether through direct representation or public participation activities, especially given the limited means of many community forests and their need for appropriate expertise (Beckley 1998, McIlveen and Bradshaw 2005/2006, Tyler *et al.* 2007).

Research on Quebec's community forests reveals diversity of management objectives, governance approaches and access (Chiasson *et al.* 2005, Gélinas and Bouthillier 2005, Laplante and Provost 2010). Quebec has a long history of grassroots mobilization around local forests, exemplified by the strong forest cooperative movement, the network of joint management organizations, and experiments with different models such as tenant farms (Paillé 1999, Masse 2002). In an analysis of pilot projects (called inhabited forests) supported in the 1990s, Gélinas (2001) describes positive outcomes, such as efficient use of timber and labour and the inclusion of a wider

suite of values in decision-making. However, for many projects the lack of direct tenure rights to the forest constitutes an important barrier to success (Bérard 2000). This, in combination with a lack of community capacity and institutional support, is commonly raised as a barrier to the successful implementation of community forestry in the Canadian context (Bradshaw 2003, McIlveen and Bradshaw 2009).

Ontario has received limited attention despite considerable experimentation with community-based management approaches (Bullock and Hanna 2012). In addition to the early establishment of County/Municipal and Conservation Authority forests, the province formed four pilot projects in northern Ontario during the early 1990s. While three were constrained by the absence of tenure rights and the provincial program was short-lived, they proved significant in terms of the integration of diverse stakeholders in decision-making, public education and the provision of new tools and expertise in forest planning (Harvey 1995). Another notable initiative during the early 1990s was the Wendaban Stewardship Authority (WSA), an innovative First Nations-led proposal to form a community forest with local non-Aboriginal partners in the Temagami region. The WSA was never formally established due to the absence of facilitating legislation, but First Nations participants and leadership described the model as effective in reducing conflict as it provided a forum and process for mutual learning and collaborative planning (Laronde 1993).

The County/Municipal and Conservation Authority forests are the most numerous locally managed forests in Ontario. Below we describe their unique history and evolution.

## The Origins of County/Municipal and Conservation Authority Forests

### 1920–1990: Local ownership, provincial management

Most of today's County/Municipal and Conservation Authority forests were born out of Ontario's Agreement Forest Program, a governmental initiative created in 1922 to support land rehabilitation. Early policy momentum for establishing the Agreement Forest Program came from farmers, foresters, rural politicians, and civil society who together reported on the effects of extensive deforestation on soil and water resources resulting from poor land use and management practices (e.g., logging, tilling, burning) (OMNR 1986). Concern for the economic burden associated with abandoned farmlands led Ontario to pass legislation enabling counties, and eventually other local government bodies, to buy land (fee simple) and enter 20- to 50-year agreements with the province.<sup>3</sup> The provincial ministry responsible for forests subsidized land acquisition and took responsibility for management activities. Over its 80-year lifespan, the Agreement Forest Program grew from 1600 hectares owned by four counties to approximately 111 000 hectares and 54 owners, including both local governments (e.g., municipalities, counties) and Conservation Authorities (OMNR 1986). The vast majority of these forests were concentrated in the southern urban-agricultural region and population core of Ontario.

Approximately half of the Agreement Forests were

acquired by Conservation Authorities, organizations based on a unique governance model dating to the 1940s. Organized on a watershed basis, Conservation Authorities were formed as bottom-up grassroots efforts to improve local environments and economies (Richardson 1974, Mitchell and Shrubsole 1992). Over time, 36 Conservation Authorities were formed across the province (five in northern Ontario, 31 in southern Ontario). These organizations have evolved to encompass diverse environmental activities; however, their principal mandate is to serve as water management agencies for flood and erosion control.

The 1946 *Conservation Authorities Act* sets out its authorities and governance structure. Each Conservation Authority is governed by a board of directors appointed by municipal partners from a single watershed. Typically, at least two-thirds are elected municipal councillors, while others can be drawn from non-government groups based on needs for representation or expertise (Conservation Ontario 2010). Conservation Authorities receive funding through local taxes from watershed municipalities, provincial transfer payments from the Ontario Ministry of Natural Resources (OMNR), federal grants, and other sources such as fees, land sales and leasing, private partnerships, charitable donations, and timber harvests (Bullock and Watelet 2006).

### 1990s to present: The emergence of local forest governance

In the mid-1990s, the province—via the OMNR—gradually began to transfer management and administrative responsibility for the Agreement Forests to their owners, namely local governments and Conservation Authorities. This decision was partly related to the increasing role of owner organizations in management activities and a growing interest from the public in getting involved in ensuring the long-term sustainability of the forests (EOMF 2010). Budget cutbacks and downsizing pressures within the government were other factors. According to one report, some of these forests had been neglected in the years leading up to the transfer (ECO 2004).

The changeover from provincial to local management was not met with unanimous support. Some organizations expressed concerns that the smaller municipalities would not have the capacity or financial resources to manage the forests sustainably or that they would succumb to budgetary constraints and decide to sell off parcels of forest (ECO 2004). Others have criticized the municipal model of forest governance for being overly narrow in terms of the range of people who shape forest use decisions (Clogg 1997). In one highly publicized instance, a controversy arose when three united counties in Eastern Ontario gave approval to a private developer to build an entertainment complex on a parcel of County forest known as the Larose Forest. Local residents and the naturalist community, organized under the banner Friends of the Larose Forest, launched a campaign to oppose the development, which was eventually brought to the Ontario Municipal Board. Although the Friends of the Larose Forest lost their appeal, the promoters chose a different site (Hanrahan 2006). This example illustrates a potential discord that can emerge within a private ownership/public management approach such as this one, where decision-makers have significant latitude to decide over forest uses without the associated legal regulations that exist, for example, on Crown land.

From the perspective of sustainable forest management,

<sup>3</sup>See The Counties Reforestation Act of 1911 and 1922 Reforestation Act

little research is available on Counties/Municipalities and Conservation Authorities. Despite what is now more than fifteen years of local management, little research has been done describing the objectives, management approaches and activities adopted by County/Municipal and Conservation Authority forests. Teitelbaum *et al.* (2006) provide some baseline information collected by a means of a descriptive survey. These forests have an average size of approximately 2000 ha, often fragmented into many smaller parcels across the landscape. They tend to be managed for conservation values as well as recreation activities, with less of a priority placed on commercial timber harvests.

## Methods

Similar to other methods of socio-economic suitability classification (e.g., Norfolk and Erdle 2005), our approach followed three basic steps: 1) identify eligible sites, 2) identify relevant socio-economic measures aligned to the basic principles of community forestry, 3) and attribute composite index scores based on the three dimensions (participatory governance, local economic benefits, multiple forest use) to rank organizational performance.

Case selection encompassed all of the local government organizations in Ontario actively managing forests (counties, municipalities, towns, townships and Conservation Authorities) with the exception of large urban forests. Most of these forests originated under the historical “Agreement Forest” program and continue to operate as a loose network (D.

Krahn, OMNR, Program Coordination Section, personal communication, November 2011). They share similar tenure characteristics (the land is owned fee-simple) and governance structures.

The analysis was based on 11 measures, attributed to three categories: 1) participatory governance; 2) local economic benefits, and; 3) multiple forest use (see Table 1). The measures were drawn from an evaluation framework first developed by Teitelbaum (2009) and applied in several Canadian case studies, and therefore offered the advantage of contributing to an existing data set on community forestry practice in Canada (see Table 1). The earlier study identified a series of indicators through a systematic literature review relevant to local environmental governance and democracy, community forests and community economic development, and included input from practitioners at the case study sites. We adopted the same three categories to characterize performance (high, medium and low) and the same thresholds for the different measures. In cases where “yes/no” was the most appropriate response, only “low” and “high” categories were used. Categories were then assigned a number (1, 2, 3) in order to create a score for each measure, which we then used to calculate a composite index score based on a nine-point scale. There are some limitations to this method that should be noted: for example, those that can arise when ratings are assigned scores, and challenges with equivalency among scores assigned to measures with different categories (e.g., high/low vs. high/medium/low). One possible effect is that overall

**Table 1. Community forestry principles, measures and scoring categories**

Principle	Measure	Scoring categories
Participatory governance	Proportion of decision-makers derived from local community	< 1/2 = Low 1/2 – 3/4 = Med > 3/4 = High
	Community participation in design of decision-making process	Yes/No
	Number of public participation activities	< 2 / year = Low 3–4 / year = Med > 4 / year = High
	Presence of an advisory committee	Yes/No
Local economic benefits	Employment levels (full time equivalent per 1000 ha)	0–2 people = Low 3–4 people = Med >4 people = High
	Timber processed in watershed	1–33% = Low 34–66% = Med 67–100% = High
	Profits invested in the community or forest	Yes/No
Multiple forest use	Recreation activities and/or facilities	Yes/No
	Forest education opportunities offered	Yes/No
	Harvesting or overseeing of non-timber forest products (NTFP)	Yes/No
	Work with First Nations for protection of cultural values	Yes/No

scores could exaggerate organizational performance in either direction (e.g., give the impression to the reader that high/low performers are very high/very low).

Data collection was based on a survey with 10 closed-ended and nine open-ended questions administered to a forest manager at each site. These included general questions regarding the size and nature of forestry operations as well as other issues related to:

- governance and public participation (Aboriginal and non-Aboriginal);
- local benefit creation and distribution (e.g., employment, revenues, forest products and locus of forest product processing); and
- multiple forest use management (e.g., whether and how forests are managed for recreation, education, non-timber forest products, traditional values, aesthetics, culture, heritage, and spiritual values).

Our survey method followed a comprehensive sampling strategy (Dillman *et al.* 2009) based on a contact list provided by the OMNR of its network of “community forests” (most are former Agreement Forests). A self-administered survey was sent to all 65 sites (32 Counties/ Municipalities and 33 Conservation Authorities) by electronic mail in October 2008. Of the 65 sites, four were eliminated because they did not meet the criteria for the study (no active management of forests) and three because they were large urban centres. Two additional rounds of follow-up (second e-mail, then telephone call) were conducted, with an end date of January 2009. Overall, an 80% response rate was achieved, equaling 47 responses (21 County/Municipalities and 26 Conservation Authorities). A spreadsheet program was used to record and tabulate data and calculate descriptive statistics.

### Underlying Principles of Community Forestry

The evaluation is based on three principles commonly associated with community forestry, which appear frequently in the objectives and mission statements of different community forest initiatives. These are 1) participatory governance, 2) local economic benefits, and 3) multiple forest use.

#### Participatory governance

Central to the notion of community forestry is the idea that local people will have an important role in decisions concerning surrounding forests (Beckley 1998, Robinson *et al.* 2001, Charnley and Poe 2007). This has been called “local control” or “local governance”. Scholars have conceptualized different levels of community influence over decision-making. Best known is Arnstein’s (1969) ladder of citizen participation, which has many levels from full citizen control, to delegated power and partnership, to a position called therapy and manipulation where citizens are merely informed of resource decisions. Community forestry organizations seek a high degree of community control, usually through direct access to forest tenure (Beckley 1998). However, another dimension to local governance speaks to a desire to invite community members to participate in decisions regarding local forests (Tyler *et al.* 2007, McIlveen and Bradshaw 2009). This is captured by the concept of participatory governance, defined by Kearney *et al.* (2007: 2) as “the effort to achieve change through actions that are more effective and equitable than

normally possible through representative government and bureaucratic administration by inviting citizens to a deep and sustained participation in decision-making”.

#### Local benefits

Community forestry has been described as a locally centred economic development approach, similar to many initiatives described under the rubric of the “social economy” or “community economic development” (Markey *et al.* 2005). Community forests seek to direct financial benefits derived from the forest towards the local community (Duinker *et al.* 1994, Glasmeier and Farrigan 2005, Charnley and Poe 2007). In some cases, this takes the form of additional investments in the forest—for example, to enhance its ecological health or amenity values. In other cases, profits are directed towards community projects such as specific services, infrastructures, or educational initiatives. There is also a desire, expressed in the literature, to add value to timber, through additional processing activities (M’Gonigle and Parfitt 1994, Ambus *et al.* 2007). The contrast is often drawn between community forests and private forest companies in this regard, particularly the large multinational companies, which hold most of the timber licenses for Crown land in Canada. These companies are described as contributing to a “leakage of benefits” away from the community, meaning that profits are redirected towards operations in other regions or distant shareholders (Beckley 1998, Krogman and Beckley 2002). This is, of course, contingent on these companies being profitable.

#### Multiple forest use

Many, though not all, community forests share a desire to adopt a broader approach to the management of forest resources and to move away from a timber-dominated focus (Harrison *et al.* 2002, Ambus *et al.* 2007). Hubbard *et al.* (1998: 5) define multiple use management as “managing a forested area to simultaneously provide more than one of the following resource objectives: fish and wildlife, wood products, recreation, aesthetics, grazing, watershed protection, and historical or scientific values.” Various Canadian provinces enshrined the concept of multiple forest use in forest policy and legislation, some describing it as key to achieving sustainable forest management (Government of Saskatchewan 1996). However, in Canada, provincial governments have come under criticism for paying lip service to the concept of multiple forest use while continuing to focus primarily on timber production values (Mascarenhas and Scarce 2004, Harshaw *et al.* 2007, Vernon 2007). The limited research on community forests and non-timber forest products reveals variable progress towards diversification, due in part to the absence of direct rights to these products and the lack of sufficient market opportunities (Davidson-Hunt and Zasada 1999, Ambus *et al.* 2007).

#### Research Results

The objective of the survey was to operationalize the three principles to investigate the extent to which they are at work in County/Municipal and Conservation Authority forests. We used the measures described in Table 1 to evaluate the performance of each organization.

### Who decides? Participatory governance

Participatory governance speaks to the level of community involvement in decision-making. For the first measure, “proportion of decision-makers derived from the local community” scores were consistently high. County/Municipal and Conservation Authorities forests are governed entirely by people from within the region, and this is enshrined in legislation. In the case of Counties/Municipalities, decision-making resides with the council, members of which are democratically elected. For Conservation Authorities, which are organized on a watershed basis, the board of directors is comprised of individuals appointed by each of the municipal councils in the watershed, with the stipulation that members must reside in the municipality (Conservation Authorities Act 1990).

However, overall scores were low for “community participation in design of decision-making processes”. The design of these processes, both in the case of Counties/Municipalities and Conservation Authorities, is set out in provincial legislation. For the former, rules are laid out in the *Municipal Act* (2001) while the latter are governed by the *Conservation Authorities Act* (1990). In other words, there is limited authority and flexibility at the local level to tailor decision-making processes to local conditions and needs.

We used public participation activities to indicate the level of community input and engagement in the governance process (Fig. 1). Results show that 80% of organizations undertake some form of public participation. County/Municipal forests implement four of these activities on average, while Conservation Authorities undertake three. Various activities are adopted, with no strong preference for one over another. Written information, such as Web sites and newsletters, are most popular (71%), followed by public presentations (66%), public review periods for management plans (62%), and notifying users and neighbours of operations (61%).

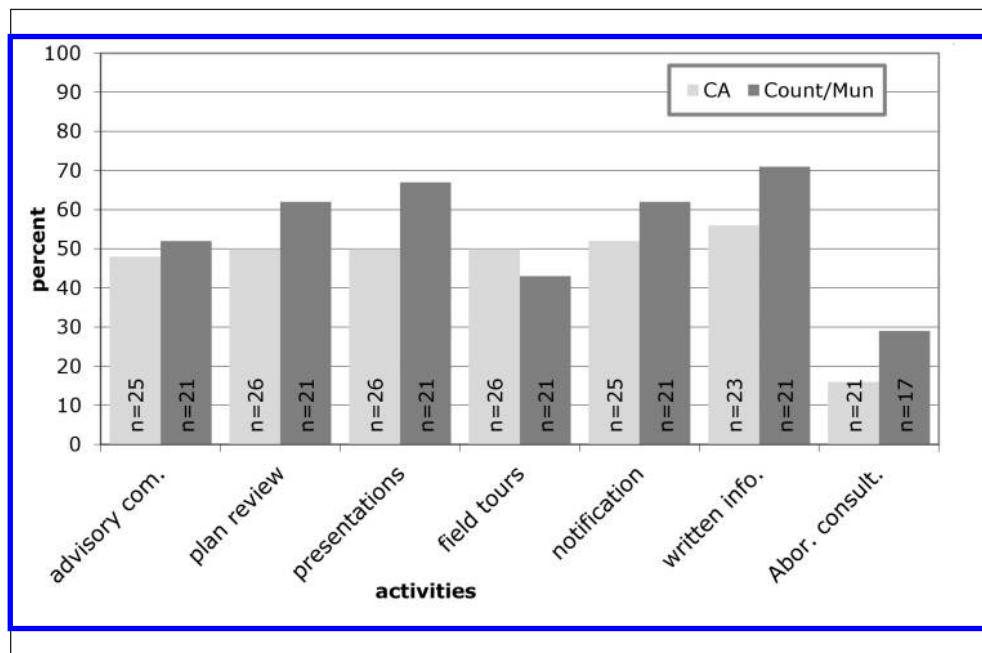


Fig. 1. Percent organizations that undertake each public participation activity.

Advisory committees, which often involve a greater level of engagement on the part of local residents, are also common (50%). Consultation with Aboriginal communities is less frequent at 12% for Counties/Municipalities and 20% for Conservation Authorities. Taken together, results indicate that Counties/Municipalities and Conservation Authorities are active in public participation. Results were equally strong for mechanisms traditionally used to seek the input of local constituents (public review of plans, advisory committees) and mechanisms used to inform the public (Web sites, newsletters, presentations).

### Who benefits? Returns to the community

Generating benefits for local communities—whether monetary or other—is a common objective of community forests (Burda and M’Gonigle 1996, McCallum *et al.* 2007). We adopted several measures that describe economic benefits to the local community. First, the level of employment created on the forest was measured as the number of forestry jobs created on a full-time equivalent basis on 1000 hectares. It is important to note that the survey question only targeted jobs created by forestry operations and therefore does not reflect non-timber activities such as recreation or educational activities. Based on direct forestry-generated employment, County/Municipal forests employ 1.75 people per 1000 ha and Conservation Authorities employ 1.98 per 1000 ha (Table 2). These figures are somewhat lower than those found by Teitelbaum (2009) in her analysis of four case studies across Canada, where figures ranged from two to five jobs per 1000 ha. This may be a reflection of lower timber-harvest rates on County/Municipal and Conservation Authority forests as compared with Crown forests. On the other hand, these organizations do create other jobs related to the forest such as in recreation, education, information and technical services, regulation, wildlife and water protection, which are not accounted for in this analysis.

The processing of wood within the watershed, another measure selected, contributes to the economy as it supports the creation of additional jobs and economic activity. We found that on average, 35% of wood from County/Municipal forests and 25% of wood from Conservation Authorities is processed in the watershed. While the watershed is one of several possible designations to capture regional economic activity (municipal boundaries, for example, is another), these statistics nonetheless indicate that a large portion of timber is processed extra-locally.

**Table 2. Results for measures related to the principle of local economic benefits**

Measure	Conservation Authorities	Counties/Municipalities
Average employment level (full time equivalent per 1000 ha)	1.75 (n = 24)	1.98 (n = 19)
Proportion of timber processed in the watershed (overall average)	25 (n = 14)	35 (n = 11)
Percent of organizations generating revenues from the forest	62 (n = 26)	90 (n = 21)

Another measure looked at whether organizations generate revenues from the forest and how profits are used. In the case of County and Municipal forests, 90% generated some revenues while for Conservation Authorities the figure was 62%. The vast majority of sites redirected profits back into the forestry program, including towards a forest reserve fund, conservation activities, and trail-building and maintenance. Less than 10% invested profits elsewhere, and these were all municipalities or counties that put the money back into local government coffers. Interestingly, unlike some community forests in Canada that have an explicit objective to invest profits in local services and infrastructures, these organizations do not appear to have such an orientation. This limited redistribution of timber revenues may be linked to more regional orientation of Conservation Authorities, for example, that undertake operations on a watershed basis and that transcend municipal boundaries and budgets.

**How broad are management objectives? Multiple forest use**

Community forests have also been associated with the notion of developing and enhancing a greater variety of activities on the forest. We call this multiple forest use and measure it by the frequency of different activities including recreation, education, non-timber forest products, and protection/enhancement of Aboriginal values.

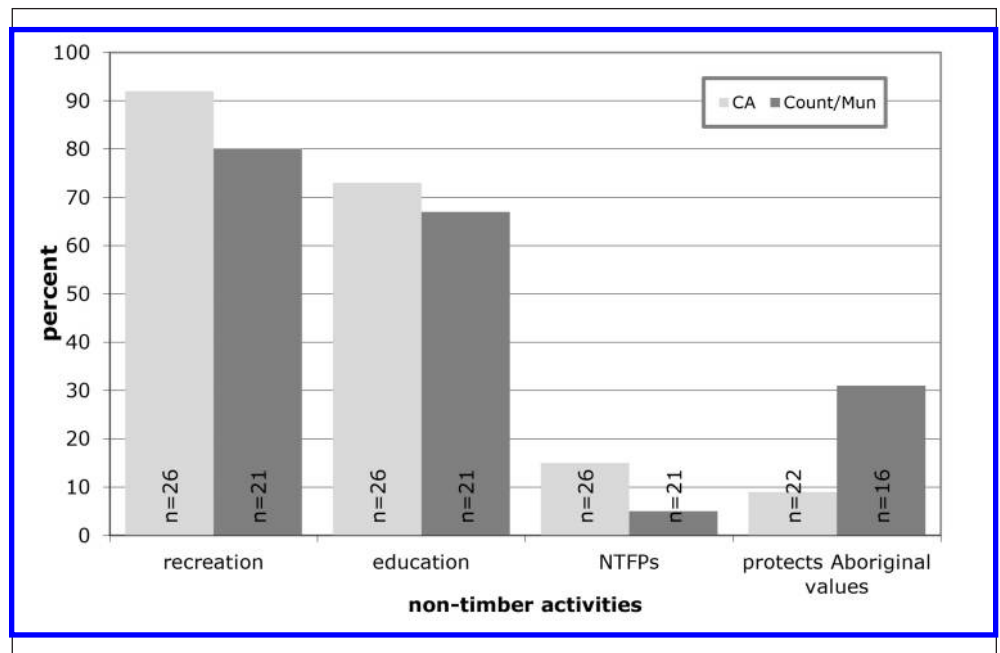
Results indicate strong performance on measures related to recreation and education. More than 80% of Counties/Municipalities and 90% of Conservation Authorities offer recreation activities on their forests. Most of these organizations manage trail networks and support a wide variety of activities such as hiking, cross-

country skiing, snowshoeing, and mountain biking, and in some cases, dog sledding, horseback riding, and snowmobiling. Education activities are also common, including school-based programs, tree planting, interpretive trails, workshops, and research activities. This is perhaps not surprising given the heightening demand for publicly accessible nature areas in southern Ontario, a region that is increasingly urban and densely populated and which consists of 87% private lands (OFA 2009).

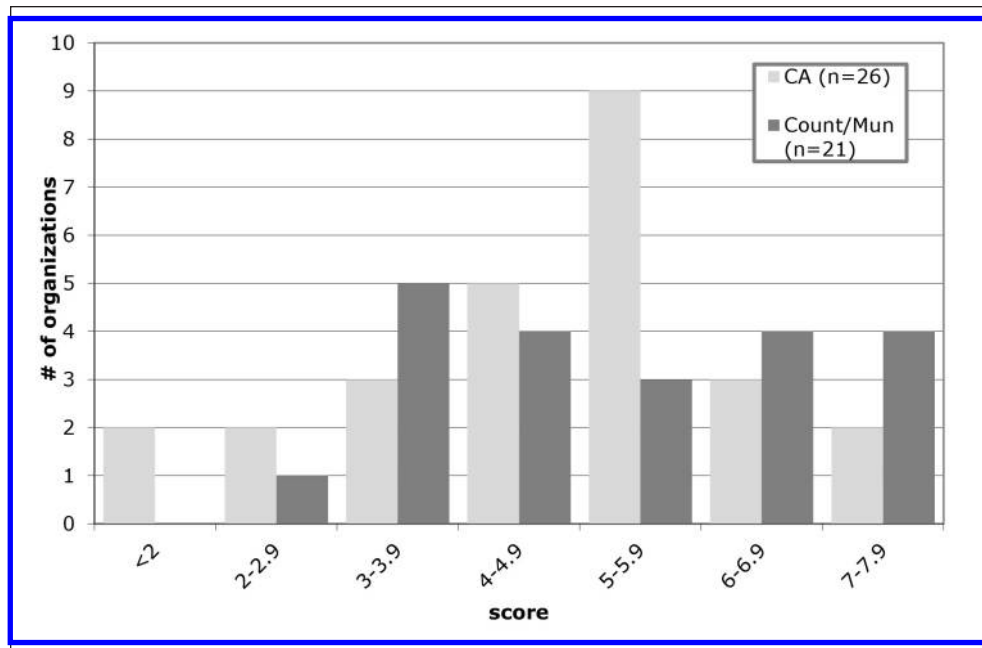
The organized harvest of non-timber forest products (NTFP) was less common. About 15% of Conservation Authorities and 5% of Counties/Municipalities facilitate NTFP activities on their forests (Fig. 2). For those that are involved in this sector, the primary products harvested are maple syrup, material for artisanal products, and mushrooms.

The final measure looked at whether organizations work with Aboriginal communities to protect and enhance cultural values. Overall, 16% did so, with slightly higher rates for Counties/Municipalities than for Conservation Authorities.

For the final part of the analysis, we tabulated a composite index score for each organization combining its performance in participatory governance, local benefits and multiple forest use. As is shown in Fig. 3, almost half of organizations (45%) scored in the middle zone (between 4 and 6). Counties/Municipalities performed slightly better than Conservation Authorities overall, with more organizations scoring in the upper categories. Looking at each dimension individually, County/Municipal forests scored better in the area of participatory governance and local benefits, whereas Conservation Authorities are slightly stronger in multiple forest use. It appears that Counties/Municipalities perform slightly better than Conservation Authorities in terms of public participation and also in areas such as employment and local processing. Conservation Authorities, on the other hand, offer more non-timber activities that Counties/Municipalities.



**Fig. 2.** Proportion of organizations that undertake each non-timber activity.



**Fig. 3.** Composite scores in participatory governance, local benefits and multiple forest use.

### Discussion and Conclusions

The aim of this study was to assess whether community forestry principles are at work in Ontario's County, Municipal and Conservation Authority forests. A macro-level analysis was used to compare the principles of community forestry with the operational attributes and practices of these forests. We conclude that while there is diversity amongst cases, most organizations have socio-economic attributes that resemble those described in the community forestry literature. Below we discuss and link key research findings to the literature and offer implications for future research.

#### Governance

In the area of governance, the forests have a distinctly local decision-making process based almost exclusively on elected officials. This is a common approach for Crown land community forests as well, such as in Quebec where regional governments are in charge of Crown lands within municipal borders (known as intramunicipal forests) and in British Columbia where over half of recent initiatives created under the CFAL tenure are under municipal government or band council management (Teitelbaum *et al.* 2006). However, in the case of the County/Municipal and Conservation Authority forests, organizations own the forests outright, and thereby have significant latitude in terms of defining and implementing management objectives, designing rules and regulations, and controlling access. Having a high degree of autonomy is widely considered to be a key success factor for community forestry in North America (see Belsky 2008). Crown-land community forests, on the other hand, are often described as limited by a lack of rights to non-timber forest products and an inflexible regulatory and administrative system (Bérard 2000, Ambus and Hoberg 2011). Notably, community forests on Crown land in Northern Ontario have encountered jurisdictional

problems with local economic development and provincial ministry officials, as well as difficulty actually implementing management projects as they tried to navigate pre-existing institutional frameworks (see Harvey 1995, Matakala 1995).

Our results also show that governance within Counties/Municipalities and Conservation Authorities includes a "participatory" dimension, with most organizations undertaking multiple forms public participation activities. More than half have adopted public advisory groups to enhance local input, an approach that is widely recognized for its potential to strengthen

public involvement in a forestry context (Parkins *et al.* 2006). Our measurement approach did not allow us to evaluate the quality of public engagement, but was an important first step towards understanding the range and quantity of public participation activities. In the future it would be useful to look at public perceptions and attitudes regarding the effectiveness of current organizational approaches to public participation. Specifically, do local people feel they have a say in County/Municipal Forests and Conservation Authority decisions? Are public engagement activities working and are they reaching their intended constituents? Are the regionally constituted boards accountable to the public?

Our findings also do not adequately explain whether Aboriginal consultation processes and engagement levels are sufficient and effective. Results seems to suggest that relatively few of the organizations surveyed (eight of 52) work with Aboriginal peoples considering, for example, that 59% (143 075) of the total provincial Aboriginal population (242 500) lives in southern Ontario (Statistics Canada 2006). There are also as many as 18 First Nation communities located within watersheds managed by Conservation Authorities (see Chiefs of Ontario 2008). However, large concentrations of Aboriginal people in urban centres served by Conservation Authorities and the uneven geographic distribution of First Nation communities raises additional questions regarding the adequacy of Aboriginal engagement initiatives. Future research could aim to clarify the state of Aboriginal engagement in County/Municipal and Conservation Authority forests, including both spatial analyses of Aboriginal population and community forest distributions as well as in-depth interviews with Aboriginal representatives and local officials. Further analysis of institutional and jurisdictional questions could also prove helpful given the increasing emphasis on the duty of governments in Canada to consult Aboriginal peoples.



### Economic benefits

In the area of local economic benefits, performance was weaker with lower forestry-related employment and local processing than a similar Canadian study (Teitelbaum 2009). This is not surprising given the geographic location of most County/Municipal and Conservation Authority forests in southern Ontario, where population densities and high proportion of private lands (urban, industrial, agriculture) makes it less socially acceptable and indeed possible to harvest timber on a scale typical of industrial forests elsewhere in the province. The Canadian community forestry literature has, thus far, dealt primarily with organizations where commercial timber harvesting is a defining feature and where non-timber activities are less present (e.g., Ambus *et al.* 2007, McIlveen and Bradshaw 2009, Ambus and Hoberg 2011) and less so on organizations where tourism and amenity migrants have replaced industrial forest users (e.g., Bullock *et al.* 2009). For many County/ Municipal and Conservation Authority forests, their strength lies in the non-timber benefits they provide for local peoples (public access to green space in semi-urban areas, recreation and education activities) rather than employment creation in extractive forestry activities per se. For example, an estimated 5.7 million people visited 500 distinct Conservation Authority conservation areas in 2000 (Baldin *et al.* 2004). While our analysis shows that community forest organizations in southern Ontario are not particularly strong in creating conventional industrial forestry jobs, our survey did not account for the full suite of jobs created on these forests, including planners, various technologists, biologists, interpreters, educators and park wardens. In future research, therefore, it would be useful to measure the full contribution of local economic benefits (such as through employment) generated by these organizations as well as the perceived benefits sought by the millions of forest users who evidently access Ontario's community forest properties each year.

Revenue generation also warrants closer attention. Our survey revealed that 75% of organizations are generating some revenues from the forest, but we do not know the individual sources. It would be helpful to see what proportion of revenues is derived from timber harvests versus other forest-based activities. For Conservation Authorities, for example, recreation fees are often used to pay for other mandated activities and responsibilities (flood and erosion control) (Bullock and Watelet 2006). Given the rising interest in non-timber forest products, it could also be useful to analyze the types and profitability of the products currently being harvested. Given the proximity of these forests to large population centres, the question remains as to whether the non-timber forest products sector could be usefully expanded.

There would also be merit to broadening the analysis of local benefits beyond the economic realm. As we have seen, community forest organizations provide an array of non-timber benefits, some of which are not easily captured by conventional economic measures. Tabulating the contribution of these and ecological services provided by these organizations (for example through non-market valuation tools and methods) would provide a more comprehensive understanding for decision-makers and practitioners.

Opportunities for forest product harvesting (timber and non-timber) warrant closer examination to identify challenges and opportunities. For example, geo-spatial and supply-chain analyses of forest product supply, distribution, and client and consumer demand has the potential to help align local forest products with local processors, thereby maximizing opportunities to enhance the local economy. Local forest value-added processing, fibre for regional heating systems, and forest food production are areas of growing interest often associated with community forestry. These concepts align well with the principles of sustainability. Rising fuel costs and wood supply shortages are challenging industrial practices in some areas, and there is a growing social appetite for resources such as food (Brown and Miller 2008), energy (St. Denis and Parker 2009) and wood fibre (and other resources) to be produced and consumed locally. These factors may help support local forest systems and local product and market development.

### Multiple forest use

Multiple forest use is a strong feature of community forest organizations. The vast majority offer some form of non-timber activities, the most common being recreation, followed by education. Our results showed that Conservation Authorities perform slightly better in this area than Counties/Municipalities. One explanation for this difference may be that Conservation Authorities are mandated first and foremost as water management agencies for flood and erosion control and are therefore more likely to favour activities that protect ecological attributes. Counties/Municipalities, on the other hand, as suppliers of services and infrastructures to constituents, may be more inclined to prioritize activities such as commercial timber harvesting, which can generate immediate revenues for local government coffers.

Given the strength of the Counties/Municipalities and Conservation Authorities in terms of adopting a multiple forest use approach, several additional research questions arise. What are the "winning" activities and strategies in terms of generating revenues? How do local preferences influence the types of activities that are offered by the organizations? How do Counties/Municipalities and Conservation Authorities effectively integrate these different activities into their planning? The literature shows that multiple forest use is an important priority for many community forests; however, recent research indicates there are challenges to financial profitability (Ambus *et al.* 2007, Teitelbaum 2009). Given what appears to be a strong association between these community forests and the development of non-timber activities, as well as their proximity to large urban centres, it would be interesting to determine whether these activities are proving to be financially successful.

The research allows us to better situate County/Municipal and Conservation Authority forests within the universe of community forestry approaches. Like Crown-land community forests, these forests demonstrate a commitment to local governance, public input and the enhancement of benefits for local people. However, they are a unique model, and reflect the specific geographic and socio-economic context in which they reside. These forests are evolving in response to the

changing preferences and values of Southern Ontarians. There remains a need to investigate possible differences in perceptions and values among local managers, residents and various forest users to better understand decision-making, patterns of forest use, and the basis of social conflict. The focus on non-timber activities, such as recreation, education and conservation, stands out clearly, with less emphasis on the traditional extractive activities, which are the predominant focus of many Crown-land community forests. Thus far, little research attention has been paid to these forests. To better understand the social dynamics that drive their management, and their contribution to local well-being and conservation, more in-depth research is needed.

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