BC Woodlot Management:

Basic Management Requirements, Current and Future Challenges, and Potential Solutions for BC Woodlot Licensees

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Abstract

Woodlots in BC play a key role in creating jobs in communities and providing personalized management options that address the concerns of local stakeholders. These small, area-based tenures face many challenges, however, including dealing with small economies of scale, forest health issues, climate change, market access, and coping with oftentimes ill-formed forest policy. By addressing the relevant legislation, this paper addresses the basic requirements for woodlot licensees to obtain and manage a woodlot; it also overviews many of the contemporary challenges faced by licensees, and poses possible solutions to those challenges. The most prominent barriers to financial and managerial success are associated with forest policies that result in significant administrative burden and limit the ability for woodlot licensees to diversify their revenue streams. Limited harvest volumes also leave them vulnerable to catastrophic events and unable to make large capital investments. The strengths of woodlots rest in their ability to serve value-added markets, and the small size of woodlots allows them to respond quickly to market demand. To improve the economic viability of woodlots forest policy must be specifically designed to deal with these small harvest volumes. More research, investment, and flexibility with regard to forest practices and alternative revenue streams are essential to provide woodlot licensees with the tools for continued success.

Keywords: woodlot management, NTFPs, economic diversification, challenges, policy

Table of Contents

A	bstract	
Ta	able of Contents	i
In	dex of Figures	ii
1.	Introduction	1
2.	Background	1
3.	Applying for a Woodlot Licence	2
4.	Management Requirements	2
	4.1 Basic Requirements	2
	4.2 Size Requirements and Incorporation of Private Lands	3
	4.3 Timber Harvesting	3
	4.4 Term of Ownership and Conditions for Replacement	4
	4.5 Payments to the Crown	4
5.	Products, Markets and Meeting Demand	5
	5.1 Common Products	5
	5.2 Alternative and Dual-Use Products	5
	5.3 Future Markets	5
	5.4 Management Decisions for Future Products	8
	5.5 Main Markets for Woodlot Products	9
	5.6 Niche Markets and Custom Milling	10
6.	Challenges	11
	6.1 Managing Non-Timber Resources	11
	6.2 Limited Harvesting Volumes and Economies of Scale	11
	6.3 Marketing	11
	6.4 Administrative Inefficiencies	12
	6.5 Cut Control	12
	6.6 Default Performance Requirements	12
	6.7 Climate Change and Forest Health	13
7	Discussion and Recommendations	13

7.1 Policy Change	L3
7.1.2 Alternative Revenue Streams (NTFPs)	L4
7.1.3 Cut Control	L4
7.2 Other Recommendations	L4
7.2.1 FSC Certification	L4
7.2.2 Carbon Credits and Agroforestry1	L5
7.2.3 The Case for More Woodlots	L5
7.2.4 Continued Financial Support from Levy Funds1	L6
8. Conclusion	L6
References	L7
Index of Figures	
Figure 1: Destination of Exported BC Wood Products.	.7

1. Introduction

Since their origin in 1948, woodlot licences (WL) have been increasingly popular in BC. They are a unique system that grants small, area-based tenures to individuals or groups for management of the forest resources within a given area. This type of small-scale management departs significantly from the large, volume or area-based tenures granted to major forest licensees, and offers an alternative approach to forest management in BC.

The woodlot licence system has many benefits to the licensee, to communities, and to the industry as a whole. Small tenures are able to respond quickly to demand and provide unique products (Mitchell-Banks, 2001). This has the potential to help diversify and expand market opportunities within the forestry sector by addressing niche markets (FBCWA, 2007). The management of these woodlots, however, is complex and requires thoughtful planning in order to satisfy the needs of the holder and of the environment.

The objective of this paper is to provide an overview and synthesis of the relevant literature, broadly covering all of the major aspects of woodlot acquisition, management, products, and marketing. The challenges faced by woodlot holders are examined, and recommendations for improvement are provided.

2. Background

While the first woodlots were issued in 1948, these licences were granted exclusively to farmers who wanted limited rights to harvest timber. The first licences that showed any real likeness to our current system were granted in 1979 after the Pearce Commission. This change increased the maximum size of the licence to 400 hectares, extended the term to 15 years, and removed mandatory requirements to incorporate private land and be a farmer. With the new regulations and a concerted effort by the BC Forest Service, an additional 450 woodlot licences were awarded between 1984-1989 (FBCWA, 2007; Grady, 2012).

Woodlot licences are now granted for a length of 20 years and are replaceable. The licence gives the holder the exclusive right to harvest timber from Crown land within a given area, and has specific requirements for the management of both the woodlot area and any private land that is incorporated into the licence (FBCWA, 2007; FBCWA, 2013).

Currently there are 823 active woodlots in BC, representing 3.5% of the total provincial Annual Allowable Cut (AAC) (Cathro et al., 2007). Despite this relatively small harvest level, almost 12,000 people rely on woodlots for employment, and in total woodlots contribute an average of \$200 million to the province's economy (FBCWA, 2007).

3. Applying for a Woodlot Licence

In order to apply for a woodlot licence there are a number of basic requirements. First and foremost, the applicant must be at least 19 years of age and be either a: Canadian citizen, permanent resident, First Nation, or corporation controlled by one of these qualified individuals. Some restrictions apply to applicants; the most notable being that the applicant cannot hold, individually or corporately, 2 or more woodlot licences at the time of the application. Also, the applicant cannot hold one or more "ineligible licences" (different forms of tenure including timber sale licences, tree farm licences and forest licences) in which their individual or combined AAC is greater than 10,000 m³ (Forest Act – division 8, section 44).

Woodlot applications are competitive bids, and points are awarded based on three main criteria:

- distance from the woodlot to the applicants principle residence;
- the amount and quality of private lands that the applicant has proposed to include in the woodlot; and
- A financial bid, which holds twice the weight of the preceding criteria.
 - (Ambus et al., 2007)

Aside from the point system, there is also consideration given to the applicant's education and experience with forest management. Further, the applicant can offer managerial commitments if they are to be successful which can make their application more attractive (MFLNRO, 2012). If applications are scored equally, a tie-breaker in the form of a bonus bid is used to choose the winning applicant (Ambus *et al.*, 2007).

4. Management Requirements

4.1 Basic Requirements

The overarching requirements of managing a woodlot are dictated by a number of documents; primarily these are the Forest Act and the Forest and Range Practices Act, but others such as the Wildfire Act and the Fisheries Act also govern some practices (Ambus *et al.*, 2007).

The Forest Act outlines the basic legal requirements for the woodlot licensee, whereby the central document required is the woodlot management plan. This plan has a 10-year term and includes forest inventories, a map of the area, and also proposes management objectives for:

- utilization of the timber resources in the woodlot licence area,
- forest fire prevention and suppression,
- protection and conservation of the non-timber values and resources in the woodlot licence area,
- forest health, including pest management,
- silviculture, and
- road construction, maintenance and deactivation
 - (Forest Act, Section 45 (f))

The management plan specifies these objectives and proposes management tactics in order to achieve them. Finally, the management plan proposes an AAC to guide the harvest level of the woodlot, and this AAC is confirmed or adjusted by the District Manager (Forest Act, section 45 (f)). Before the plan is approved by the minister, the person responsible for preparing the plan must make the plan available for public review and comment (FRPA Division 4, section 18).

On the ground activities are dictated by the FRPA, which since its introduction in 2004 (MFLNRO) has transitioned forest practices to a results-based regulatory framework. Basic management requirements can be fulfilled by adhering to the set of default requirements, but the results-based regulations also allow for alternative practices that can be implemented if approved by an RPF.

4.2 Size Requirements and Incorporation of Private Lands

The allowable size of a woodlot is dependent on the location. Interior woodlots are granted at a maximum of 1200 ha, whereas coastal woodlots have a maximum size of 800 ha. This area discrepancy relates to the different productive capacities of these two forest regions (Cathro et al., 2007).

Private lands owned by the licensee can be incorporated into the woodlot, making them larger. The requirement for private lands is that they be satisfactorily restocked upon acquisition of the woodlot, usually within the first five years (Woodlot License Management Plan Handbook, 2009). Legislation that was recently implemented now allows some or all of private lands to be removed from the licence (McNaughton, 2012).

4.3 Timber Harvesting

When harvesting timber, the licensee must adhere to all of the provincial standards set by the relevant legislation. This legislation states that applying for cutting permits is the duty of the licensee, and that the maximum term for these permits is four years (FRPA, 2013). Cutting permits are approved by the district manager.

4.4 Term of Ownership and Conditions for Replacement

A woodlot licence can be issued for up to 20 years and is replaceable at the end of its term. The replacement licence must be offered by the minister 6 months prior to the expiry of the initial licence, unless holder has failed to:

- (i) pay stumpage or other money payable in respect of timber harvested under the woodlot licence or a road permit associated with the woodlot licence,
- (ii) provide security or a deposit required under this Act or the Forest and Range Practices Act in respect of the woodlot licence or a road permit associated with the woodlot licence,
- (iii) perform an obligation under the woodlot licence to be performed by the holder in respect of an area of land specified in
 - (A) a cutting permit previously issued under the woodlot licence, or (B) a road permit associated with the woodlot licence, or
- (iv) comply with a requirement under this Act, the Forest and Range Practices Act or the Wildfire Act in respect of an area of land referred to in subparagraph (iii).
 - (Forest Act Section 46, subsection 2, Accessed March 19, 2013)

4.5 Payments to the Crown

The woodlot owner incurs many costs during the operation of his or her woodlot licence. Many of these are payments to contractors or subcontractors, for services such as falling, road construction, hauling, and approval of alternate practices, but there are also payments to the Crown. In order to legally operate, the woodlot owner must pay stumpage to the crown for harvested timber (albeit at a reduced rate). Other payments to the Crown include:

- bonuses from woodlot application
- waste assessments
- annual rent of \$0.60/m³ (of which \$0.25/m³ are then directed back to the Woodlot Product Development Council).
 - (Forest Act Section 45 (d); Lisa Ambus, 2007)

5. Products, Markets and Meeting Demand

5.1 Common Products

Various constraints have limited the supply of value-added and unique products from woodlots. Historically the main products, representing 98% of the market between 2000-2004, have been commodity products for use as sawlogs, poles and pulp. These logs have generally fed into the large industrial mills, as smaller, custom mills are limited in the province and require higher shipping costs (Brown, 2001).

5.2 Alternative and Dual-Use Products

Woodlots produce a variety of other products that diverge from the main log market. Examples include Christmas trees, firewood, shakes and shingles, and tonewood for guitar and violin tops. All of these products can serve to diversify the revenue stream for woodlot owners, while having the potential to improve utilization of things like slash piles or standing snags, in the case of firewood. The revenue cycle of these products can also be attractive to owners, especially if faced with immature or compromised stands. Young or damaged stands are often times unable to yield merchantable goods, so given that a product such as a Christmas tree is ready for sale in as little as 6-8 years (if not already present on the land base) this could be a good source revenue in the short-term (Christmas Tree Farmers of Ontario, 2013). Christmas trees are technically considered a NTFP, however they are a product that can be adapted into a timber-focused stand if market conditions are unfavorable (Canadian Forest Service, 2012).

Many of these products can be harvested in places where fire hazard mitigation is already a pressing concern. Harvesting snags for firewood and juvenile trees as Christmas trees can help bring in revenue while reducing the continuity of fuel into the canopy.

5.3 Future Markets

The most promising future market for woodlots is in Non-Timber Forest Products (NTFPs). The market represents a need for a highly diverse group of products that have the potential for significantly improving the economic diversity and viability of some woodlots, especially those in which the mid-term timber supply has been seriously affected by the Mountain Pine Beetle (MPB). Products such as mushrooms (pine, chanterelle, morel) and berries for culinary uses; cedar boughs, pine tips, cones, and moss for floral arrangements; essential oils, roots and bark for traditional medicines, and a host of other goods are all potential products. Unlike community forests and First Nations

woodland licences, however, current provincial legislation does not grant woodlot holders the rights to manage for and harvest these products (Hamilton, 2012).

Carbon markets and agroforestry techniques are also creating some more options for diversifying revenue for woodlot licensees. There are various projects currently underway for both of these management strategies (Clark, 2010). For carbon, many carbon accounting standards exist that cater to small-scale forestry, such as the Tree Canada model. These standards require that the licensee engage in practices that result in additional carbon being sequestered over what would normally have been. This can take the form of fertilization, spacing, thinning, afforestation and a host of other silviculture strategies (Pacific Carbon Trust, 2011). The carbon projects underway aim to give woodlot licensees an analysis tool to help them make informed decisions on how feasible carbon management might be.

Agroforestry is a relative newcomer to BC forestry, with the main premise being the creation of multiple products alongside timber. Agroforestry encompasses enhanced forage production for cattle or sheep, bee keeping, and producing syrup from maple or birch trees (FBCWA, 2007). It is essentially a set of production techniques that can help combine the positive attributes of various species for direct or indirect benefits. The direct can come in the form of direct sales of cash crops, or indirect benefits such as providing shade for cattle. This can be an innovative way to generate revenue outside of log sales (Small Woodlands Program of BC, 2001).

Whether a woodlot's main products are commodities, value added, or NTFPs, the market in which the product is sold can make a big difference on revenues. Traditionally, markets have been local or domestic for many producers, but export markets have become increasingly important in recent years, especially for the major licensees. Surging markets in China and South Korea and strong demand from Japan and other countries has resulted in a large increase of log and lumber exports away from traditional North American markets (Figure 1). In 2011 British Columbia became the first province or territory to export more than half of its wood products to markets other than the United States (FPInnovations, 2013).

British Columbia Exports of Wood Products

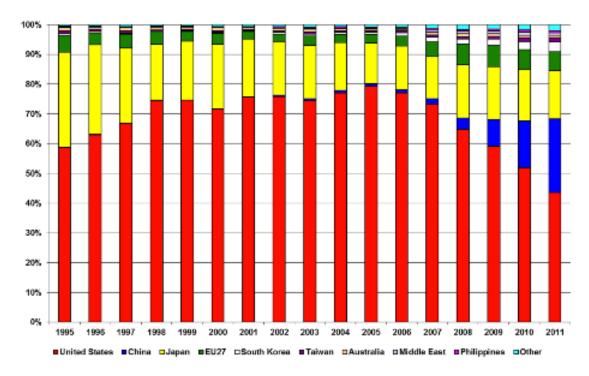


Figure 1: Destination of Exported BC Wood Products. Source: FPInnovations World Trade Atlas, 2013

Log export restrictions can limit the ability of the woodlot owner to sell into these markets, however for some licensees there are opportunities. Coastal log producers have used log exports to extract additional revenue from both high-quality and low-quality log grades. To access export markets, woodlot owners are required to show that exported logs are surplus supply for the BC market; they must also register with the Canada Revenue Agency (CRA), and face possible export tariffs.

The Woodlot Product Development Council (WPDC) and the Federation of BC Woodlot Associations (FBCWA) have been developing a plan that aims to help woodlot licensees gain more revenue, diversity their markets, and cut costs. This is being addressed in various ways, but primarily through initiating and supporting research and extension programs for woodlot licensees. There is also a focus towards creating a positive image of woodlot products, and educating the public about the benefits to small-scale forest management. This business planning and licensee support project has been funded through woodlot levy fees (Woodlot Product Development Council, 2012).

5.4 Management Decisions for Future Products

A key component of creating a woodlot that is financially viable is the determination of which products to produce given the available timber and forest attributes. These products range from the traditional to value-added niche products and in many cases require the consideration of other values during the development process. For example, if a licensee were to choose to manage his/her tenure for sawlogs, they would likely strive for a stand of appropriate sawlog species, good growth form, adequate density, and minimal disease, among other attributes. Complimentary to this end product objective, the licensee would also have to consider other values that this stand provides, including, for example, hiking, biking, and x-country skiing trails, maintenance of water quality, and aesthetic quality. What is evident through the use of this example is that a woodlot manager needs appropriate knowledge of what their tenure can provide, strong foresight of the future products, and a well-rounded view of what is expected of them from the public interest.

For a woodlot manager to be able to provide the timber products that the public desires, various management and treatment options are available. Treatments such as pre and post-commercial thinning, pruning, and fertilizing can all serve to increase the quality of the end product to fetch a higher market price. These treatments, however, all require the licensee to invest in their stands for future benefit. A cost-benefit analysis should be undertaken to ensure that the required investment and the future added revenue (assuming you have made the right decision about what products and attributes the consumer will value) will be more beneficial than doing minimal treatment. This analysis can be facilitated through using the Private Woodland Planner Software (Enfor Consultants Ltd., 2007).

Woodlot owners have somewhat of an advantage for investing in silvicultural treatments, such as pruning and thinning. This is because the cost of labour is relatively cheap compared to larger licensees given that the woodlot owner can complete much of this himself with help from family and friends. This is of course dependent on the size of the woodlot, but in the case of a treatment like pruning, only requires a time investment as opposed to a monetary one.

Another consideration in the management of woodlots is the prospect of forest certification. This management approach has shown to add value to wood products, but has shown to be more effective on increasing access to markets (Ambus et al., 2007). Up until 2006, only 4% of BC woodlots have been recognized as either having FSC or SFI certification (Brown, 2001). With certification becoming increasingly popular over the last decade, some standards have been developed to suit smaller licensees. The Forest Stewardship

Council (FSC) and the Canadian Standards Association (CSA) have developed their own standards which streamline the certification process for licensees in order to lower the overall cost. The FSC's Small and Low Intensity Forest Management (SLIFM) (2003) and the CSA's Z804 (2008) standards can be utilized for woodlots up to 1000 ha and 4000 ha respectively (Forest Stewardship Council, 2004; CSA, 2009).

Other small-scale forest tenure certification standards also exist and a list of fifteen common requirements were summarized by Verstraten (2010):

- 1. Statement of management objectives
- 2. Description of forest stand/woodlot
- 3. Assessment of wildlife, including plans for identification and conservation/protection of rare, threatened and endangered species, and susceptible stands
- 4. Map of woodlot
- 5. Description of lands adjacent to woodlot
- 6. Description of silvicultural system and/or management system
- 7. Plans for/description of forest monitoring activities
- 8. Identification of environmental safeguards
- 9. Description and/or justification of proposed harvesting techniques
- 10. Rationale for species selection and annual rate of harvest
- 11. Commitment to sustainable forest management
- 12. Provisions for plan review and revision
- 13. Public availability of plan summary
- 14. Approval by author of plan and woodlot owner
- 15. Type of Ownership

Many of these requirements are already essential components of woodlot management plans, so meeting certification standards is far from unattainable. In the past many woodlot licensees have been deterred from forest certification due to the relatively high costs of being certified, however these costs have been coming down in recent years.

5.5 Main Markets for Woodlot Products

The main buyers for traditional wood products, such as sawlogs, are the commodity saw and pulp mills (Small Woodlands Program of BC, 2002). While selling logs directly to the mills is an option, logs can also be marketed through a log broker, who would then receive a commission. Log brokers are particularly useful when trying to access markets outside of the local area; however, care needs to be taken to ensure that relations are not harmed with the local mill(s) by depriving them of all of a woodlots highvalue wood profile.

When selling logs to mills or brokers the woodlot owner would need to enter into a contract to ensure that the agreed terms would be respected. The contract would cover various aspects of the sale, including: point of sale, contract term, sales price, payment terms and scaling, termination clauses, and other stipulations. The point of sale (i.e. the point at which ownership of a product is transferred to the customer) is likely the most important feature of the agreement and is dependent on the accuracy of the woodlot licensee's inventory and their ability to complete various stages of harvesting and hauling. The point of sale is important because it can result in a woodlot licensee needing access to a range of assets, including: financial resources, time, an accurate assessment of volume and quality, access to equipment, and expertise in making operational decisions. Point of sale decisions can dictate how much profit margin can be captured by a licensee through performing harvesting operations themselves, and conversely how much risk is willing to be accepted by taking on this responsibility (Small Woodlands Program of BC, 2002).

Other marketing options include selling the standing timber directly to a logging company, or trying to market niche products to specialty wood manufacturers. Regardless of the final buyer, one of the key requirements to maximize log revenues is having up-to-date knowledge of the markets. This ensures that timber harvesting is synchronized with markets that will give the best returns. Woodlot owners can stay updated by monitoring monthly log market reports posted by the MFLNRO (Log Market Reports, 2013).

5.6 Niche Markets and Custom Milling

With major licensees dominating the economic landscape of forestry in BC, there is a need for small-scale forestry to depart from the high volume, commodity-based products that are currently being produced. Woodlot owners are able to react quickly to changing consumer demand and with some investment can provide custom products to niche markets. Small-scale mills have become increasingly affordable in recent years, opening the door for independent woodlot licensees or woodlot cooperatives to start custom sawmilling operations.

Helping the move towards niche marketing is a new website called WoodSourceBC. Founded in 2011, the website helps wood producers and wood buyers access an online marketplace for a wide range of products. The website is free to use and strives to improve local, regional and even international connections between producers and buyers. By facilitating improved market access, wood producers can ensure their products are reaching the highest-value markets (Wood Source BC, 2013).

6. Challenges

6.1 Managing Non-Timber Resources

With NTFPs being an emerging market, the lagging provincial legislation with regard to woodlot licensees being able to manage for these resources has been a barrier to diversifying their products. On such small forest tenures there is a strong need to provide opportunities for management of non-timber products, especially with the advent of large-scale disturbances such as the MPB. These opportunities have not been presented, and as a result woodlot licensees have been restricted to conventional log markets that are not always lucrative for small producers.

6.2 Limited Harvesting Volumes and Economies of Scale

With woodlots being smaller than many other forms of tenure across the province, this can put woodlot licensees at a distinct disadvantage. Small woodlot areas restrict the AAC and subsequently limit any economies of scale that are otherwise used by the major licensees to cut costs and gain market access (Cathro et al., 2007). Furthermore, small areas also leave woodlot owners more susceptible to biotic and abiotic disturbance agents. Even small disturbances, such as fire, can have drastic effects on a woodlots timber supply. On a larger scale, the effect of mountain pine beetle on woodlots timber supply has certainly underscored this point.

Woodlot licensees have strongly advocated for the recognition of their added costs associated with managing their small scale operations and for that to be reflected in stumpage rates and log prices. The stumpage system for woodlots was changed in 2008 from a market pricing system to a tabular system (Bell, 2008). Woodlots now have the same stumpage rates as community forests, which is a step forward for having the unique needs of woodlot licensees addressed in policy.

6.3 Marketing

Limited harvest values have certainly contributed to historical marketing difficulties for woodlot owners. The limited wood quantity and the number of products limit most woodlot licensees to local markets, which generally means selling commodity products to the local mill. With new improvements in the marketing tools available, most notably WoodSourceBC, woodlot owners should have greater success in getting products to desired specialty markets or simply to the highest bidder.

Forest certification, especially with continued improvements to the application process, also represents an option for woodlots to increase market access. Increased consumer demand and a response by some of the large lumber wholesalers, such as Home Depot, have made product certification a necessity in some markets (Ambus et al., 2007). In the past woodlot licensees have been unable to cover the financial costs of acquiring certification, but new opportunities are surfacing.

6.4 Administrative Inefficiencies

Administrative requirements placed on woodlot licensees are very similar to those of the major licensees. Requirements such as waste assessments, cutting permits, road permits, salvage permits, and consultation with First Nations, to name a few, result in a significant cost and time investment for woodlot licensees. These are of particular concern because of constraints on capital, manpower, expertise, and time that are not present within larger licensees. Some improvements have been made, specifically towards allowing for only one cutting permit on some woodlots, but the administrative burden is still extensive (Ambus et al., 2007; Forestry Regulatory Review, 2008).

Some woodlot owners have raised concerns that the results-based framework of the FRPA has not been sufficiently applied to woodlots and that the "command and control" framework of the Forest Practices Code is still being implemented (Forestry Regulatory Review, 2008). This old regulatory framework results in significantly more administrative burden and can limit the woodlot licensee's ability to employ innovative and responsive management tactics (Brown, 2001).

6.5 Cut Control

The current cut control system is in place to ensure that timber harvesting remains close to the AAC set by the District Manager. The cut control regulations give some leeway between harvest levels from year to year, however at the end of 5-year cut control periods licensees must have balanced their cuts to the established level. Usually this system works well to suit the purpose of harvest regulation, but in the wake of large disturbances such as MPB, the cut control has had negative effects on woodlot owners. Current issues stem from the major licensees inundating the market with beetle-killed pine. Woodlot owners, many of them with stands of healthy non beetleaffected timber, are unable to delay harvesting during this time because of the need to harvest their timber quota. This, some argue, both affects the bottom line of many woodlot licensees, and forces them to harvest green timber that could otherwise be used for future mid-term timber shortages (Forestry Regulatory Review, 2008).

6.6 Default Performance Requirements

The change from the FPC to the FRPA had some unintended consequences on woodlot licensees and their ability to use cutting-edge management techniques. Resulting from this regulatory change are the negative effects of default performance requirements. Brought in to be the baseline requirement for fulfillment of management obligations, these requirements hamper innovation by requiring woodlot licensees to hire a forester to sign off on any non-default plans (Pezel, 2008). Whether the need of an RPF will be beneficial or not, the cost involved in hiring such individuals is a significant disincentive to employing innovative practices (Brown, 2001).

6.7 Climate Change and Forest Health

The effects of forest health issues, such as the MPB, have been a major cause for many of the issues faced today by woodlot licensees in BC. The issues range from policy and regulations conflicts, challenges with saturated markets, and shortages in fiber supply, to name only a few. In some cases some TSAs are facing an AAC falldown of up to 66%, highlighting the huge challenges ahead for some regions (Cathro et al., 2007).

Climate change has played its part in affecting forest health and will continue to force forest practitioners to adapt to changing conditions. Weather extremes and varying temperature and precipitation levels in certain regions will cause some species to become maladapted to their environments (Ministry of Environment, 2010). This has the potential to drastically change ecosystems which will have a huge impact on the management decisions made by licensees.

7. Discussion and Recommendations

7.1 Policy Change

The range of problems caused by current policy is very broad and has implications in every aspect of woodlot operations. In many cases complications seem to stem from the fact that the policy framework is not designed to deal with small licensees. Good work has been done through the FBCWA to get a more appropriate timber pricing model for WL owners, but further work must be done to make these types of tenures more available and attractive to future owners.

7.1.1 Giving Woodlot Licensees Greater Autonomy to Address Specific Concerns

With such a small contribution to the province's total AAC, the amount of administrative burden placed on woodlot licensees is unduly high. Licensees on the whole have proven themselves capable of practicing sustainable and high-quality forestry in BC, and should be given more autonomy to address certain concerns such as climate change and forest health. With significant

changes happening within the sector over the next few decades, including a substantial drop in the available timber in many areas, licensees should be encouraged to address these problems with innovative solutions. The current regulations, including the results-based framework, have promise but should not affect the bottom line of licensees through administrative burden and requirements to hire RPFs (McNaughton, 2008).

7.1.2 Alternative Revenue Streams (NTFPs)

A clear step forward in diversifying the income stream for woodlot licensees is changing land-use rights relating to NTFP's. With the right to harvest and manage NTFPs this would enable these tenure holders the flexibility to harvest more than just timber. This flexibility would be especially valuable with stands severely damaged by fire, insects, wind, or disease. Furthermore, it could help to establish a mutually beneficial relationship between harvesters of NTFPs and woodlot owners. One example relates to bough harvesting, where a bough harvester could have exclusive rights to harvesting the boughs, but under the condition that they prune the tree after harvesting the boughs. This would provide free labor to the licensee, and would give the bough harvester an area that was presumably abundant with boughs and relatively close to a market.

Woodlot owners should, at the very least, be given the same rights as community forests to harvest and manage for NTFPs. The right to restrict public access is unlikely, but certainly the option should exist if licensees do indeed want to pursue a business in these markets.

7.1.3 Cut Control

The cut control regulations in place, as stated earlier, restrict the harvesting volumes below and above the set AAC for the woodlot. In many ways this regulation is effective in keeping timber flows sustainable through time; however, I believe that licensees should have the option to harvest below set AAC's to either wait for markets to improve or to manage for resources other than strictly timber. Local communities would likely not be negatively affected because the limited harvest volumes that woodlots provide would not strongly affect the flow of lumber through mills. This again relates back to increasing the autonomy for woodlot licensees, however, with that being said some restrictions would have to be put on the minimum harvesting volumes allowed in order to keep these tenures primarily timber-based.

7.2 Other Recommendations

7.2.1 FSC Certification

With the demand for sustainable forest management increasing all the time in BC, the prospect of pursuing FSC certification on woodlots is becoming more attractive. A group by the name of EcoTrust has been working for the past number of years to streamline the FSC certification process and lower costs. FSC certification is a good option for licensees wanting to adapt to current and future market demands. With woodlots already having many of the FSC requirements in place, such as consultation with First Nations groups, aesthetic requirements, and riparian protection, this transition could potentially be easier for these small versatile licensees. As noted by Orrin Quinn (2010) of EcoTrust Canada, it is important that there is cooperation between woodlot managers so as to improve the lacking economies of scale usually found within woodlots. New regulations have allowed Eco Trust to certify groups of woodlots under a single FSC certificate. This will help to spread out the cost and should be seen as a big step forward for woodlot certification (Ambus et al., 2007).

7.2.2 Carbon Credits and Agroforestry

As emerging management philosophies, carbon credits and agroforestry represent a new frontier in timber management. Carbon credits offer a revenue stream for wood that is to be left in reserves, or allows for additional money to be made through improved forest management. Typically the term of carbon credits is somewhat longer than woodlot licence tenures, however, so more research has to go into how carbon management can be applied to woodlots. The lessons learned from the current carbon projects must be effectively passed on to licensees.

Agroforestry is much the same as carbon credits in the sense that woodlot owners are often unaware of its potential. Projects by the Agroforestry Industry Development Initiative have been developed to explore the possibilities for WL licensees, and a strong attempt should be made to entice people into diversifying their products through these means. Some products would have to be cultivated on the private area of a woodlot, however, because of the restrictions on NTFP production on woodlots. This is another example of how policy change could promote economic diversification.

7.2.3 The Case for More Woodlots

Woodlots contribute significant benefits to communities across BC through a host of activities: providing local employment, a flexible source of fiber, personalized management plans to accommodate local stakeholders, purchasing goods from local businesses, and bringing in private land into BC's timber harvesting land base (FBCWA, 2007). Area-based tenures of this kind are also recommended by the Special Committee on Mid-term Timber Supply to increase the harvesting volumes in the next 10-30 years (Special Committee on Timber Supply, 2012).

If more woodlots were awarded, the effect would be positive for many licensees and would expand on the positive effect they are having on communities. Having a greater number of woodlots would open doors to facilitate further partnerships and cooperation – allowing managers to pool resources, such as a drying kiln or mill, or to sell greater volumes of logs in a single sale to fetch a higher price (Small Woodlands Program of BC, 2002; Ambus et al., 2007).

7.2.4 Continued Financial Support from Levy Funds

The WPDC Currently has a financial reserve of \$2.14 million as a result of the woodlot levy fees. This fund has been put to good use in recent years with numerous studies looking into business extension, management recommendations, investment opportunities, and governance and operations recommendations (Woodlot Product Development Council, 2012). I believe specific attention has to be put on assisting licensees to either lower costs or increase revenues, especially in the areas of nonconventional product manufacturing. Additional financial support to help licensees access technology and markets in value-added sectors is essential to evolve the woodlot tenure and make them viable in the future.

8. Conclusion

The challenges that woodlot licensees often face do not usually come with easy solutions. Continued lobbying for forest policy reform, especially with regard to managerial autonomy and land use rights, are a few ways that these challenges are being addressed – But it takes time. In the meantime Woodlot licensees can strive to create products and services that are desirable to current and future markets. Strong consideration towards Investing in silviculture, certification, custom milling, as well as cooperative opportunities with other woodlots, should all be on the minds of current licensees in order to stay well-positioned for future demands. Further, keeping in tune with log prices as well as working with the advantages of their harvesting flexibility can help woodlot licensees capitalize on current opportunities.

Ultimately, many of the decisions affecting woodlot licensees are out of their hands, but not all. Woodlots will continue to support small communities and engage in sound forest management. They will also continue to be a source of pride for woodlot licensees around the province and an adaptable fiber source for industrial and small-scale mills. With climatic conditions uncertain and new markets emerging, woodlot licensees must be innovative and enthusiastic towards the challenges and opportunities ahead.

References

- Log Market Reports. (2013). Retrieved March 20, 2013, from Timber Pricing Branch Publications: http://www.for.gov.bc.ca/hva/logreports.htm
- Wood Source BC. (2013). Retrieved March 20, 2013, from About Us: http://www.woodsourcebc.com/about-us
- Bell, P. (2008). Retrieved March 20, 2013, from http://www.for.gov.bc.ca/dck/Revenue/Min.%20Bell's%20Letter%20-Dec1,%202008-WL%20transition%20provisions%20.pdf
- Brown, L. (2001). Sustainable Forestry and Woodlot Licenses in BC.
- Canadian Forest Service. (2012, Feb 22). Non-timber forest products. Retrieved April 7, 2013, from Natural Resources Canada: http://cfs.nrcan.gc.ca/pages/150
- Christmas Tree Farmers of Ontario. (2013). Thinking about growing Christmas trees? Retrieved March 11, 2013, from http://www.christmastrees.on.ca/index.php?action=display&cat=3
- Clark, M. (2010, Winter). Grow the Pie. The Woodland Almanac, p. 3.
- CSA. (2009). Sustainable forest management for woodlots and other small area forests.
- Enfor Consultants Ltd. (2007). Private Woodland Planner. Retrieved Feb 27, 2013, from Introduction: http://www.enfor.com/?Page=/software/pwp/
- FBCWA. (2007, November). Report on British Columbia's Woodlot License Program.
- FBCWA. (2013). Fast Facts. Retrieved March 20, 2013, from About the FBCWA: http://www.woodlot.bc.ca/about.html
- Forest Stewardship Council. (2004). SLIMF Eligibility Criteria Addendum.
- FPInnovations. (2013). World Trade Atlas.
- Grady, S. (2012, Summer). 25 Rings of the FBCWA: The FBCWA is a quarter century old 1988-2012. The Woodland Almanac, pp. 1-13.
- Hamilton, E. (2012). Non-timber forest products in British Columbia: Policies, practices, opportunities, and recommendations. Journal of Ecosystems and Management, 13(2), 1-24.

- John Cathro, S. M. (2007). A bird's eye view of small tenure holdings in British Columbia. BC Journal of Ecosystems and Management, 8(2), 59-66.
- Lisa Ambus, D. D.-C. (2007). Big expectations for small forest tenures in British Columbia. BC Journal of Ecosystems and Management, 8(2), 47-57.
- Lisa Ambus, D. D.-C. (2007). Strength in diversity: Market opportunities and benefits from small forest tenures. BC Journal of Ecosystems and Management, 8(2), 88-99.
- McNaughton, B. (2008). Forestry Regulatory Review. Retrieved March 20, 2013, from Command & Control: http://www.woodlot.bc.ca/PDF/ForestryRegReview/FRR_CommandAndControl_2April2 008.pdf
- McNaughton, B. (2008). Forestry Regulatory Review. Retrieved March 20, 2013, from Excessive & Unnecessary Administration & Information Requirements: http://www.woodlot.bc.ca/PDF/ForestryRegReview/FRR AdminAndInfoRequirements 19March2008.pdf
- McNaughton, B. (2008). Forestry Regulatory Review. Retrieved March 20, 2013, from Cut Control: http://www.woodlot.bc.ca/PDF/ForestryRegReview/FRR_CutControl_19March2008.pdf
- McNaughton, B. (2012, Summer). BC: Our Big, Beautiful, Diverse Province. The Woodland Almanac, p. 3.
- MFLNRO. (1996). Forest Act.
- MFLNRO. (2002). Forest and Range Practices Act.
- MFLNRO. (2009). Woodlot License Management Plan Handbook.
- MFLNRO. (2012). Woodlot Licence. Retrieved February 15, 2013, from http://www.for.gov.bc.ca/hth/timber-tenures/woodlots/index.htm
- MFLNRO. (n.d.). Forest and Range Practices Act. Retrieved March 19, 2013, from http://www.for.gov.bc.ca/code/
- Ministry of Environment. (2010). Preparing For Climate Change: British Columbia's Adaptation Strategy.
- Mitchell-Banks, P. (2001). Small-scale forestry in Canada or mammals living amongst governments and dinosaurs. . Economic sustainability of small-scale forestry.

- Proceedings of an international symposium and Working Group meeting of IUFRO , 41- 50 .
- Pacific Carbon Trust. (2011). Protocol for the Creation of Forest Carbon Offsets in British Columbia.
- Pezel, N. (2008). Woodlot License Plan. Retrieved March 20, 2013, from http://www.for.gov.bc.ca/dsi/woodlots/w0024/W0024WLP_2.pdf
- Quinn, O. (2010, Winter). FSC for Woodlots. The Woodland Almanac.
- Small Woodlands Program of BC. (2001). A Guide to Agroforestry in BC. Forest Renewal BC.
- Small Woodlands Program of BC. (2002). *Woodlands Business Planning and Marketing Guidebook*. Forest Renewal BC.
- Special Committee on Timber Supply. (2012). Growing Fibre, Growing Value.
- Verstraten, C. (2010). What's in a Woodlot Management Plan? A Comparative Analysis of Requirements for Private Woodlot Management Planning in Nova Scotia.
- Woodlot Product Development Council. (2012). *The Next Level of Success: Assisting woodlots to diversify and enhance revenues.*