# Future Forest Products and Fibre Use Strategy

prepared by

Timberline Natural Resource Group

for

Omineca Beetle Action Coalition

## Acknowledgements

Development of the Future Forest Products and Fibre Use Strategy owes much to the interest, passion, and vision of the numerous participants who contributed to its development. The forest sector is diverse and complex, as are the people and organizations within it. It is also a constantly changing and rapidly evolving sector and the times create a tumultuous context for the industry and the writing of this document.

OBAC thanks all those who participated in the process and provided input - in person during community dialogue sessions, focus group and working group sessions and/ or the UNBC Future Forests Forum, or by e-mail and telephone correspondence.

In particular, OBAC would like to acknowledge the valuable support provided by UNBC's Community Development Institute in the development of this strategy. Supported by Western Economic Diversification (with funding through the federal government's Community Economic Development Initiative), Community Development Institute staff expertly planned, hosted and facilitated a Future Forests Forum in partnership with OBAC. This Forum brought together a broad cross section of forest specialists with a wide range of experiences and perspectives to discuss the emerging strategy ideas and to add their wisdom and ideas to this endeavour. This Forum was an important enhancement to the strategy development process. The strategy recommendations and actions are better for it.

The participants who assisted in the different stages of development of this document are listed in the appendices. The recommendations reflect the views of the OBAC communities.

## Foreword

The Omineca Beetle Action Coalition (OBAC) was formed in 2005 with financial support from the BC provincial government with the purpose, "to work to ensure sustainable development and resiliency for the Omineca Beetle Action Coalition region". OBAC is led by a Board of Directors of the region's Mayors and Regional District Chairs. OBAC is working with its member communities, First Nations, all levels of government, industry and sector representatives, academic institutions and allied partner organizations to develop a regional diversification plan to build resilient communities during and after the mountain pine beetle (MPB) epidemic. OBAC is putting forward long-term strategies that are designed to mitigate the social and economic impacts of the MPB epidemic.

The OBAC region spans more than 18 million hectares from Smithers to Valemount, and includes two regional districts and their rural constituents, 12 municipalities, and more than 20 First Nations communities. At least 50% of the region's forests are lodgepole pine and 37% of the jobs in the region depend directly on forestry.

In 2005, the provincial government approached OBAC to determine what needs to be done to build a more diverse, stable, and resilient regional economy. The purpose of this strategy is to identify what actions need to be taken by key decision-makers to support a diversified, resilient forest sector that makes the best use of the region's forest resources. Many of the recommended actions require action by both the provincial and federal governments. This strategy also identifies what actions local government, First Nations, industry and community leaders can take individually, collectively and in concert with senior governments to achieve this goal.

The forest sector has been, and will continue to be, a key component of the economy of the OBAC region. However, the traditional forest sector will change over the next 20 years. It is expected that the range of products generated by the forest resources, and the participants in the forest sector will be significantly different from the current situation. In part, this is because of the mountain pine beetle epidemic and its impacts on the structure and composition of the region's forests. However, the range of products flowing from the region's forests will continue to broaden to include new timber and non-timber products. A stronger forest sector will emerge and the communities of the region will see increased benefits from its considerable forest resources.

## Executive Summary

The prosperity of the OBAC region has long been reliant on its timber resources. However, the mountain pine beetle epidemic has had a major impact on the region's forests. While this epidemic has killed a substantial portion of the region's forests this, however, presents both challenges and opportunities for the forest sector. The region is also currently facing a major downturn in its traditional markets for dimensional lumber.

The forest sector is a complex and vitally important component of the economy of the OBAC region. Forest companies in the region are among the most efficient, capital intensive manufacturers of dimensional lumber and panel products in the world. These manufacturers rely on a stable, reliable supply of raw material, and reliable transportation of goods to market. Recently, in response to the MPB epidemic, many larger companies invested in upgrades to focus on milling dead pine. Actions are required, to strengthen this sector and allow it to take full advantage of the considerable volume of dead pine which is currently available. There is also a need to ensure that the future timber supply is available to support the production of the traditional forest products in the mid- and long-term.

There is a need to diversify the forest sector and produce a much wider range of timber and non-timber forest products from the region's considerable forest assets. This will generate new wealth for the region and should lessen the impact of future downturns in the traditional lumber markets. These opportunities include the production of energy from wood, value added manufacturing, agro-forestry, and increased tourism.

The future resilience of the OBAC communities is largely dependent on the region's rich forests. By addressing key areas such as: access to resources and certainty of supply; access to capital; transportation infrastructure to access markets; and information about markets and market opportunities the province can facilitate diversification and the development of a new forest economy for the region. Major forest management decisions can benefit or harm community interests, therefore the OBAC communities need to have a more direct role in the management of their forests. This will foster self-sufficiency and innovation, strengthen working relationships between aboriginal and non-aboriginal communities in the region, and allow local solutions to be developed.

OBAC communities envision a diverse forest sector that: builds upon the sustainable use and regeneration of forests; produces a diverse range of timber and non-timber forest products; encourages a diverse range of business models and partnerships; balances the need for quick response to changing forestry and market circumstances with the need for business certainty; operates under regulations that cultivate innovation; and continues to manage the forest resource for all forest values including ecological and cultural wellbeing.

Six objectives must be attained for OBAC communities to realize their vision. These are:

**Objective 1** **Increase community benefits from forest resources.**

**Objective 2** **Diversify and strengthen the forest sector.**

**Objective 3** **Form stronger working partnerships and communication among First Nations, local communities, government, and the forest sector.**

**Objective 4** **Increase the ability to train and retain the required work force.**

**Objective 5** **Create a climate of ownership and pride in the region's forest resources.**

**Objective 6** **Ensure the forest is managed to meet future needs and opportunities.**

There are four recommendations that OBAC believes will promote evolution and sustainable development of the forest sector and forest resources in the OBAC region. The recommendations are built on principles of a resilient and diversified economy and good quality of life. An overarching consideration is the need to ensure that the region's considerable forest and other environmental assets are not degraded and will continue to support the region's communities for generations to come. The recommendations are further developed with more than 20 actions that guide future planning and implementation of the strategy. The recommendations are:

| | |
|---|---|
| **Recommendation 1** | **Increase the benefits that communities can rely upon from forest resources and forestry.** |
| **Recommendation 2** | **Ensure that the forest sector remains a strong economic contributor to the region.** |
| **Recommendation 3** | **Recognize the pine beetle killed stands as a valuable asset which should be used to full potential before their commercial value is depleted.** |
| **Recommendation 4** | **Increase awareness and understanding of the long-term viability of the forest sector.** |

These recommendations and associated actions will promote needed change in the management of the region's forests, and the beneficial use of forest resources. They will also contribute directly to OBAC's overarching goal of community resiliency. Priority actions include:

- Provide all communities in the region with a more direct role in forest management and in the benefits derived from the region's forests;
- Incorporate community resilience considerations into major forest management decision making;
- Improve and enhance transportation infrastructure and services;
- Provide more equitable and diverse access for existing and new users of fibre;
- Increase the range of products generated from the region's forest resources. Start by determining which high value and locally wealth-generating products are best suited for production from this region's assets;
- Ensure that dead pine stands are managed in a manner which addresses both their economic and environmental utility;
- Create a positive and competitive business climate for bio-energy development through an integrated policy, regulatory, tenure, and pricing environment;
- Provide information to the public on the strength and importance of the forest sector and the collective efforts to grow future opportunities; and
- Grow the forests that we will need in the future with focused, large scale investments in a targeted reforestation program.

# Table of Contents

# 1.0 Community and Regional Aspirations for Development

## 1.1 Introduction

In 2005, the provincial government approached OBAC to determine what needs to be done to build a more diverse, stable, and resilient regional economy. What needs to take place to grow and expand the forest sector? What issues need to be addressed, and what solutions can the communities offer? What must be done to encourage a diversified, stable forest economy that continues to provide benefits over the long term both to the OBAC region and the province as a whole?

Most OBAC communities are highly dependent on the forest sector for employment and other benefits. In the past, many communities expanded significantly in response to the establishment of sawmills, and pulp and paper facilities.

OBAC communities recognize that they are reliant on these forests and therefore want greater input into their stewardship. The current model for the sector is too limited in scope, constraining both users of and uses for forest resources. The provincial government has increasingly come to recognize this. Commodity lumber and pulp and paper products dominate to the exclusion of almost any other products.

Current contributions from existing forest industries to the economy are significant. Between 2001 and 2005, direct revenues to the three levels of government from forest sector-related industry averaged $3.2 billion per year. Indirect benefits are much higher and include secondary and tertiary employment, goods, and services.

Today, there is a common perception that narrow interests control the forest resource in the region, and that a smaller and smaller pool of major licensees controls access to most forest resources. Informal analysis[1] reports that less than half of the provincial harvesting is conducted under major licensee agreement. Equitable access to the forest resource is an important and contentious issue. Apportioning annual allowable cut (AAC) among tenure holders is an important role for the BC Ministry of Forests and Range (MFR) through its apportionment system. [2] At the same time that OBAC communities are questioning their role in the region's forest sector, significant internal and external influences are acting upon the region. These include the impacts of climate change and the MPB epidemic, global market conditions, and the changing role of forest ecosystems in our society.

Recently, there have been a number of significant changes to enhance access to forest resources. This has resulted in tenures for community forests and First Nations, creation of the BC Timber Sales program, and opportunities to provide biomass-generated electricity to BC Hydro.

The Forestry Revitalization Plan released in 2005 by the BC Ministry of Forests, recognizes that, *"fundamental changes are urgently needed so that BC's number one industry can continue to provide benefits to the people of this province"*. Communities of the region recognize the value of the current model, and how it has evolved into its current state.

Figure 1 represents the potential future forest sector for OBAC communities, demonstrating a stronger, more diverse forest industry.

1 Council of Forest Industries

2 BC MFR apportionment information available at www.for.gov.bc.ca/hth/apportionment/tsas.htm

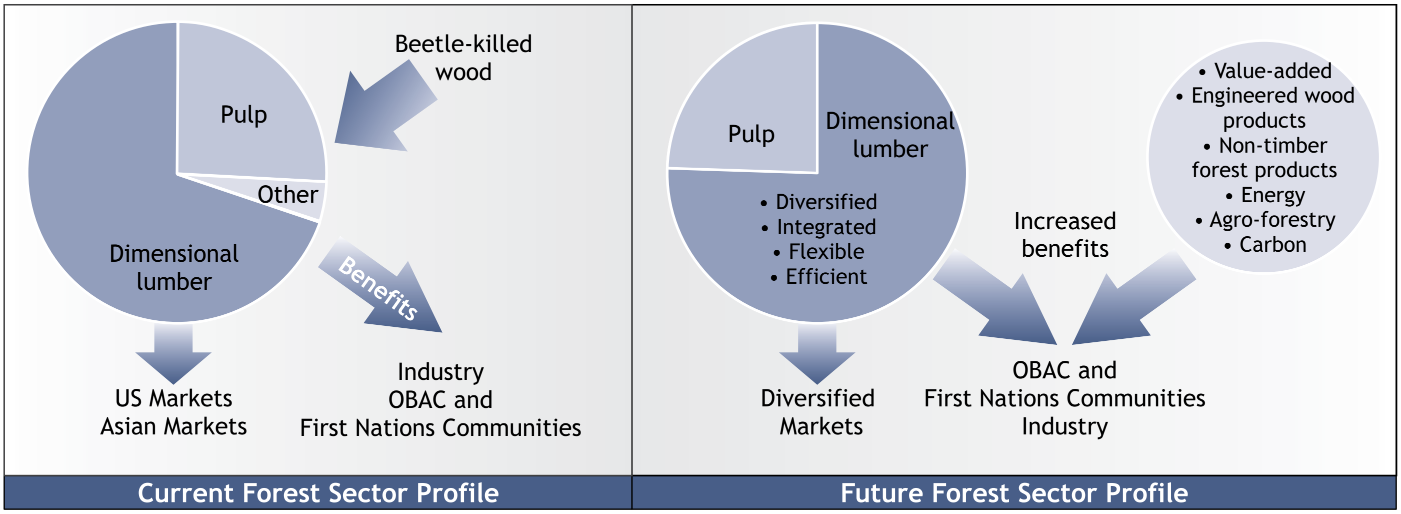


*Figure 1 Current and future forest sector profile for the OBAC Region*

## 1.2 A Model for the New Forest Sector

There is a need to develop a more diverse forest sector that will allow new entrants to the forest industry to obtain the fibre they need, while maintaining and expanding the benefits that flow from existing participants in the sector.

Many OBAC residents believe:

> *We are all in this together. We live here, and we have a vested interest in seeing the forest resources of our area managed in the best way possible. We know the current difficult circumstances and issues that face the forest sector, and we want to help create a future with a stronger sector which will continue to be a major producer of wealth for the region.*

This closely echoes the approach that the province outlined in its 2005 Forest Revitalization Plan:

> *Today, government is taking a new approach by introducing comprehensive reforms that will open up opportunities to more British Columbians. These reforms will help build a more diverse forest sector that will allow timber to flow to its highest and best use within BC. As the forest sector becomes more able to compete successfully in global markets, it will create more stability for BC's forest-based communities and more opportunities for those living in them.*

The Minister of Forests and Range, Hon. Pat Bell, has laid out a number of key initiatives for the future forest sector. These initiatives include maximizing the growth opportunity of our forests, and maximizing value from our forests. OBAC welcomes these and other initiatives that the Province has undertaken.

OBAC communities envision a diverse forest sector that: builds upon the sustainable use and regeneration of forests; produces a diverse range of timber and non-timber forest products; encourages a diverse range of business models and partnerships; balances the need for quick response to changing forestry and market circumstances with the need for business certainty; operates under regulations that cultivate innovation; and continues to manage the forest resource for all forest values including ecological and cultural wellbeing.

There is regional consensus that the forest sector needs to change substantially over the next 20 years. This is in part the result of the MPB epidemic, but also reflects the need to revitalize the sector. Current rules, regulations and policies are seen to limit access to fibre or new and better uses of the available resources. However, there are no simple fixes to these complex issues. It will be incumbent on the forest sector, communities, stakeholders, and all three levels of government to strengthen and diversify the forest sector.

The communities want to ensure that regional infrastructure including transportation, energy, communications will allow the sector to develop and strengthen.

In the mid-term, the region's huge supply of fibre resulting from the MPB epidemic must be used to its full potential. Originally estimated to hold its value for less than three years, some regional mills are processing logs from stands killed nine years ago. The production of dimensional lumber and other traditional products will be possible for much longer than originally anticipated. This resource also provides major opportunities to other users of wood fibre such as pellet plants and bioenergy/cogeneration producers. There may be a continued expansion of the bioenergy sector from wood over the next ten years. The sector also needs to move toward production of high-value wood products to better diversify the regional economy when beetle killed stands are no longer viable.

The current forest sector operates within the local, provincial, national and global economic demands and constraints. Climate change and its influence on forest management and the effects on building viable and sustainable businesses is also an extremely important factor. The mountain pine beetle epidemic is the most widely recognized result of climate change in BC. To play their part in the future of the OBAC communities, the new forest resources sector must be more diversified and integrated to address the global challenges and climate change. It is envisioned that the new forest resources sector would consist of primary wood products producers (e.g., lumber, pulp and paper, panel board, and bio-energy/bio-fuels), secondary wood products producers (e.g., log homes, remanufactured products, wood chemical products, and designer furniture), non-timber forest products producers (e.g., botanical and mycological products, ecosystem services, recreation and tourism), all integrated as a sector that also supports excellent environmental stewardship.

### 1.3 Attaining the Regional Vision

The provincial government plays a critical role in the future success of the forest sector. Provincial leadership and direction will help address a number of key issues and uncertainties constraining development and diversification of the forest sector. An explicit government energy policy regarding bioenergy is particularly important as it could remove many of the obstacles to the development of this important opportunity. Other key areas include access to forest resources, infrastructure development, and integrated and efficient approaches to the management of natural resources.

### 1.4 Strategy Objectives

The Future Forest Products and Fibre Use Strategy has been developed with four key components:

1. Vision – the values and ideals for the region;
2. Objectives – highlight the key issues raised and add depth to the Vision;
3. Recommendations - measurable steps that, taken together, lead to meeting objectives; and,
4. Actions – specific tasks with general time frames and responsibilities that must be undertaken in order to achieve the objectives.

The communities of the OBAC region envision a diverse forest sector that:

- Builds upon our strength in the sustainable use and regeneration of forests;
- Includes the production of a diverse range of timber and non-timber forest products, encouraging a diverse range of business models and partners;
- Balances the need for quick responses to changing circumstances and opportunities in the forest and in markets and, the need for business certainty;
- Operates under a regulatory environment that cultivates innovation;
- Continues to manage the forest resource for additional important forest values like ecological services and cultural values.

To accomplish the desired vision and achieve responsible and sustainable growth in the region's future forest products sector the objectives presented below must be met:

| | |
|---|---|
| Objective 1 | Increase community benefits from forest resources. |
| Objective 2 | Diversify and strengthen the forest sector. |
| Objective 3 | Form stronger working partnerships and communication among First Nations, local communities, government, and the forest sector. |
| Objective 4 | Increase the ability to train and retain the required work force. |
| Objective 5 | Create a climate of ownership and pride in the region's forest resources. |
| Objective 6 | Ensure the forest is managed to meet future needs and opportunities. |

# 2.0 Forest Products Sector Profile

## 2.1 Introduction

The forest products industry is the major contributor to the regional economy (see Table 1). The sector has responded to the significant challenges posed by the MPB epidemic by investing significant capital into new milling capacity and shifting the focus of its operations to process dead pine. Regional mills are some of the largest and most efficient mills in North America. Products are mainly lumber, pulp, paper, panels and pellets.

The Ministry of Forests and Range is responsible for the issuance and administration of forest tenures and permits to the forest industry on Crown land, the selling and pricing of Crown timber, and providing the framework under which forest management occurs. While the Ministry has an interest in the success of the manufacturing side of the industry, it has no mandate to become involved with the manufacturing or marketing of timber products, which are undertaken by industry organizations. However, one of the purposes of the MFR is, "to encourage a vigorous, efficient and world competitive timber processing industry in British Columbia".

The traditional forest sector is comprised of companies that manage forest lands (mostly through Crown forest tenures), harvest timber, use and process timber, and companies that provide forestry-related services. There is some private managed forest land, federal lands under Indian Reserve, and non-industrial forest land, but these are small relative to the almost 18 million ha of Crown forest land base in the OBAC region.

The region's forest sector includes:

- large, integrated forest companies that manage forest lands, harvest or purchase timber, and manufacture forest products including dimensional lumber, pulp and paper. This is the largest group in the forest sector in terms of capital investment and employment. This group also acquires timber from BCTS and private woodlot owners;
- mid-sized companies that harvest or purchase timber for manufacturing;
- Specialty companies that manufacture products that do not use logs as their primary source of raw material. An example would be pellet or board manufacturers. These companies typically purchase their supply or have a supply arrangement with one of the larger forest companies;
- Logging contractors and market harvesters that log for forest companies. They compete for timber sales that they harvest and sell to primary manufacturers such as sawmills. This includes economic development opportunities for First Nations through Forest and Range Opportunities (FROs);
- Communities and smaller companies or individuals that maintain Community Forest Agreements (CFA) and Woodlot Licences. These area-based tenures are managed according to their individual management plans. Wood from these tenures is sold to primary manufacturers, although there are at least two CFAs that have their own manufacturing facilities (Cheslatta and Burns Lake). Other wood and non-wood products may be extracted/harvested from these licence areas, providing revenues to the tenure holder(s);

*Table 1 Forest Sector Contributions to the Local and Provincial Forest Economy*[a]

| | Nadina Forest District | | Prince George TSA (Prince George FD, Fort. St. James FD, Vanderhoof FD) | |
|---|---|---|---|---|
| **Economic Indicator** | **% of Nadina FD** | **% of total BC** | **% of PG TSA** | **% of total BC** |
| Gross Revenue | 47.6% | 2.9% | 22.1% | 13.4% |
| Net Regional Product Value | 59.5% | 3.0% | 36.4% | 14.4% |
| Royalties and indirect taxes | 83.7% | 3.6% | 53.8% | 16.1% |
| Gross Wages | 49.0% | 2.7% | 21.6% | 8.3% |
| Number of Employment Positions | 24.5% | 2.5% | 12.0% | 6.8% |

a Regional Economic Implications of the Mountain Pine Beetle Infestation in the Northern Interior Forest Region of BC, Natural Resources Canada, Pacific Forestry Center, Working Paper 2005-3, 2005

Forestry service sector companies that provide services to the forest industry and government;

- The Ministry of Forests and Range set forest policies for the management of the forest. They also undertake administration of timber tenures, timber use, stumpage, and other forest management mandates; and
- Communities that provide key infrastructure to the industry, and that house workers and the service sector.

Through the federal government, the Canadian Forest Service operates the Pacific Forest Centre research facility in Victoria. Both governments continue to contribute significant resources to addressing the social, economic and environmental implications arising from the MPB epidemic.

Supporting the forest sector are a number of research and development organizations. Universities and colleges carry out work in the realms of forest operations, forest products, product development and marketing. Ongoing wood products research is being carried out at a national level by FPInnovations - Forintek, while Forestry Innovation Investment (FII) Ltd. is a provincial government agency that supports marketing and product development of the forest sector.

## 2.2 Relationship with Other OBAC Strategies

This Future Forest Products and Fibre Use Strategy is one of twelve strategies being developed by OBAC with the assistance of working group members, industry, residents, and professionals in the relevant fields. The strategies will assess and build recommendations on sector or solution-specific opportunities and challenges. The other eleven priorities identified by OBAC include:

- Alternative Energy;
- Minerals and Mining
- Integrated Regional Infrastructure;
- Retention and Attraction;
- Agriculture;
- Conventional Energy;
- Social Services and Community Supports;
- Tourism;
- Regional Cohesion; Branding and Profiling;
- Emergency Response; and
- Regional Community Relationships.

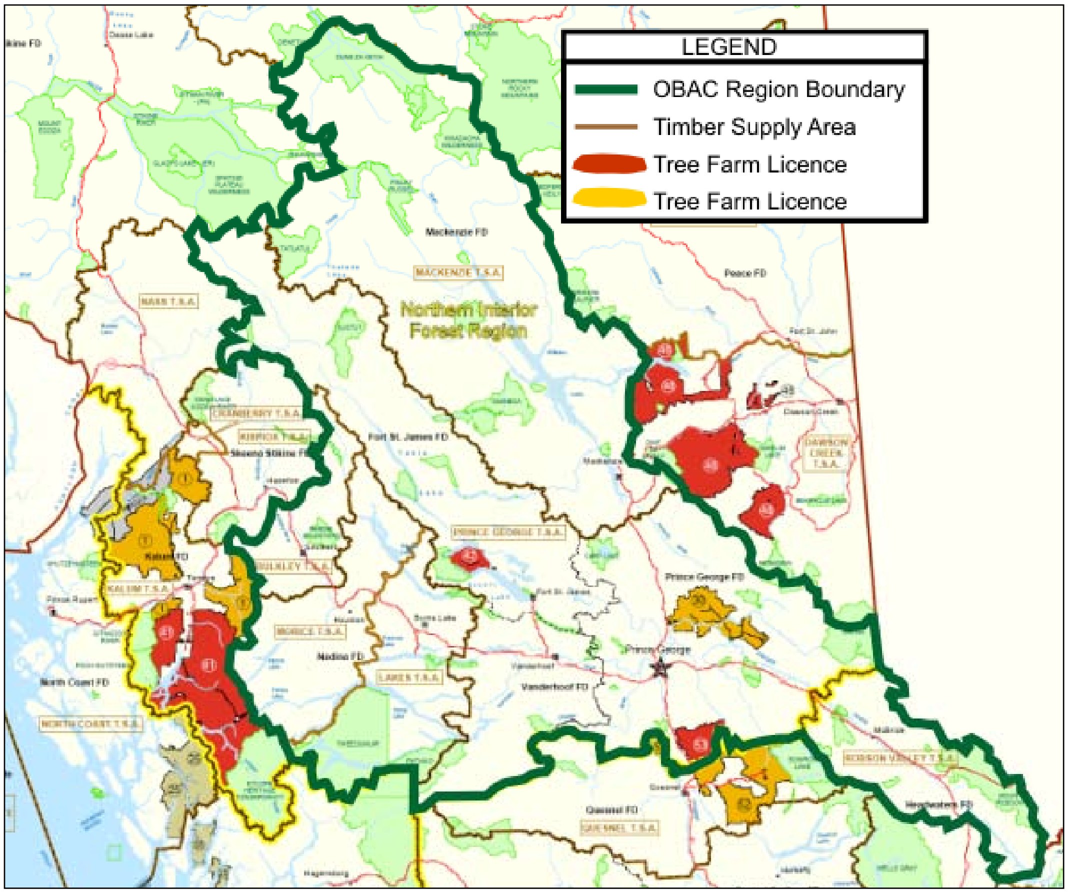


*Figure 2 Timber Supply Areas and Tree Farm Licenses in the OBAC Region*

## 2.3 Overview of the Forest Industry in the OBAC Region

The traditional forest sector is comprised of timber supply, commodities produced, mill type and location, transportation costs, and markets.

### *2.3.1 Timber Supply in the OBAC Region*

OBAC includes portions of Northern Interior and Southern Interior Forest Regions of the Ministry of Forests and Range. There are six Timber Supply Areas (TSA), three Tree Farm Licences (TFL), several Woodlot Licences (WL) and Community Forest Agreements. Most timber in region is harvested from the TSA land base (see Figure 2).[3]

Timber harvesting rights are provided through timber tenures. Within TSAs, the largest volume-based tenures are Forest Licences that were issued over time to forest companies. There are competitive Timber Sale Licences that are publicly available and competitively awarded under the BC Timber Sales Program (BCTS), as well as Non-replaceable Forest Licences which are issued to address short-term harvesting opportunities (such as Forest and Range Agreements with First Nations and beetle-wood salvage). There are other special Licences-to-cut and permits that are issued for short-term purposes, such as small-scale salvage of dead pine and clearing of highway rights-of-way. Volume-based tenures, such as Forest Licences, provide the right to harvest an annual volume of timber from within the TSA.

Tree Farm Licences (TFLs) are ‘area-based” tenures that provide exclusive management and harvesting rights for timber to the tenure holder (usually a forest company) within a designated

3 Base Map BC Ministry of Forests www.for.gov.bc.ca/hth/timten/images/tfl-regions-tsas-districts-map-350-dpi-sep-13-2007.pdf

licence area. The three TFLs in the OBAC region include TFL 30 (held by Canfor), TFL 42 (Tanizul Timber), and TFL 53 (Dunkley Lumber). The company is required to manage sustainably similar to the TSAs, and has some additional long-term responsibilities such as preparing management plans, inventories and analyses.

Woodlot licences and Community Forest Agreements are smaller area-based tenures that provide similar long-term forest management rights to the licensee as on TFLs. Woodlots are typically less than 1000 ha in size, while CFAs are up to several thousand hectares. The Burns Lake CFA is approximately 43,000 ha in area, while the Village of McBride CFA is almost 61,000 ha.

Generally, licence holders (usually forest companies) are required to conduct all planning, harvesting, reforestation, and forest management activities in a sustainable manner and pay a stumpage fee to the Crown for the timber they harvest. For timber sales licences, MFR undertakes all planning and reforestation work, while the licensee is usually responsible only for harvesting and stumpage.

Most of the timber harvest in the OBAC region is processed by facilities in the region, although there is a smaller flow of volume into and out of the region.

*Table 2 Average BC Interior SPF Log Prices 2003-2007 (dollars per cubic meter)[a]*

| Timber Product | Value Range ($ per cubic metre) | Volume (cubic metres per month for Oct - Dec) |
|---|---|---|
| Sawlog | $48 - $58 | 1,136,480 |
| Peelers | $72 - $82 | 61,626 |
| Poles/House | $84 - $105 | 1,346 |
| Minor Products | $30 - $36 | 3,028 |
| Pulpwood/OSB | $27 - $35 | 41,629 |
| Wtd. Average | $49 - $59 | Total: 1,244,108 |

a BC Ministry of Forests and Range: www.for.gov.bc.ca/hva/logreports_interior.htm

### 2.3.2 Timber value

Timber value depends on the tree species and physical attributes of the log. Tall, straight, large diameter live trees, relatively clear of branches and defects, are likely to produce high quality products. Typically the highest valued logs are used for poles, home construction, plywood, and sawlogs for commodity lumber. Lower quality logs are used for producing pulp. All above-ground woody materials can be converted into pellets or briquettes for residential or commercial heating. Timber stands typically include several tree species and produce a range log quality. A pine stand will typically be intermixed with some white spruce, Douglas-fir, or subalpine fir. Table 2 provides Spruce-Pine-Fir (SPF) log prices and average monthly volumes.

Beetle-killed pine stands lose value over time because of the blue staining from the beetle infestation and tree decay. Shelf life is the duration that a pine stand retains merchantable value for sawlog purposes. Shelf life is dependent on environmental, economic, and market factors.

Pine stand shelf life has significant implications for timber supply, and shelf life estimates are extremely contentious. The Ministry of Forest and Range's timber supply projections assume that half the volume of a beetle-killed tree is lost two years following death, and that volume is zero after the third year. These assumptions may be overly-conservative as some stands killed nine years ago are currently being harvested for sawlogs. Dead stands can be harvested for lumber and pulp for 3 to10 years, and for bioenergy fibre for up to 20 years. Provincial estimates may be providing a worst-case scenario, and OBAC residents need clarity regarding valid shelf life. Overly conservative estimates may breed pessimism about the viability of the forest sector, and hinder future investment.

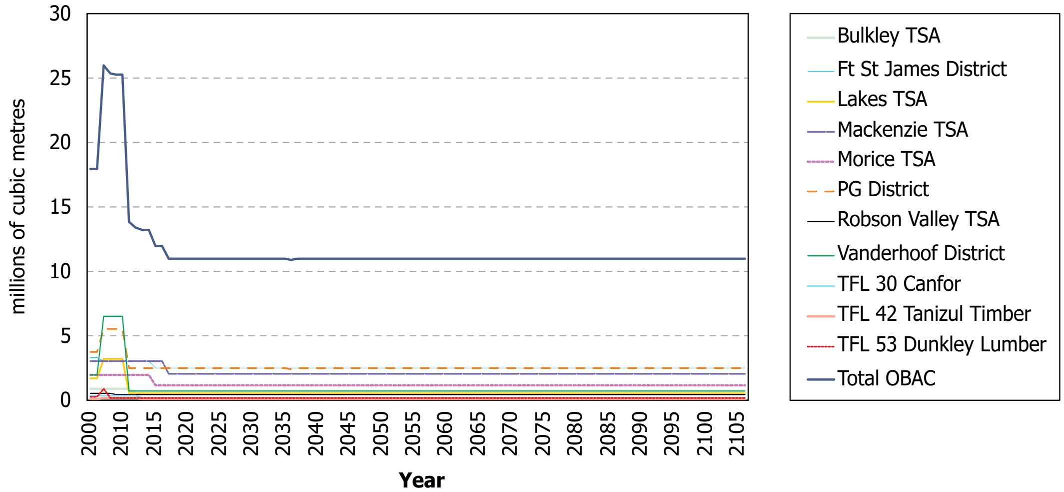


*Figure 3 Forecast for Allowable Harvest Levels in the OBAC Region*

### *2.3.3 Allowable annual cut in the OBAC Region*

The volume of timber available for harvest is largely derived from the allowable annual cuts for the region. The allowable annual cut (AAC) for TSAs and TFLs is determined by the province's Chief Forester under a process referred to as the Timber Supply Review. This process involves an analysis of the ability of the land to produce forest products while meeting environmental, economic, and social objectives.

Prior to the MPB epidemic, the allowable annual cut for the TSAs and TFLs totalled 17.9 million cubic metres per year in the OBAC region. Around 2002, with the significant expansion of the MPB infestation and the need to salvage as much of the dead pine as possible, AACs were increased to 26 million cubic metres per year. This currently represents more than 30% of the provincial AAC.

However, MFR timber supply predictions[4] suggest that, within 10 years, the annual harvest level will have to return to approximately 10.9 million cubic metres per year, once the pine has been salvaged or is no longer salvageable. This represents a 58% reduction from the current AAC and a 39% reduction from the pre-uplift AAC.

The future forest sector will face a number of challenges with respect to fibre supply. Some of these supply challenges include:

- **A significant reduction in conventional AAC expected.** Returning harvest levels to pre-infestation rates will significantly reduce the amount of fibre available. The Chief Forester has some flexibility with respect to how much the AACs drop and at what rate. However, the longer the uplifted AAC is maintained, the more the mid-term supply of timber will be reduced. Key to this decision is the shelf life of the dead pine. Key to lessening the drop in the AAC is to focus current harvest on dead pine and defer harvesting non-pine stands for as long as possible.
- **Changing timber profile.** There will be a shift in timber profile available for harvest in the mid-term (5-60 years). With most mature pine gone, harvesting will shift to spruce, subalpine fir and Douglas-fir, and some deciduous species. Spruce and Douglas-fir are valuable for dimensional lumber. Subalpine fir is less valuable. Using the higher-quality species to produce higher quality products could support more employment, and higher revenues from a smaller volumes.
- **Higher costs.** Stands available for future harvest will be further from mills, and will be on more difficult terrain to log. These higher delivery costs reduce the viability of the mid-term timber supply. Licensees may have to move operations closer to their timber supply.
- **Uncertain inventories.** The actual volume and quality of available wood in the mid-term is not clear. Many forest companies should have a good sense of what they will be dealing with, as this information will have been required for the recent mill upgrades, industry rationalization and positioning of new mills.

4 Ministry of Forests and Range, Forest Analysis Branch, February, 2008.

- **Stand rehabilitation initiatives.** Beetle-killed stands with healthy, well-stocked understories will not be harvested, as the value of the understorey to the mid-term timber supply will exceed the economic value that can be derived from harvesting the dead overstorey. This will reduce available supply.

### *2.3.4 Apportionment of timber harvesting by company*

The allowable annual cut on TSAs is “apportioned” to forest companies that have timber tenures with annual harvesting rights, BC Timber Sales, and well as other salvaging projects overseen by the Ministry of Forests and Range. The current apportionment for each forest company is provided in the appendix.

### *2.3.5 Harvest Levels and Stumpage Paid*

The OBAC region is a major contributor to the overall harvest and stumpage revenue for BC. Forest companies harvested between 18 and 24 million cubic metres per year over the last six years. More than 70% of this was pine. This harvest contributed $300 to $400 million per year in stumpage revenue. The harvest trend had been upward until 2007, reflecting the high salvage of beetle-killed wood. The 2007 harvest tapered off, reflecting the depressed lumber markets. Actual harvest levels have been significantly lower than the uplifted AACs. Appendix C provides a summary of timber volume harvested over the past several years.

### *2.3.6 Manufacturing Capacity*

The OBAC region has a very robust and efficient forest products manufacturing sector. Home to some of the world’s largest and most advanced facilities, the region manufactures about one third of BC’s forest products. Processing plants include sawlog consuming mills and residual fibre consuming mills, with a small number of value-added facilities. The mills and their capacities are listed in Appendix E and F.

For 2006 (the last strong year within the forest products sector), production in most mills was approximately 95% of capacity. Sawlog consuming mills used 25.1 million cubic metres of timber. Fibre consuming mills used approximately 8.8 million cubic metres of residues and chips from the sawlog mills. Fibre consuming mills are reliant on fibre from the sawlog consuming mills. However, in order to augment the supply of wood chips, two whole log chip plants are currently operating at Canfor Prince George and Dunkley Lumber. These plants are operating in 2008 due to the shortage of chips from sawmills that are currently curtailed due to depressed lumber markets.

By early 2008, several primary mills have closed due to poor market conditions. Compared to 2006, the primary log manufacturing sector appears to be operating at about 55-60% of capacity.

## 2.4 Future Forest Products

Currently in the interior, about 45% of a log goes into lumber, boards, pallet stock, and furniture millwork, 45% goes into pulp chips, fuel pellets and hog fuel, and 10% goes to plywood, utility poles, log homes, pulp logs and firewood. [5]

Current products include:

- lumber (25 large mills, 1 hardwood mill, several small regional mills);
- veneer and plywood (1 mill);
- particle board (1 plant);
- posts and poles (a few small plants);
- chips (4 large whole log chipper facilities);
- pulp and paper (7 plants);
- pellets (bioenergy) (3 plants);
- power co-generation (bioenergy) (hog fuels)
- finger-jointed lumber (1 plant)
- log homes (a few small operations).

5 Manufacturing Challenges and Technological Solutions, presentation by Ian de la Roche, FPInnovations, 2007

The forest products sector will likely continue in the same line of products, with the possible emergence of bioenergy as a new use for dead pine. Forest companies have chosen to invest heavily in upgrading the existing plants and creating the super-mills.

There are no large-scale high value-added plants in the region. The region has a number of log home builders and craftsmen that add value on a small scale.

New product lines under consideration:

- Bioenergy – electrical energy and thermal energy generated from woody biomass.

  Bioenergy uses fibre that would otherwise go unused. It has reduced greenhouse gases emissions and lowers our dependence on fossil fuels. There is great potential for use in the domestic marketplace through fuel switching and steam generation. Challenges include securing a reliable, affordable source of fibre, and sale of surplus power to BC Hydro.
- Fuel Pellets – pellet plants now have the capacity to produce pellets from a broad range of fibre sources including mill residues (planer shavings, saw box fibre, dry chips, and pin chips) and roadside debris from harvesting operations. Challenges include securing a reliable, affordable source of fibre.
- Refer to Appendix H for more information on bioenergy.
- Engineered wood products
  - Plywood
  - Oriented Strand Board (OSB)
  - Glue laminated timber and beams
  - Laminated Veneer Lumber (LVL)
  - Parallel Strand Lumber (PSL)
  - Finger Jointed Lumber
  - I-Joist/I-Beams
  - Roof Trusses
  - **Finished products**
  - Cabinets
  - Factory built and Pre-fabricated structures
  - Furniture
  - Hardwood flooring
  - Millwork
  - Remanufactured products, such as door and window stock, treated lumber, shakes and shingles, decking, veneer
  - Door and window trim
  - Log homes
- Exterior wood products
  - Cedar siding
  - Shakes and shingles
  - Decking
  - Fence materials
  - Whole pole products
- Composite products
  - Medium density fibre board (MDF)
  - Particleboard
  - Wood fibre cement board – already in production in some parts of BC
- Structural products
  - Solid timbers
  - Forest Bioproducts and biotechnology – New and emerging technology and opportunities appear to be developing such as the extraction of ligno-cellulose from wood fibre, which some researchers believe can be a substitute for other building products such as steel. Opportunities and challenges are unknown.
- Other forestry related opportunities include:
  - Non-timber forest products. Products from the forest have always been an opportunity, such as floral greenery, mushrooms, herbal health and other commercial non-timber forest

products. The opportunities and challenges are not known for the OBAC region and require further investigation beginning with a comprehensive GAP analysis of existing information.

- Carbon credits and cap-and-trade. The world of carbon credits and the cap-and-trade systems are still evolving in BC. The opportunity and challenges are not known. The federal and provincial governments are developing standards that will inform the development of greenhouse gas offset from forest management.

## 2.5 Key Institutions and Capacities in the Region

**College of New Caledonia:** With campuses throughout the OBAC region, the college offers courses in forestry, applied science (engineering), power engineering, and other technical courses. Web site: www.cnc.bc.ca

**Energy Centre of the North:** The Centre, based in Houston, is under development and will offer training in energy efficiency, green building and energy systems. The Centre envisages providing energy audits, community energy planning, information on grants and related issues. Presently, only the energy audits are offered since federal funding for other activities was discontinued. The Centre is currently run by voluntary staff. Web site: www.cfdcnadina.ca/html/environment/energycentre/

**Northwest Community College:** Serving OBAC's Houston and Smithers communities, the college offers training for trades, such as electrician, millwright, or power equipment technician. Web site: www.nwcc.bc.ca

**Resources North Association:** Combining the Integrated Resource Management Partnership of Northern BC and the McGregor Model Forest Association, this association addresses forest management and sustainability for communities in the McGregor Model Forest including First Nations in this area. Resources North Association was formally launched in 2007 at the same time that the model forest program concludes its 15 year history. Web site: www.resourcesnorth.org

**The University of Northern BC:** UNBC has faculties in Ecosystem Science & Management which includes the Natural Resource Management-Forestry program, Environmental Engineering, Environmental Planning, Environmental Sciences, and features the Ike Barber Enhanced Forestry Lab. UNBC collaborates with the John Prince Research Forest and the Aleza Lake Research Forest, and with the University of BC. Web site: www.unbc.ca

## 2.6 Forest Products Commodity Outlook

The following is a general overview of the current forest products sector.

- In 2006, 41% of BC's commodity exports consisted of forest products. This is down from more than 60% in the early 1990s. Compared with other provinces, BC is far more reliant on the forest sector for commodity exports.[6]
- About three quarters of BC's solid wood product exports are destined for the US.[7] For paper and paperboard, the figure is similar (75% to 80%), while between 50% and 60% of exported newsprint is shipped to the US. Only about a quarter of BC's pulp exports are shipped to the US.
- Canada is losing market share in the US. There is increased competition from China, South America, and Europe.[8]
- Given its concentration on the US market, recent downturns in the US economy, particularly the housing slowdown, are having severe repercussions for forest companies in BC.
- Pricing is expected to remain weak for commodity forest products. Lumber and panel markets are weak due to the depressed housing market in the US. A weak US economy will result in the continued depressed conditions through 2009.
- The Canadian dollar exchange rate has important implications. A strong Canadian dollar hurts exports that have until recently had a market advantage with a low Canadian dollar. Recently

6 BC Stats: www.bcstats.gov.bc.ca

7 Ibid.

8 Ibid.

the Canadian dollar has retreated somewhat, with the mid-term expectation of a Canadian/US exchange rate of CDN$1 to 85 cents US.

- The softwood lumber agreement sets export taxes on lumber when prices fall below a certain level.[9]
- The province's forest sector must continue to court other markets for its products. The new container handling facility at the Port of Prince Rupert is an opportunity for companies in the OBAC region to expand their markets in Asia. Diversifying their customer base will help avoid a prolonged economic downturn in the sector, as well as soften the blow from any future disputes with the softwood lumber industry in the US.

## 3.0 Recent Forestry Initiatives

There have been a number of key initiatives affecting the OBAC forest sector in recent years. These initiatives include changes affecting how logs are graded and stumpage paid on use of beetle-killed timber, initiatives to salvage beetle-killed timber, and reviews of timber supplies and uplifts to harvest rates to allow for the salvage of timber.

A comprehensive list of national, provincial, regional and local forest initiatives are included in Appendix G.

### 3.1 Forest Revitalization Plan

In March 2003 the provincial government introduced a series of policy measures aimed at moving the tenure system towards a more market-based system through the Forest Revitalization Plan (FRP). The goals of FRP included opening the sector to new opportunities, new entrants, and new ideas, eliminating the regulatory burden and allowing the right sizing of operations to increase competitiveness, and allowing timber to flow when and where it will be put to highest and best use.

FRP saw the take-back of 20 percent of the AAC from major licensees and reallocation to new small tenures, First Nations, and BC Timber Sales. The intent was to help create a larger log market, make more volume available to new businesses, allow more harvesting flexibility, and to create market pricing for BC timber.

### 3.2 Log Grade Changes in the BC Interior

In 2006 the MFR introduced new log grades for the interior to better reflect the quality of the MPB-affected timber being harvested. While this change in log grades may reflect the value of the timber more accurately, it may remove the incentive for companies to harvest in lower quality MPB-killed stands.

### 3.3 MPB Salvage Program

In 2005 and 2006 MFR awarded large-scale salvage licenses for the recovery and processing of MPB-killed timber in exchange for building new processing facilities. These salvage licenses were awarded following large AAC increases in portions of the OBAC region, including the 5 million m3 increase in the Prince George TSA. The intent was that the licensees would build new processing facilities to use the volume that they would harvest. The Ministry also initiated the Small Scale Salvage program to allow for prompt salvaging of small patches of timber.

### 3.4 Timber Supply Review

The Ministry undertakes a review of timber supply on all TSAs and TFLs at least every five years to determine the AAC. This process reviews the latest and best information available for inventories, growth conditions, competing uses on the land, environmental, social, and economic objectives of the Crown.

9 Ibid.

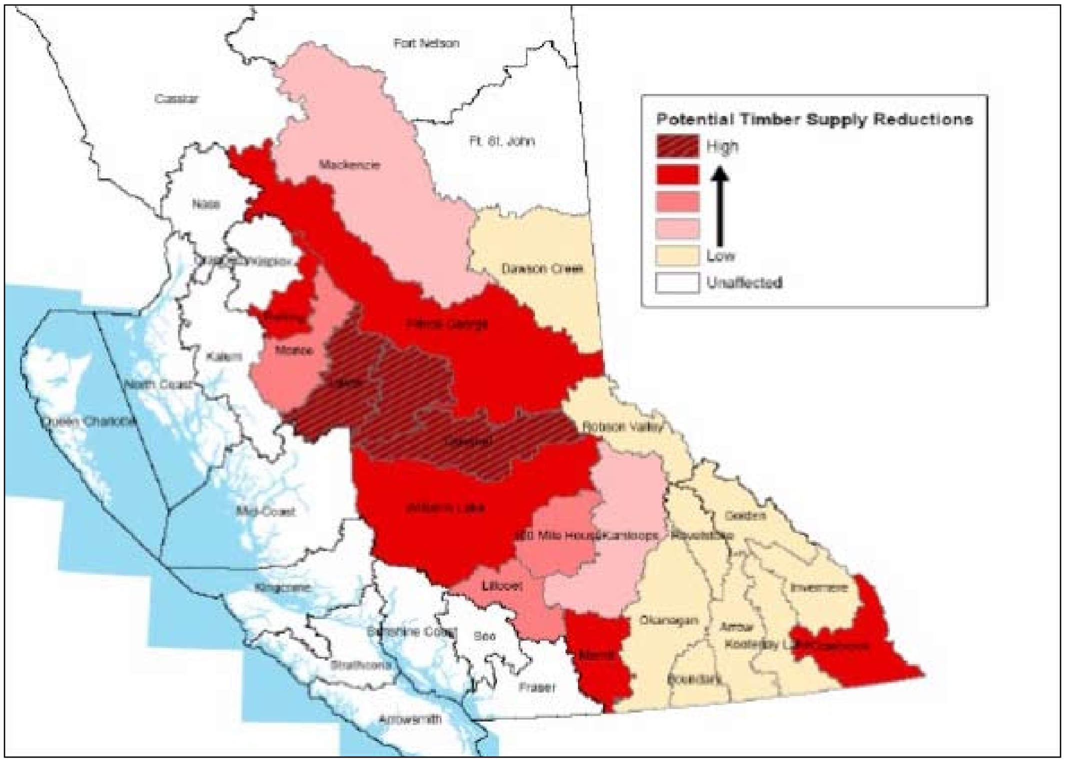


*Figure 4 Estimated Supply of Timber For Harvesting[10]*

In 2007, the Ministry reviewed 20 TSAs affected by the MPB epidemic to reassess the expected impact on mid-term timber supply.[11] There is uncertainty about how the infestation will proceed, the mortality in younger stands, dead pine shelf life, and how much harvest will be directed to beetle-killed stands. It is estimated that the MPB epidemic will have killed more than one billion cubic metres of pine by 2015.

The analysis indicated that timber supply could start declining in some TSAs within four to five years. Short-term timber supply is highly dependent on pine shelf life. There is enough volume in beetle-affected stands to maintain uplifts longer. This assumes that the beetle-killed pine has a longer shelf life than assumed in the original MFR analysis.

10 Konklin, D. Mountain Pine Beetle Shelf Life and Timber Supply, COFI Convention. April 12, 2007.

11 Timber Supply and the Mountain Pine Beetle Infestation in British Columbia 2007 Update, BC Ministry of Forests and Range, Forest Analysis and Inventory Branch, 2007

## 4.0 Forest Sector Opportunties and Challenges

**Overview**

Forestry is expected to remain the most important contributor to the economy of the OBAC region. There are no “silver bullets” for solving the challenges of the forest sector, but there are certain actions that can collectively assist in developing and encouraging a healthier and more productive forest sector.

It is important to ensure the traditional forest sector remains strong while working towards industry diversification. This may mean developing more profitable products and revenue streams even when commodity prices for current products are low. To attract new investment dollars to existing businesses, it will be important to advocate for policies and regulations that provide certainty, reduce risk, and allow for reasonable returns to investors.

The forest products sector in the OBAC region is one of the largest and most efficient in North America. The highly-valued timber species, large volumes available, and established markets keep the sector competitive, even with weak market conditions. Recent initiatives by the provincial and federal agencies to diversify BC’s wood products and their markets (by expanding forest products sales into Asia) are welcomed. For example, Forest Innovation Investment and the British Columbia Institute of Technology have partnered to build and showcase BC wood-frame housing in Mongolia, Shanghai and Chendou. A new booklet Tackle Climate Change, Use Wood, [12] produced by FII, the Forest Products Association of Canada and the BC Forestry Climate Change Working Group seeks to inform global markets about BC forests and how they produce renewable, climate-friendly products that sequester carbon.

**Retention and attraction of workers**

The regional forest sector benefits from its valuable pool of skilled workers. Generally well-paid, these workers contribute significantly to the provincial economy. However a large portion of these workers are nearing retirement. There is a significant need to prevent widespread loss of skilled forest workers from the region. Their skills and expertise must be fully harnessed in any succession planning activities. A cultural shift is needed that builds on a long-term, sustainable vision for the forest sector. It is very important to dispel the potential perception that the forest sector is a twilight industry. Forest practices have advanced significantly and the forest sector is world-class in terms of its forest practices, business efficiency, and cost reduction. Advances in technology and reductions in environmental impact should be widely communicated. Conveying the long-term viability of the sector, and encouraging workers to pursue forestry careers requires leadership from all levels of government and the forest industry. We need to encourage the existing labor force to remain working and resident in the region. There are services in place to assist workers impacted by the current downturn in the forest sector. However these services need to be better communicated to those in need of assistance, both in terms of what the programs and services are, and how workers can access them. Involving senior workers in training programs is an effective use of their skills. First Nations communities present a major opportunity for sourcing future skilled workers from the region with a knowledge of and affinity for the region and its resources.

Access to education, health care, recreation facilities, and other services are also key to quality of life for residents of a community. These are vital to retention and attraction of residents.

**Recruitment of Professionals**

There is a looming shortage of forest professionals over the short- to mid-term. Declining enrollment at post-secondary forestry programs, coupled with an increase in forest professionals retiring has resulted in a serious shortage of new recruits moving into the sector. As the numbers of enrollees continue to drop many schools have been forced to close or suspend forestry and wood related programs. Significant efforts must be made by the forest sector, professional associations and the provincial government to promote the benefits of natural resource professions and the long-term viability of the forest sector as a place to work.

12 www.bcforestinformation.com/assets/pdf/tackle-climate-change.pdf

**Higher value products**

It is important to encourage further evaluation and establishment of higher-value wood products. It will be critical to identify products that make best business sense, what barriers and incentives exist, and who is best suited to manufacture them.

**Encouraging investments and new markets**

Incentives could be offered to industry to encourage investment into new product lines and help cover the risks, including:

- funding assessment of potential new product lines; research into new product lines, processes and markets that supports the sector;
- establishing a tax structure, particularly municipal property tax rates, that is more in line with competing jurisdictions;
- evaluating the opportunity for tax credits or similar tax breaks for investing into new equipment; and
- supporting employee training and development at all levels, including apprenticeships, technical training, and management training.

**The right log to the right mill at the right time**

Forest companies and BC Timber Sales should strive to find ways to optimize the flow and use of the fibre resource. A value chain approach would help to achieve the most efficient use of the fibre by ensuring that the right log gets to the right mill at the right time. This approach would assist new businesses in joining the sector. This approach would require closer working relationships between various participants and for all parties to pay market price for forest resources. This is a complex issue given the inherently competitive nature of business, and existing anti-competition laws. Key is to encourage partnerships between fuelwood users and major licence holders who already have access to the suitable fibre via their AAC apportionments.

**Timber supply**

Perhaps the biggest challenge facing the existing forest sector is the shrinking supply of economically viable timber to support the solid wood industries. There is likely to be a large gap between available supply and mill capacity in the very near future which may lead to the permanent closure of a significant portion of current milling capacity. There is a potential for the AAC to be cut more than 55%. This reduction has the potential to seriously jeopardize the residual wood consuming industries (pulp, paper and pellets) as well. The loss of jobs and infrastructure to support the remaining wood consuming sector will be significant.

Other challenges include:

- Decreasing value of beetle-killed stands;
- Distance and cost to deliver lower-valued timber to existing mills;
- Proximity of supply to mills and to markets;
- Matching product needs to fibre availability – the right log to the right mill at the right time; and
- Need to quantify mid-term supply and potential reduction in AAC.

There are a number of ways to forestall the drop in the AAC as long as possible and lessen the impacts. It may be beneficial to phase in sequential, stepped AAC reductions that allow time for industry to adjust. Consider partitioning the AACs for low quality wood and beetle-killed pine to limit harvest of healthy stands that will form the main component of the mid-term supply.

There are a number of strategies that could be developed to extend the shelf life of beetle-killed timber, and thus the harvest rates. This includes techniques to retain lumber value and broaden the types of products manufactured. It may be important to prioritize and optimize the harvesting of dead pine stands so that opportunities are not missed by harvesting stands out of sequence. A timber pricing structure that encourages the use of dead pine may need to be established. Forest tenures could be introduced for businesses that wish to use the beetle-killed pine.

It is critical to bolster the mid-term timber supply through prompt silviculture rehabilitation of beetle-killed stands and increase growth rates for young trees.

There is a need to identify what species we should plant for the future. Future opportunities may favour fast-growing deciduous trees over slow-growing conifers. What extent should we focus on biomass energy, which could be one of the lowest value products available from the forest by today's standards, but could be one of the highest values in the future? Consideration should be given to commissioning studies to identify future forest products.

**Uses for waste wood, chips and residual fibre**

Until recently the pulp and paper sector has been the only real consumers of residual fibre, usually as wood chips. However, with the advent of pellet mills and co-generation plants, there are now three potential consumers of these residues. Significant opportunities exist to expand the biomass-fuelled energy sector. However, competing for the residual fibre that currently sustains the regional pulp and paper industry could result in the collapse of that sector with the potentially higher costs for the fibre. A review of current and future fibre supply and its consumers, and energy needs and pricing must be considered when promoting any new, competing uses for residual fibre.

Low-value beetle-killed pine will be important for bioenergy. In addition, the availability of the roadside woody debris is a significant opportunity for bioenergy that needs further evaluation to determine how best to encourage its use, to identify the barriers to its utilization, and find mechanisms to facilitate its use.

Harvesting operations typically result in woody debris being piled adjacent to roads. This debris is a mix of unmerchantable logs and logging waste, tops, and branches. These piles are a potential source of woody biomass being considered for use for bioenergy.

It will be important to test and evaluate cost effective techniques for biomass recovery. There is potential for remote biomass collection and processing facilities, portable chippers and biomass collection systems.

Currently there are few incentives for using woody biomass. High capital costs and lack of security over raw materials are barriers. Identifying a secure fibre source is difficult as most of the current AAC has been allocated to existing tenure holders. Raising the price paid for biomass-generated energy to attract investment should be considered.

OBAC communities are looking to the Province to clarify policy and direction regarding residual fibre use. They envision commercial opportunities to use the large volumes of dead wood in their region, and they want the province to kick-start (not subsidize) this initiative. They want to maximize the economic and social values accrued from this resource. The recent BC Timber Sales initiative to provide licenses for beetle-killed stands with the objective to improve usage and minimize waste is welcomed.

Encouraging complementary uses of the fibre resource is key. There must be fairness, cooperation and cost-sharing between businesses using fibre. As long as it makes business sense, major licensees will work with smaller businesses seeking fibre. BC Hydro's energy pricing policy is key to the future of this enterprise. Currently sawmilling operations are constrained in how they manage their unwanted material. The sector needs a fibre expediter to help create beneficial relationship between primary and secondary users of fibre.

**Infrastructure**

The forest sector relies heavily on regional and provincial transportation and energy infrastructure to access forest resources and transport goods to market. A good road, rail, and energy network is vital for good commerce. Provincial investment in infrastructure is key. Serious consideration must be given to accelerating the rate and scope of upgrades to the Highway 16 and 97 corridors.

In some rural and First Nations communities energy infrastructure is a pressing issue. In the absence of BC Hydro, communities generate their own electricity using diesel generators. There is an opportunity to use dead pine and woody debris to produce power and potentially supply BC

Hydro if the Province provides leadership. Power lines and, in some cases, upgraded substations are needed to make this a reality.

**Rail service**

The OBAC region is vast, with long distances between communities. Rail forms a vital link between these communities and the rest of the continent. Most commerce in the region relies on rail service in some way or other – from raw materials to finished products. The forest sector relies heavily on rail service to get its goods to market. In a highly competitive market, companies are challenged to deliver their products in a timely, efficient and reliable manner. Late delivery is costly.

There is a need to improve in the quality of service currently being provided by CN Rail. There are ongoing issues related to service reliability, as CN sometimes does not meet deadlines for rail car delivery. This is costly for business, as scheduled labour and equipment are left idle. When rail cars deliveries are unplanned, the labour and equipment for loading may not be available. Subsequent delays in loading cars result in fines levied by CN against the manufacturer.

Forest manufacturers also face challenges with the lack of sufficient numbers of rail cars – both box and center-beam types –to meet their demand. This means that businesses cannot fully capitalize on robust market conditions, reducing the net value of the products over time. When deliveries are delayed or more costly than they should be, the forest sector reputation suffers, which jeopardizes potential future sales.

Reliable rail service is strategically important to the economy. There is a demonstrated need for federal and provincial governments, CN Rail and rail users to find solutions to these challenges. There has been a concerted effort in recent years by the Shipper' Summit, a coalition of Canada's largest users of rail services, to effect change. The coalition seeks to improve rail service, in part through competition.

**Climate Change Initiatives**

Opportunities may be presented with the new provincial Climate Change Initiatives. In particular, the sector may benefit from:

- Carbon credits from managed forest sinks that are surplus over "business as usual" (likely only available on private lands);
- The cap and trade systems whereby forest companies that have reduced greenhouse gas may be able to market surplus carbon allowances; and
- Marketing the carbon neutral aspects of forest products.

**Non-Timber Forest Products**

Non-timber products such as floral greenery, mushrooms, herbal health, and berries have always been an opportunity for the region. A study of the potential should be commissioned, similar to one done in the Cariboo in 2005.

**Markets**

There are a number of market factors that the forest sector has little control over, yet have a significant influence on the OBAC region, including:

- Cyclical demand for wood products, which is currently low;
- Reliance on the US market and the need to develop new markets and increase market share in such export markets as Japan and China;
- Exchange rate, which affects the export values;
- Cost of transporting products to market;
- Softwood Lumber Agreement, which is a US market access barrier and can cause issues relating to perceived subsidies to industry.

## 5.0 Land and Resource Management Issues

This section describes current land base opportunities and challenges and identifies potential solutions to challenges for land and resource management as it relates to the forest sector. A number of other resource sectors – particularly mining, and oil and gas– exert an increasing influence on land base planning and decision-making. There is an over-arching need to consider the cumulative effects of development and management from all resource sectors in the region.

Northern forests provide a wealth of resources and benefits to OBAC communities. These communities have a direct and inalienable interest in these forests, and want a greater role in the stewardship of all forest resources - both timber and non-timber resources. Stewardship includes more control and responsibility for these resources. There is an important opportunity to harness the knowledge, energy, and enthusiasm of these communities to ensure the best use of forest resources. Currently, the region's forests are managed for and produce commodity wood products. There are many management alternatives (such as agro-forestry, carbon sequestration, habitat conservation, or water quality) that may be more suitable for portions of the land base. While the pine beetle epidemic has created uncertainty around land and resource management, it has also created an eagerness for change in management to provide for new and better results from the forests.

In an era of carbon constraints and climate change there are major growth opportunities for the region's forest sector. Forests play a key role in mitigating climate change. These include managing forests to reduce net carbon emissions. Active and sustainable forests management, including using wood products and bio-fuels, provides great potential for reducing net carbon emissions. Intensive silviculture can regenerate young fast-growing forests that are efficient carbon sinks. Using wood products instead of energy-intensive materials such as concrete and steel is more energy efficient, sequesters carbon, and reduces carbon footprints.

Discussion of land and resource management issues is critical for creating a meaningful future for our forest sector. The region's communities want a vibrant, diverse forest sector that will provide benefits for the long-term and foster best use of forest resources. The most pressing challenges include uncertainties around access to forest resources, the cumulative effects of resource development, coordination among government resource agencies, and policy issues related to land and resource management.

Substantial work has been done on developing strategic land use plans across the region. Now is the time to put in place more detailed, tactical level, objectives which are tied to the land base and which will guide integrated resource management. There is a need for better coordination and improved communication among the resource ministries. Failure to do this increases the risk of poor stewardship and the fractured management of the land base.

New and existing forest companies in the region needs certainty around material costs and supply. Today this includes fibre supply and energy policy and pricing. Tenure is currently the primary means of commercial access to forest resources and the climate is now right for the Province to re-construct tenure arrangements. New access arrangements are needed to encourage investment and diversification of the forest sector. Expansion of area-based tenures of longer duration (60+ years) is one approach that would encourage more comprehensive and beneficial uses of the forest resource and good stewardship of the land.

Community Forest Agreement, woodlot licenses and First Nations tenures are seen as an effective opportunity for communities and individuals to exert greater control over local management of land and resources. These tenures allow for alternate business models to be tested and refined, while at the same time diversifying the sector. They also permit local generation of revenue, with most of this revenue likely to be recycled through the local and regional economy.

Access to resources is vital for manufacturers in forest industry. Without a secured fibre supply, many large forest companies are unable or unwilling to make capital investment in their facilities. Lack of access is a major bottleneck to expansion and diversification of the sector. The looming drop in the mid-term timber supply is a major concern to the sector. Secondary manufacturers such as pellet plants, bioenergy producers or remanufacturers are particularly susceptible to supply issues, being reliant supply from primary producers. It is not economically feasible for secondary manufacturers to acquire tenures and harvest their fibre directly.

# 6.0 Sector Strategy

The future fibre use strategy recognizes that the forest sector will continue to contribute significantly to the sustainability of communities of the OBAC region. A strong forest sector must be a cornerstone of the region's future. The forest sector, however, needs to evolve and produce a much broader range of forest and fibre products. The following is the vision of this strategy:

OBAC communities envision a diverse forest sector that: builds upon the sustainable use and regeneration of forests; produces a diverse range of timber and non-timber forest products; encourages a diverse range of business models and partnerships; balances the need for quick response to changing forestry and market circumstances with the need for business certainty; operates under regulations that cultivate innovation; and continues to manage the forest resource for all forest values including ecological and cultural wellbeing.

## 6.1 Objectives

Through the implementation of the recommendations and actions, the objectives presented below can be achieved.

| | |
|---|---|
| Objective 1 | Increase community benefits from forest resources. |
| Objective 2 | Diversify and strengthen the forest sector. |
| Objective 3 | Form stronger working partnerships and communication among First Nations, local communities, government, and the forest sector. |
| Objective 4 | Increase the ability to train and retain the required work force. |
| Objective 5 | Create a climate of ownership and pride in the region's forest resources. |
| Objective 6 | Ensure the forest is managed to meet future needs and opportunities. |

## 6.2 Recommendations

There are four recommendations that OBAC believes will promote evolution and sustainable development of the forest sector and forest resources in the OBAC region. The recommendations are further developed with more than 20 actions that guide future planning and implementation of the strategy. The recommendations are:

| | |
|---|---|
| Recommendation 1 | Increase the benefits that communities can rely upon from forest resources and forestry. |
| Recommendation 2 | Ensure that the forest sector remains a strong economic contributor to the region. |
| Recommendation 3 | Recognize the pine beetle killed stands as a valuable asset which should be used to full potential before their commercial value is depleted. |
| Recommendation 4 | Increase awareness and understanding of the long-term viability of the forest sector. |

Further engagement with and between leaders of OBAC communities and First Nations in order to further identify regional and local interests and opportunities and make new relationships a reality is a very high priority for all of the strategies. First Nations are a key participant in forest management and these discussions are a critical need to further shape many of the proposed actions.

Each recommendation requires specific actions that can be achieved in the short-, mid- or long-term.

- Short-term – Immediate (less than 1 year)
- Mid-term – 2 to 5 years
- Long-term – more than 5 years

Primary responsibilities and additional implementation team members have been identified to the degree possible at this time. Responsibilities will be refined as each of the major strategy actions are examined in more detail and initial implementation decisions are taken. The interests of the organizations currently listed and others will help to determine which parties are directly involved in the implementation phase.

## 6.3 Making the Strategy a Reality: Moving to Implementation

A successful strategy requires an implementation plan that reflects the vision, objectives and actions delivered in a collaborative manner from all participants and organizations. It further refines actions and identifies leaders to ensure actions are carried out, that the results are monitored and assessed, and that follow-up actions are outlined and implemented. The successful implementation of these actions will benefit OBAC communities, stakeholders, businesses and agencies. Continuous monitoring of the implementation will ensure progress in achieving objectives and that the necessary adjustments are made to the plan.

For this strategy, time is of the essence. Many feel that this strategy should have been developed five years ago. A number of the actions call for immediate implementation - results must be forthcoming before the end of the current fiscal year in March 2009.

*Recommendation 1* *Increase the benefits that communities can rely upon from forest resources and forestry.*

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| a) Expand viable tenure opportunities for communities and First Nations:<br>i. Tenures need to be for larger volumes and longer term than is the present practice.<br>ii. Both area and volume based tenures should be available. | • Will provide communities, which have sufficient capacity, to be a meaningful participant in the industry.<br>• Will provide the access to fibre needed to take advantage of new development opportunities in their communities.<br>• Capacity building for some First Nations and OBAC communities will be needed. | • Province of BC | • Local governments<br>• First Nation communities | Short and mid-term |
| b) Put in place other complementary measures which will provide communities with direct benefits from forest resources. | • Currently the costs and benefits of forest management options to a community play no direct role in decision making or monetary transfers from the Province to local governments.<br>• Will contribute in a major way to long term community resiliency. | • Province of BC | • Local governments | Mid-term |
| c) Community resilience considerations should be at the heart of forest management decisions.<br>i. Provide capacity and support to enable communities within a TSA or Forest District to collectively develop goals and objectives.<br>ii. Amend legislation to require that the goals and objectives expressed by local communities are considered in major forest management decisions.<br>iii. Decentralize functions within the forest ministry to engender a partnership between the Province and communities. | • Forest management decisions directly impact the well-being of forest dependent communities. Community resilience considerations need to be a formalized part of decision making. | • Province of BC | • Local governments | Mid-term |

*Recommendation 2 Ensure that the forest sector remains a strong economic contributor to the region.*

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| a) Provide for more equitable and diverse access for existing and new users of fibre:<br>i. Assess whether existing mechanisms (largely market forces) are sufficient to provide for this access or whether additional policy measures are needed.<br>ii. Expand the use of area based tenures where this would result in a more comprehensive and beneficial use of forest resources and provide the flexibility needed to adapt to changing market conditions.<br>iii. Continue to identify and remove legislative and policy barriers to use of roadside debris and other underutilized sources of fibre.<br>iv. Members of the forest sector to work together and with local governments to develop optimization strategies for the use of fibre. | • Currently policy and tenure arrangements do not always allow the wisest use of forest resources.<br>• Area based tenures which are intensively managed can provide access to fibre for a wide variety of beneficial and new uses.<br>• Roadside debris is potentially an important resource for the production of bioenergy. | • Province of BC<br>• Forest sector | • Local governments<br>• First Nations | Short and ongoing |
| b) Improve the region's infrastructure and related services:<br>i. Improve the quality of freight rail services including short haul services.<br>ii. Continue to make safety and traffic flow improvements to Highways 16 and 97.<br>iii. Provide a coordinated approach to transportation infrastructure planning and funding.<br>iv. Enable opportunities for power grid connections for rural communities which would allow them to produce electricity from wood fibre for their own use and sell the surplus into the grid. | • The quality of rail service is seen as a major impediment to business for many members of the forest sector.<br>• Highway congestion and road quality can be impediments to the efficient shipment of forest products.<br>• Conflicts between passenger vehicles and industrial traffic on the region's highways are a growing concern.<br>• Transportation planning and funding is not well integrated across the various modes of transportation.<br>• Currently the cost of grid connections can be a major impediment to bio-energy developments.<br>• *See OBAC's Alternative Energy and Integrated Regional Infrastructure Strategies for additional recommendations and information.* | • Province of BC<br>• Federal Government<br>• CN Rail | • Local governments<br>• Industry | Short and mid-term |

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| c) Increase the range of products produced from the region's forest resources:<br>i. Update and improve timber and non-timber forest resource inventories.<br>ii. Complete the Omineca portion of the information assessment for non-timber forest products and determine which products are bested suited for production in the region.<br>iii. In preparation for post-MPB forest conditions, determine the roducts and manufacturing processes best suited for the region's future fibre supply; and<br>Markets for these new products.<br>iv. Market the region as a good place to invest and evelop supports to assist entrepreneurs in marketing, packaging and selling of wood and non-wood products.<br>v. Include community leaders in the process and find innovate ways to expand market access for BC forest products at the national and international levels. | • More detailed inventory information will facilitate decisions which match fibre with more diverse uses and opportunities.<br>• Product diversification will strengthen the sector and the communities and could reduce the impact of future market downturns for pulp or dimensional lumber.<br>• Forest based industries that produce a variety of products and services , and have a range of markets and business models will improve the stability of regional economics.<br>• Small and medium size enterprises could benefit from market entry support (as do larger firms).<br>• Many community leaders are well positioned to assist the province and the industry to expand market access. | • Province of BC<br>• Forest sector | • Local governments<br>• First Nations | Mid-term |

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| d) Put in place detailed objectives which are tied to the land base and which will guide resource management decisions. | • Using the existing strategic land use plans the development of the detailed or tactical level objectives will guide natural resource management in an integrated manner.<br>• There is considerable uncertainty for forestry and other natural resource industries as management decisions are made largely independently of one another even when they pertain to the same landbase.<br>• Good stewardship and optimization of public benefits will be improved.<br>• Past efforts at establishing "landscape level" objectives and coordination across ministries and industries have not addressed the needs sufficiently.<br>• Will facilitate addressing many First Nations issues. | • Province of BC | • Local Governments<br>• Forest and other natural resource sectors<br>• First Nations | Mid-term |
| e) Provide incentives which will encourage investment in the forest land base and the making of a diversifed and integrated forest products sector:<br>i. Evaluate the use of tax credits or other measures to encourage investment in research, new technologies and their commercialization and equipment needed for the manufacture of a wide range of forest products.<br>ii. Support employee training and development at all levels, including apprenticeships, and technical and management training required for the transition to new processes and products.<br>iii. Consider establishing an industrial training centre in the region using an existing industrial site.<br>iv. Allow tenure holders to derive enough benefits from the forest to allow reinvestment in forest management. | • Will directly address the need for a diversified and healthy forest sector which contributes to community resiliency.<br>• Will help to provide the future labour force needed by the sector.<br>• Should improve our stewardship of forest land and its productivity.<br>• *See OBAC's Social Development Strategies for additional recommendations and actions related to social servics and community ammenities.* | • Province of BC<br>• Federal Government | • Forest Sector<br>• Post-secondary institutions | Short and m id-term |

*Recommendation 3* ***Recognize the pine beetle killed stands as a valuable asset which should be used to full potential before their commercial value is depleted.***

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| a) Recognize the multiple values of MPB-impacted stands and provide more targeted management:<br>i. Identify stands which provide the best opportunities to maintain environmental services and ecological function and manage appropriately for the long term.<br>ii. Identify and target stands which provide the best harvest opportunities for existing and new industries.<br>iii. Assess timber supply and project future harvest flow by management unit and prioritize and optimize the timing of harvest of dead pine stands so that opportunities for existing and new forest products are not lost as a result of stands being harvested in a non-optimal sequence.<br>These actions will require putting in place area based objectives (Recommendation 2 d) to guide forest management and which address forestry, tourism, cultural, environmental and other forest values. | • Should greatly increase the benefits derived from MPB impacted stands if these actions can be applied in a timely manner and at appropriate levels of intensity. It will not be practical to do this on an intensive basis across the entire forest land base. | • Province of BC<br>• Forest sector | • Local governments<br>• First Nations | Short and mid-term |

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| b) Ensure that MPB impacted areas are promptly and adequately reforested and, where needed, expand forests health rehabilitation programs to allow for larger scale projects and productive uses of the resulting fibre. There is a strong linkage to action a) as the full value of the dead pine stands must be realized prior to reforestation.<br>• Ensure ecosystem and habitat restoration priority actions are identified and funded.<br>• Ensure the Forests for Tomorrow program is adequately funded and implemented in the region.<br>Assess the need to plant species other than pine given the likelihood of future climate change and increasing pest and disease problems. | • Currently there is a legal obligation to reforest most areas which are harvested however there are many other impacted areas where there is no legal obligation. This action targets these areas where there is no legal obligation.<br>• Revenue generated from this approach will reduce the cost of the rehabilitation programs.<br>• Prompt rehabilitation will increase the mid-term timber supply. | • Province of BC<br>• Forest sector | | Short and mid-term |
| c) Consider the following when AAC determinations are made:<br>i. Shelf life estimates should be updated periodically to include new research and industry experience.<br>ii. Shelf life estimates should cover a wider range of forest products.<br>iii. AAC's should be partitioned for low quality wood and dead pine profiles to limit harvest of non-beetle-killed stands which will contribute to the mid-term timber supply.<br>These actions are strongly linked to action a) previous. | • These measures will help to ensure that the near and mid-term AAC's are set in an optimal manner<br>• Recent industry experience indicates that the shelf life of dead pine is longer than had previously been anticipated. | • Province of BC | • Forest sector | Short-term |
| d) Provide meaningful incentives to expand productive uses of MPB wood and full utilization of the AAC uplift. | • Incentives could allow new approaches to the use of dead pine to become established.<br>• The production of bio-energy could provide a major opportunity if appropriate incentives are in place to encourage the required development (see Action g following). | • Province of BC<br>• Forest industry | | Short and mid-term |

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| e) Develop strategies and milling and other technologies which will result in MPB wood having a longer useful life for the production of forest products. | • These measures could include, for example, new saw blades that improve recovery, specialty mills that deal only with dead pine and new technologies that will improve the viability of wood chips for the production of pulp.<br>• Will increase time over which dead pine is commercially viable. | • Forest industry | • Province of BC | Short-term |
| f) Explore the opportunities and potential for:<br>i. short rotation and/or deciduous stands on suitable forest land.<br>ii. Intensive management of forest crops on suitable forest lands. | • May provide increased availability of wood fibre in the mid-term.<br>• Should provide fibre which is best suited to some new or existing wood products. | • Province of BC<br>• Forest sector | | Mid-term |
| g) Implement the bioenergy portion of the Provincial Energy Strategy:<br>i. Consider a two-tier energy pricing system or other measures which would help to kick start the industry in the region.<br>ii. A stepped pricing approach which links electricity rates to individual sources of fibre -mill residues, roadside debris, or standing grey MPB-killed stands should also be considered.<br>iii. Overall be innovative and put in place a tax system that will allow this weath creating opportunity to be realized. | • If producing electricity from wood fibre becomes feasible it will greatly strengthen the overall forest sector as it will be a beneficial and complimentary use to the traditional forest product sector.<br>• This action should not, however, detract from other beneficial uses of fibre including wood pellet production. | • Province of BC | | Short-term |

*Recommendation 4 Increase awareness and understanding of the long-term viability of the forest sector.*

| Specific actions | Rationale | Primary responsibility | Additional implementation team members | Timeline |
|---|---|---|---|---|
| a) Actively provide information to the public on the long term viability, social economic and environmental value of the forest sector. This should include existing and future employment opportunities.<br>i. Should include the communication of individual and community success stories. | • Despite the importance and long term viability of the sector, many members of the public do not fully appreciate the role of the forest industry in the region.<br>• Encouraging an informed view of the opportunities will encourage young people to enter the industry and entrepreneurs to innovate. | • Forest sector<br>• Province of BC | • Local governments | Short and mid-term |
| b) Provide relevant forest related educational and training opportunities at secondary and post secondary institutions.<br>i. Ensure that these programs are well coordinated across the various institutions.<br>ii. Remove barriers which limit enrolment in the Natural Resource Program at secondary schools.<br>iii. Market the training and educational opportunities to the regions at the secondary and post-secondary. | • A well trained and educated work force is critical for to the future of the forest sector in the region, however, programs are often designed for the more urban regions of the province which has resulted in the loss of many young people who would otherwise choose to live and work in the region.<br>• It is often a challenge to maintain programs and courses are often challenged as enrolment is low despite the fact that there are existing and future employment opportunities in the industry.<br>• Natural Resource programs in the secondary schools have low enrolment for a number of reasons including the fact that taking the program may limit post-secondary institution options as a result of admission criteria. | • Province of BC<br>• Secondary and post-secondary institutions | • Forest sector | Short and mid-term |
| c) Develop and maintain an information sharing network for the forest sector:<br>i. Include expanded communications on relevant provincial and regional initiatives and research findings. | • Should improve information flow and, overall, the further development and evolution of the forest sector. | • Forest sector<br>• Province of BC<br>• Federal Government | | Mid-term |

## References


16-97 Economic Alliance: www.1697economicalliance.ca/bc/6/projects16-97 and the Economic Alliance Economic Development Study Inventory. March 12, 2007.

An Information Guide on Pursuing Biomass Energy Opportunities and Technologies in British Columbia, BIOCAP Canada, January 31, 2008.

BC Bioenergy Strategy, Growing Our Natural Energy Advantage, Ministry of Energy, Mines and Petroleum Resources, www.energyplan.gov.bc.ca/bioenergy/bcep_plan

BC Stats Infoline Report: BC's commodity exports still largely forest-based. Issue: 08-03, January 2008. www.bcstats.gov.bc.ca/releases/info2008/in0803.pdf

Bioenergy options for woody feedstock: are trees killed by mountain pine beetle in British Columbia a viable bioenergy resource? B. Stennes and A. McBeath Natural Resources Canada. Canadian Forest Service Pacific Forestry Centre. Victoria, British Columbia Information Report. BC-X-405

Bioenergy Opportunities Using Wood Resources: Cost Estimates Based on July 1, 2007 Average Market Price Dataset (Forest Industry Averages). www.for.gov.bc.ca/hts/bioenergy/

British Columbia Pulp and Paper Industry, Challenges and Opportunities, Forest Sector Competitiveness: Finding a Pathway to Renewal, June 2007.

Buyers Guide to British Columbia Wood Products, BC Forest Products Manufacturers, www.bcforestinformation.com/Assets/PDF/FII_SuppliersGuide_Final.pdf

Cariboo-Chilcotin Beetle Action Coalition, Forest Sector Strategy, November 25, 2007.

Estimated Costs for Harvesting, Comminuting, and Transporting Beetle Killed Pine in the Quesnel/Nazko area of Central British Columbia. FERIC. 2006.

FERIC study Estimated Costs for Harvesting, Comminuting, and Transporting Beetle Killed Pine in the Quesnel/Nazko Area of Central BC www.for.gov.bc.ca/hts/bioenergy/Link_Rep/FERIC_MPB%20 report.pdf

FORREX Mountain Pine Beetle Information Portal www.barkbeetlelinks.ca

Manufacturing Challenges and Technological Solutions Ian de la Roche President and CEO FPInnovations Ltd., 2007.

Monitoring Harvest Activity across 16 Mountain Pine Beetle Impacted Timber Supply Areas, BC Ministry of Forests and Range, June 2007.

MPB Product & Market Development Program, 2007/08 MPB Strategy, Forest Innovation Investment Ltd., November 2006.

Mission Possible: A Canadian Resources Strategy for the Boom and Beyond, Conference Board of Canada, January 2007.

Mountain Pine Beetle Action Plan, 2006-2011, BC Ministry of Forests and Range, Minister's Community Advisory Group.

Mountain Pine Beetle Epidemic – A First Nations Perspective, Dan George, CEO, First Nations Mountain Pine Beetle Initiative, Presentation to the Council of Forestry, Industries 2007 Convention, April 12, 2007.

Mountain Pine Beetle Shelf Life and Timber Supply, COFI Convention, April 12, 2007, Doug Konkin

Provincial-Level Projection of the Current Mountain Pine Beetle Outbreak: Update of the infestation projection based on the 2006 Provincial Aerial Overview of Forest Health and revisions to the "Model" (BCMPB.v4), April 30, 2007.

Regional Economic Implications of the Mountain Pine Beetle Infestation in the Northern Interior Forest Region of British Columbia. Mike Patriquin, Scott Heckbert, Christy Nickerson, Michelle Spence, Bill White, Mountain Pine Beetle Initiative, Working Paper 2005–3, Natural Resources Canada, Canadian Forest Service.

Regional Economic Impacts Resulting from the Mountain Pine Beetle and Provincial Policy Response Executive Summary, Brad Stennes, Mike Patriquin, Alec McBeath and William White, draft. January 2007.

Responding to the Challenge of the Mountain Pine Beetle. A Discussion Paper Prepared for Business Council of BC and the Council of Forest Industries, Don Wright, December 2007.

Technologies for the supply of Forest Biomass, FP Innovations Ltd. September 2007.

The Way Forward: A Proposal to Modernize BC's Forest Policy (DRAFT), R.A. Gorley. July 2008. prepared for OBAC.

Timber Supply and The Mountain Pine Beetle Infestation in British Columbia, 2007 Update. BC Ministry of Forests and Range.

Timber Supply and the Mountain Pine Beetle Infestation in British Columbia 2007 Update, BC Ministry of Forests and Range, Forest Analysis and Inventory Branch, September, 2007. www.for.gov.bc.ca/hfp/mountain_pine_beetle/Pine_Beetle_Update20070917.pdf

## Appendix A Contributors to Background Document

**MLAs**
- Pat Bell, MLA
- John Rustad, MLA

**Ministry of Forests and Range**
- Jim Snetsinger, Chief Forester
- Doug Konkin, RPF, Deputy Minister
- Lynda Currie, District Manager, Fort St James Forest District
- Bill Quinn, RPF Acting District Manager, Mackenzie Forest District
- Heather Cullen, RPF, Regional Staff Manager, Northern Interior Region
- John Pousette, RPF, Tenures Officer, Prince George Forest District
- Doug Beckett, RPF, Timber Supply Analyst, North Interior Forest Region
- Albert Nussbaum, RPF, Ministry of Forests and Range, Forest Analysis Branch

**Ministry of Community Development**
- Doug MacFarlane, Director, Community Econ. Dev.

**OBAC member communities and Regional Districts**
- Mayor Len Fox, Vanderhoof
- Lana Fitt, Strategic Development Analyst, Regional District Bulkley-Nechako
- Mayor Rob MacDougall, Fort St James
- Mayor Stephanie Killam, Mackenzie
- Kathy Scouten, Manager Corporate Affairs, Initiatives Prince George
- Wendy Rockafellow, Manager Export Prince George, Initiatives Prince George

**Ministry of Environment**
- Chris Ritchie, Provincial Beetle Response Project Manager,

**Forest Industry**
- Doug Routledge, RPF, VP Northern Operations, Council of Forest Industries
- Walter Matosevic, RPF, Canfor
- Bruce MacNicol, RPF, West Fraser Timber Ltd.

**Central Interior Logging Association**
- Rick Publicover, RPF, Executive Director

**UNBC**
- Bill McGill, Dean, College of Science and Management
- Kathy Lewis,

**FORREX**
- Al Wiensczyk, RPF

**United Steelworkers Union**
- Terry Tate

**BC Wood Specialties Group**
- Brian Hawrysh

**Independent Lumber Remanufacturers Association**
- Jim Fraser

**Woodlot Association(s)**
- Mark Clark, RPF, President Prince George Woodlot Association
- Dean Daly, RPF, President Bulkley Woodlot Association

**Canadian Forest Service**
- Susan Farlinger, Pacific Region Director General

**Forestry Innovation Investment Ltd.**
- Rob Parisotto Director, Mountain Pine Beetle Program

**Pellet Manufacturers**
- John Swaan, Wood Pellet Association of Canada

**First Nations - Cheslatta**
- Mike Robertson

**Bioenergy**
- Bill Huxham, Burns Lake

**FERIC**
- Jack MacDonald, RPF

**Consultants , Marketing, Research and Extension**
- Mike Greig, RPF, P.Eng, Enfor Consultants Ltd.
- Jim Girvan, RPF MBA, Management Decision &.Technology Ltd.
- Derek DeBiasio, Crane Management Consultants Ltd.
- Jackie Lytle
- Elizabeth Andersen, OBAC
- Betty Schweizer, OBAC
- Wendy Rockafellow, Manager Export Prince George, Initiatives Prince George
- Bill McGill, Dean, College of Science and Management

## Appendix B Contributors to Strategy Document

**Working Group Members**
- Alistair Schroff, Burns Lake Community Forest
- Chris Ritchie, Ministry of Environment
- Dave Wilson, Celtic Reforestation
- Deb Hadwen, District of Fort St. James
- Steve Kozuki, Council of Forest Industries
- George M Stedeford, Pacific BioEnergy Corp.
- John Swaan, Wood Pellet Association of Canada
- Marc von der Gonna, McBride Community Forest
- Mark Clark, Prince George Woodlot Association
- Mike Robertson, Cheslatta Carrier First Nation
- Rick Publicover, Central Interior Logging Association
- Gerry MacDougall, Ministry of Forests and Range
- Heather Cullen, Ministry of Forests and Range
- Colene Wood, Ministry of Community Development
- Stephanie Killam, District of Mackenzie
- Wayne Martin, Ministry of Forests and Range
- Al Gorley, Triangle Resources
- Ross Hamilton, Fort St. James Community Forest
- Terry Lazaruk, Canfor Vanderhoof

**E-mail Contributors**
- Kim Menounos, Prince George Community Forest
- Joe Kavanagh, Canfor, Prince George
- Phil Burton, Canadian Forest Service
- Mr. Terry Tate, United Steelworkers, Local 1-424

**Community Dialogue Session Participants**
- Mayor James Davidson, Town of Smithers
- Mayor Sharon Smith, District of Houston
- Mayor Gerald Ewald, Village of Granisle
- Mayor Bernice Magee, Village of Burns Lake

- Ms. Zarna Dilley, resident of Granisle
- Mr.Ernie Crossley, resident of Fraser Lake
- Mr. Dean Daly, Bulkley Woodlot Association
- Mr. Alistair Schroff, Burns Lake Community Forest
- Ms. Cindy Shelford, Lakes Economic Development Association
- Ms. Lana Fitt, Regional District of Bulkley-Nechako
- Mr. Thomas Pfister, Burns Lake Community Forest
- Ms. Joanne Dickenson, District of Houston
- Ms. Eileen Benedict, Regional District of Bulkley-Nechako
- Mayor Len Fox, District of Vanderhoof
- Ms. Kathie LaForge, District of Vanderhoof
- Mr. Rick Sommer, BCTS, Vanderhoof
- Mr. Norm Avison, Vanderhoof
- Mr. Stuart Sinclair, Avison Management, Vanderhoof
- Mr. David Watt, L&M Lumber, Vanderhoof
- Mr. Terry Lazaruk, Canfor Vanderhoof
- Mr. Jerry Petersen, Regional District of Bulkley-Nechako
- Ms. Sylvia Legary, Village of Fraser Lake
- Mr. John Marchal, Tanizul Timber, Tachie
- Mr. Kevin Neary, Mackenzie Hose and Fitting
- Mr. Bruce Bennett, B&B Ventures, Mackenzie
- Mr. Jon Hatch, Mackenzie Chamber of Commerce
- Ms. Deb Hadwen, District of Fort St. James
- Mr. Jim MacGowan, Fraser Lake Sawmills, Fraser Lake
- Ms. Clara Jack, Nak'azdli Band, Fort St. James
- Ms. Lynda Currie, Ministry of Forests and Range, Fort St. James
- Ms. Carla Seguin, District of Mackenzie

**Future Forest Summit Participants**

| | | |
|---|---|---|
| Don Bassermann | John Pousette | Mark Clark |
| Richard Bisanz | Chris Ritchie | Rick Publicover |
| Gerald Ewald | Colene Wood | Gordon Andersen |
| Cress Farrow | Bryan Bogdanski | Bill Bourgeois |
| Stephanie Killam | Mavis Benson | Terry Lazaruk |
| Lana Fitt | Jackie Brown | Greg Lawrence |
| Kathie Laforge | Clara Jack | Jim McGowan |
| Cindy Shelford | Dave Kim | Rob Parisotto |
| Heather Cullen | Corrina Leween | Dan Rogers |
| Gord Dow | Mike Robertson | Marvin Strimbold |
| Leslie Lax | Jasmine Thomas | Dan Thiessen |
| Doug Macfarlane | Alistair Schroff | Al Wiensczyk |
| Gerry MacDougall | Marc von der Gonna | Frank Caffrey |
| Dave Wilson | Joan Chess | Denis Pelletier |

# Appendix C Forest Products Sector Definitions

| | |
|---|---|
| Allowable Annual Cut (AAC) | The rate of timber harvest permitted each year from a specified area of land, usually expressed as cubic metres of wood per year.The AAC is determined by the Provincial Chief Forester after considering the capacity of the land, resource uses, economics, pests and forest health, social and economic objectives. |
| Bioenergy | Also known as biomass energy, is renewable energy derived from biological sources. It is the conversion of woody biomass into thermal and electrical energy, as well as products such as fuel pellets and ethanol. |
| Bioproducts and the bioeconomy | A bioeconomy is based on the use of renewable biological resources and bioprocesses for more sustainable and eco-efficient manufacturing of goods. These goods are often referred to as bioproducts. Forest bioproducts may be sourced from dedicated purpose-grown biomass, woodland collecting on a renewable basis or waste produced by the conventional forest sector. Bioproducts manufactured from dedicated species include textile, fibres, polymers, adhesives, bio-insecticides, antibiotics, plant-derived pharmaceuticals, nutraceuticals, biochemicals and industrial microbial enzymes. Forest bioproducts include non-timber forest products (NTFPs). NTFPs include an array of products, such as medicinal herbs, edible mushrooms, berries, maple products, nuts, essential oils, cones and bark. Forest wastes, such as sawdust, pulping liquors, paper mill sludge, forest harvesting and processing residues, can be converted into alternative fuels and value-added products, such as ethanol, artificial flavours, fertilizers and methane gas. |
| $m^3$/ha | Cubic metre per hectare is a unit of measure for timber volume. A typical stand of mature pine has approximately 220 $m^3$/ha of net merchantable volume, which excludes the stump, branches and top. |
| Forest resources | All the resources that are present in or flow from the forest including wood resources (timber, chips), non-wood resources (water, wildlife, bark and foliage, botanicals, edibles, carbon), aesthetics and biodiversity. |
| Shelf life | The length of time after death that a tree will be usable for a givenproduct. Environmental factors (site, soil and climate) and economic factors (nature and value of wood product, harvesting and transportation costs) determine the shelf life of a dead pine tree. |
| Tenure | Forest tenure determines who can use what resource, for how long and under what conditions. The Crown transfers rights to harvest timber or manage forest lands to private parties, while retaining title to the land. |
| Timber Harvesting Landbase (THLB) | Timber harvesting land base is land that is considered available for harvest taking into account economic, environmental, social and cultural considerations. The THLB supports the derivation of the AAC. |

| | |
|---|---|
| Timber Supply Area (TSA) | A management unit on Crown land that provides for a sustainable flow of timber by multiple licensees, with management overseen by the Ministry of Forests and Range. |
| Tree Farm License (TFL) | A management unit on Crown land, which may include private land, which is managed by one licensee and provides for a sustainable flow of timber to that licensee. |
| Waste | Logs and bucking waste that is within the Ministry of Forests and Range utilization specifications for lumber and pulp logs, but which is left on site in the bush. Typically contributes to the roadside-residues and woody biomass. |
| Woody biomass | Biomass resources in the OBAC region are made up of three main sources: a) dead standing trees and other non-merchantable wood that is of no value to sawmills or pulp mills, but still has some energy value; b) roadside residue that consists of harvested material, tops, branches and stumps left behind in piles at the roadside or landing, which are currently burned at the logging deck; c) mill residues wood chips, bark, sawdust and shavings) that are generated from wood processing and either used for pulp and paper production, for energy purposes or burned in beehive burners. |

# Appendix D Timber volumes harvested, percent pine harvest and stumpage paid in the OBAC Region

**Total volume (m3) harvested, all species**

| Management Unit * | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Total | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Bulkley TSA | 568,721 | 669,549 | 688,635 | 755,706 | 549,858 | 748,771 | 3,981,240 | 3% |
| Lakes TSA | 1,885,539 | 1,885,335 | 1,833,795 | 2,114,538 | 2,454,454 | 1,507,441 | 11,681,102 | 9% |
| Mackenzie TSA | 2,763,752 | 2,651,638 | 2,683,822 | 2,997,100 | 2,514,280 | 1,675,456 | 15,286,048 | 12% |
| Morice TSA | 2,237,179 | 1,976,171 | 2,026,474 | 1,800,656 | 1,688,321 | 1,412,958 | 11,141,759 | 9% |
| Prince George TSA | 11,629,374 | 9,373,837 | 13,970,641 | 13,005,885 | 14,230,540 | 10,696,116 | 72,906,394 | 56% |
| Robson Valley TSA | 399,943 | 270,490 | 322,101 | 471,582 | 413,565 | 189,625 | 2,067,305 | 2% |
| TFL 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| TFL 42 Tanizul | 137,281 | 108,355 | 189,698 | 137,737 | 19,191 | 172,377 | 764,639 | 1% |
| TFL 53 Naver | 298,617 | 407,605 | 563,732 | 824,585 | 703,718 | 776,997 | 3,575,255 | 3% |
| Community Forests** | 66,968 | 125,773 | 255,880 | 496,469 | 1,039,969 | 861,231 | 2,846,289 | 2% |
| Woodlots*** | 424,717 | 707,206 | 1,307,071 | 1,531,740 | 878,563 | 940,887 | 5,790,185 | 4% |
| **Total OBAC Region** | **20,412,092** | **18,175,959** | **23,841,849** | **24,135,998** | **24,492,460** | **18,981,858** | **130,040,215** | **100%** |

Percent of harvest for lodgepole pine

| Management Unit * | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Total |
|---|---|---|---|---|---|---|---|
| Bulkley TSA | 49% | 60% | 69% | 73% | 67% | 53% | 62% |
| Lakes TSA | 70% | 71% | 73% | 79% | 76% | 77% | 75% |
| Mackenzie TSA | 52% | 55% | 63% | 60% | 63% | 59% | 59% |
| Morice TSA | 39% | 51% | 57% | 69% | 75% | 71% | 59% |
| Prince George TSA | 58% | 61% | 67% | 71% | 72% | 71% | 67% |
| Robson Valley TSA | 25% | 41% | 43% | 51% | 46% | 29% | 40% |
| TFL 30 | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| TFL 42 Tanizul | 35% | 36% | 40% | 47% | 48% | 63% | 45% |
| TFL 53 Naver | 38% | 56% | 54% | 52% | 63% | 63% | 56% |
| Community Forests** | 54% | 83% | 82% | 81% | 79% | 79% | 79% |
| Woodlots*** | 55% | 63% | 70% | 75% | 72% | 73% | 70% |
| **Total OBAC Region** | **55%** | **60%** | **66%** | **69%** | **71%** | **69%** | **65%** |

**Total stumpage said ($M) for all species**

| Management Unit * | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Total | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Bulkley TSA | 6.7 | 6.5 | 7.7 | 6.8 | 4.6 | 5.2 | 37.4 | 2% |
| Lakes TSA | 30.3 | 25.2 | 23.6 | 28.0 | 34.9 | 24.2 | 166.2 | 7% |
| Mackenzie TSA | 71.8 | 56.6 | 65.0 | 81.1 | 63.7 | 32.0 | 370.3 | 17% |
| Morice TSA | 46.9 | 30.3 | 35.4 | 40.4 | 34.9 | 25.9 | 213.9 | 10% |
| Prince George TSA | 251.0 | 172.5 | 250.5 | 226.9 | 236.6 | 155.6 | 1,293.1 | 58% |
| Robson Valley TSA | 7.2 | 3.7 | 3.4 | 3.8 | 3.3 | 2.2 | 23.6 | 1% |
| TFL 30 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0% | |
| TFL 42 Tanizul | 3.3 | 2.0 | 2.8 | 3.2 | 0.3 | 2.5 | 14.0 | 1% |
| TFL 53 Naver | 4.7 | 4.9 | 14.5 | 22.2 | 13.5 | 10.4 | 70.2 | 3% |
| Community Forests** | 0.2 | 0.7 | 1.0 | 1.5 | 2.6 | 2.2 | 8.2 | 0% |
| Woodlots*** | 4.8 | 6.7 | 6.8 | 6.8 | 6.4 | 4.8 | 36.3 | 2% |
| **Total OBAC Region** | **$426.9** | **$309.1** | **$410.8** | **$420.8** | **$400.7** | **$265.0** | **$2,233.2** | **100%** |

| Type | Owner | Mill Name | Location | TSA | Mill type | Log consumption at capacity (m3) |
|---|---|---|---|---|---|---|
| Sawmills | Carrier Lumber | Cheslatta | Burns Lake | Lakes | Stud Mill | 354,167 |
| | Canfor | Houston | Houston | Morice | Random Length Mill | 2,142,857 |
| | Hampton Lumber | Babine Forest Products | Burns Lake | Lakes | Random Length Mill | 1,071,429 |
| | West Fraser | Houston Forest Products | Houston | Morice | Random Length Mill | 1,212,857 |
| | West Fraser | Smithers | Smithers | Bulkley | Random Length Mill | 1,071,429 |
| | Hampton Lumber | Decker Lake Forest Products | Decker Lake | Lakes | Random Length Mill | 279,245 |
| | Various | Miscellaneous Regional Mills | Various | | Random Length Mill | 18,868 |
| | Canfor | Isle Pierre | Bednesti Lake | Prince George | Stud Mill | 886,839 |
| | Sinclair Group | Apollo Forest Products | Fort St James | Prince George | Stud Mill | 419,355 |
| | Sinclair Group | L&M Lumber | Vanderhoof | Prince George | Stud Mill | 677,419 |
| | Sinclair Group | Lakeland | Prince George | Prince George | Stud Mill | 483,871 |
| | Canfor | Clear Lake | Prince George | Prince George | Stud Mill | 906,250 |
| | West Fraser | Fraser Lake | Fraser Lake | Prince George | Random Length Mill | 1,241,379 |
| | Canfor | Plateau | Vanderhoof | Prince George | Random Length Mill | 1,810,345 |
| | Canfor | Prince George | Prince George | Prince George | Random Length Mill | 1,200,000 |
| | Carrier Lumber | Carrier Lumber | Prince George | Prince George | Random Length Mill | 689,655 |
| | Sinclair Group | Winton Global | Bear Lake | Prince George | Random Length Mill | 1,034,483 |
| | Dunkley Lumber | Dunkley Lumber | Strathnaver | Prince George | Random Length Mill | 1,893,103 |
| | Abitibi Bowater | 1&3 | Mackenzie | Mackenzie | Random Length Mill | 1,164,286 |
| | Canfor | Mackenzie A | Mackenzie | Mackenzie | Random Length Mill | 1,181,250 |
| | Canfor | Rustad | Prince George | Prince George | Random Length Mill | 1,346,429 |
| | Conifex | Fort St James | Fort St James | Prince George | Random Length Mill | 900,000 |
| | Canfor | Polar | Bear Lake | Prince George | Random Length Mill | 820,755 |
| | Prince George Log Sort | Prince George Log Sort | Prince George | Prince George | Random Length Mill | 75,472 |
| | Stuart Lake Lumber | Stuart Lake Lumber | Fort St James | Prince George | Random Length Mill | 377,358 |
| | Woodland Lumber | Woodland Lumber | Prince George | Prince George | Random Length Mill | 120,755 |
| | Various | Miscellaneous Regional Mills | Various | | Random Length Mill | 135,849 |
| | **Total** | | | | | **23,515,704** |
| Post and Pole | Various Locations | Post or Pole Plants | Various | Rupert Region | Post and Pole Plant | 8,000 |
| | Various Locations | Post or Pole Plants | Various | Prince George | Post and Pole Plant | 20,000 |
| | **Total** | | | | | **28,000** |
| Whole Log Chip Plants (Stationary) | Canfor (2) | PG Sawmill and Rustad | Prince George | Prince George | Interior Chip Plant | 1,000,000 |
| | West Fraser | Pacific Inland Resources | Smithers | Bulkley | Interior Chip Plant | Unknown |
| | Dunkley Lumber | Dunkley Lumber | Strathnaver | Prince George | Interior Chip Plant | 200,000 |
| | **Total** | | | | | **1,200,000+** |
| Hardwood Sawmill | Rhan Forest Products | Rhan Forest Products | Prince George | Prince George | Hardwood Mill | 12,857 |
| | **Total** | | | | | **12,857** |
| Veneer and Plywood Plants | McBride Forest Products | McBride Forest Products | McBride | McBride | Veneer / Plywood | 103,448 |
| | **Total** | | | | | **103,448** |
| | **Total log consumption ($m^3$)** | | | | | **24,860,009** |

# Appendix F Other Fibre Consuming Mills in the OBAC Region

| | Owner | Mill Name | Location | TSA | Mill Type | Machine or Line | Annual Capacity (tonnes) | Softwood Capacity (m3) |
|---|---|---|---|---|---|---|---|---|
| Pulp and Paper Mills | Abitibi Consolidated | Mackenzie | Mackenzie | Mackenzie | Newspaper | PM1 | 170,000 | 425,000 |
| | Canfor Pulp Limited Partnership | Intercon Pulp | Prince George | Prince George | Interior Pulp | PD1 | 310,000 | 1,581,000 |
| | Canfor Pulp Limited Partnership | Northwood | Prince George | Prince George | Interior Pulp | ALL | 570,000 | 2,907,000 |
| | Canfor Pulp Limited Partnership | PG Pulp & Paper | Prince George | Prince George | Interior Pulp | PD 1 | 153,000 | 780,300 |
| | Canfor Pulp Limited Partnership | PG Pulp & Paper | Prince George | Prince George | Kraft Paper | PM 1 | 135,000 | 688,500 |
| | Worthington | Mackenzie | Mackenzie | Mackenzie | Interior Pulp | PD1 | 140,000 | 714,000 |
| | Worthington | Mackenzie | Mackenzie | Mackenzie | Sawdust Pulp | PD1 | 110,000 | 627,000 |
| | Total | | | | | | 1,588,000 | 7,722,800 |
| Pellet Plants | Pinnacle Pellet | Pinnacle Pellet | Houston | Morice | Pellet | | 80,000+ | 148,000+ |
| | Pacific BioEnergy Corp. | Pacific BioEnergy | Prince George | Prince George | Pellet | | 210,000 | 386,000 |
| | Premium Pellet | Premium Pellet | Vanderhoof | Prince George | Pellet | | 200,000 | 370,000 |
| | Total | | | | | | 490,000+ | 904,000+ |
| | | | | | | | Annual Capacity ($m^2$) | |
| Board Plants | Newpro Particle Board | Newpro | Smithers | Bulkley | Particle Board | | 46,000,000 | 155,000 |
| | **Total** | | | | | | **46,000,000** | **155,000** |
| | **Total fibre capacity ($m^3$)** | | | | | | | **8,781,800** |

# Appendix G Forest Sector Initiatives

## *National Initiatives*

| | | |
|---|---|---|
| Bioproducts and Biotechnology | Natural Resources Canada | The agency has created the Non-Timber Forest Products Network of Canada. The aim of the network is to "enhance the ability of communities, researchers, resource managers, policy makers, economic development specialists and others to develop expertise, share knowledge, make informed decisions, etc." They currently have a project underway to revise the Harmonized System Commodity Code for Non-Timber Forest Products.<br><br>http://cntr.royalroads.ca/publications<br>http://ntfpnetwork.ca/<br>http://cfs.nrcan.gc.ca/factsheets/bioproducts<br>http://cntr.royalroads.ca |
| Mountain Pine Beetle Program | Natural Resources Canada | To reduce the consequences of the beetle infestation and assist in efforts to slow the infestation's eastward spread. $100 million over three years will be spent in BC (in addition to $100 million in the rest of Canada):<br>• Controlling the spread for provincial Crown land, private forest lands and Federal forest land (Indian Reserves and Parks);<br>• Recovering economic value through resource surveys, exploring alternative fibre uses, and shelf life; and<br>• Protecting forest resources and communities. |
| Community Economic Diversification Initiative | Western Economic Diversification Canada | $33 million is allocated for two years to invest in projects that support economic growth, job creation and future sustainability of communities adversely affected by the widespread beetle infestation.<br>1. Community Capacity Building<br>2. Economic Diversification<br>3. Value-Added<br>4. Economic Infrastructure<br><br>http://mpb.cfs.nrcan.gc.ca |
| Private Forestlands Rehabilitation Program and Federal Forestlands Rehabilitation Program | Natural Resources Canada | Private Forestlands Rehabilitation Program will assist non-industrial private landowners within the mountain pine. Emphasis will be on early beetle control efforts and rehabilitation of beetle infested forestlands.<br>The Federal Forestlands Rehabilitation Program is part of the MPB initiative that, in cooperation with Parks Canada, Indian and Northern Affairs Canada and the Department of National Defense, will address mountain pine beetle impacts on national parks, First Nations reserve lands, and military and other federal forestlands. http://cfs.nrcan.gc.ca/news/90<br><br>http://mpb.cfs.nrcan.gc.ca |

| | |
|---|---|
| BC Pulp and Paper Task Force | The Pulp and Paper Task Force is a co-operative made up of representatives of industry, labour and government. It members include all 20 pulp and paper mills located across BC, many of which are located in the OBAC region. The BC Pulp & Paper Joint Task Force is looking to revitalize the industry, which will result in:<br>• Improved climate for investment<br>• Support for stable and long-term employment<br>• Added value to the provincial fibre base<br>• Stability for resource-based communities<br>• Increased customer confidence in BC Pulp & Paper products<br>• Globally competitive manufacturing facilities<br><br>www.pulpandpaperbc.ca/<br>www.pulpandpaperbc.ca/pdf/NR.Competitiveness_FINAL_10.08.pdf<br>www.pulpandpaperbc.ca/pdf/Poyry-BC-Task-Force-Draft-Final-Report.pdf |
| BC Climate Exchange | BC Climate Exchange helps connect with people, organizations and resources. It provides a comprehensive list of resources for individuals, businesses, governments, first nations, educators and community organizations. The purpose of BC Climate Change Exchange is to facilitate interaction between the various government, community and private sector organizations in BC engaged in public education and outreach on climate change, impacts and solutions. The Fraser Basin Council is coordinating the BC Climate Exchange, in partnership with the Canadian Institute for Climate Studies.<br><br>http://bcclimateexchange.ca/ www.bcclimateexchange.ca/doc/GreenEnergy2003/McCloyGHGPresenation.ppt |
| BC Bioenergy Strategy | The BC Bioenergy Strategy was announced January 2008 to identify new sources of energy generation, ways to utilize MPB wood waste as an energy source, and help reduce fossil fuel greenhouse gas emissions. Key initiatives include:<br>• Establish $25 million in funding for a provincial Bioenergy Network for greater investment and innovation in BC bioenergy projects and technologies.<br>• Establish funding to advance provincial biodiesel production with up to $10 million over three years.<br>• Issue a two-part Bioenergy Call for Power, focusing on existing biomass inventory in the forest industry.<br><br>www.energyplan.gov.bc.ca/bioenergy/bcep_plan<br>www.energyplan.gov.bc.ca/bioenergy/PDF/BioEnergy_Plan_005_0130_web0000.pdf |



| | | |
|---|---|---|
| Bioenergy Opportunities Using Wood Resources | Ministry of Forests and Range | As part of the BC Bioenergy Strategy, the Ministry of Forests and Range has developed a web site to highlight the potential availability of woody biomass suitable for bioenergy, and provided preliminary estimates to help develop new bioenergy opportunities from wood.<br><br>This web site also provides independent power producers with some basic information about the forest sector, answers to frequently asked questions, and links to other useful sources of information related to bioenergy.<br><br>www.for.gov.bc.ca/hts/bioenergy/potential_tenure.htm |
| Bioenergy Call for Power | BC Hydro | BC Hydro is planning a two-phase call for power to use MPB-killed wood and residual fibre from other sources. The “Bioenergy Call” will assist BC to become electricity self-sufficient as outlined in the new Energy Plan, and allow BC Hydro to secure a stable supply of electricity from alternate sources.<br><br>www.bchydro.com/info/ipp/ipp51371.html |
| Enhanced Forestry Program | BC Ministry of Forests and Range | This program replaces, in part, Forest Renewal BC and funds activities related to biodiversity and adaptive management as well as silviculture and reforestation projects. There are a number of “Adaptive Management” resources available on the site that address the implementation of the Forest Practices Code by government and industry.<br><br>www.for.gov.bc.ca/hfd/efp/links.htm |
| First Nations Mountain Pine Beetle Initiative | | The FNMPBI is a partnership between the Province of BC and the First Nations Leadership Council, facilitated by Four Directions Management Services Limited. The First Nations Mountain Pine Beetle Initiative is funded by the Ministry of Forests & Range, Province of British Columbia.<br><br>www.fnmpbi.com<br>www.fnforestrycouncil.ca |
| Forests for Tomorrow | BC Ministry of Forests and Range | The Forests for Tomorrow program is a BC Ministry of Forests and Range initiative that was established in response to recent catastrophic wildfires in the province and the on-going MPB epidemic. The program is aimed at improving the future timber supply and addressing risks to other forest values through the re-establishment of young forests on land that would otherwise remain underproductive. The program focuses on land that is primarily within the timber harvesting land base yet outside of forest industry obligations.<br><br>www.for.gov.bc.ca/hfp/fft |

*Provincial and First Nations Initiatives, continued.*

| | | |
|---|---|---|
| Forest Innovation Investment (BCFII) | | Forestry Innovation Investment is a provincial government agency that supports the forest sector by documenting BC's environmentally progressive forest management practices, promoting product development and fostering international markets. FII is the lead agency responsible for developing new product uses and markets for MPB-killed wood. The strategy "supports forest communities, preserves forests and assists forest companies in recovering the greatest economic value from impacted timber". |
| Fibre Quality Projects | FPInnovations Canada – Paprican Division | Pulp & Paper - Assess and optimize bleaching in combination with post-refiner bleaching to overcome the brightness ceiling of bleached chemi-thermomechanical pulps made from bluestained lodgepole pine chips. |
| | UBC Faculty of Forestry | Bio Products – Examine the BC forest products value cascade and develop a techno-economic model which can be used to evaluate the different scenarios of material recovery for bio-ethanol production. Improvements to the technical bio-conversion platform will be evaluated the potential for bio-refining will be modeled to determine the potential affect on BC's economy. |
| Manufacturing Processes Projects | FPInnovations Canada – Forintek Division | Logs – Determine the impact of variations in log quality and storage time on value yields of beetle-killed sawlogs and describe optimal storage regimes. |
| | FPInnovations Canada – Paprican Division | Pulp & Paper – Assess the fibre recovery, quality and costs of producing chips and hog fuel in a satellite chip yard equipped with an electrically powered drum debarker and disk chipper. The fibre source will be two types of MPB killed lodgepole pine (red stage and grey stage MPB logs). The chips will be both kraft pulped and thermo-mechanically refined to determine how the MPB wood chips affect the pulping and pulp properties. |
| | UBC Department of Wood Science & Ainsworth | Oriented strand board – Study the feasibility of thermal conditioning treatment of MPB logs before processing into strands for engineered wood products. The MPB material will be measured relative to green lodgepole pine and aspen. |
| Product Development Projects | UBC Department of Wood Science | Engineered Wood - A series of experiments will be conducted examining the effect of time-since-death of MPB trees, fibre geometry, fibre content compatibilizer and wood/plastic formulations on the manufacturing of wood-plastic composites, on the uniformity and homogeneity and the mechanical properties of the products.<br>Address the need for fundamental knowledge and understanding for producing a new value added MPB wood product such as thick glue-laminated plate composites.<br>Examine the fundamental properties of adhesive to wood fibre interaction, modeling of the pressing process and influence of pressing on the gas permeability properties of the mat or billet, and assess the creep and load duration response of thick MPB strand based wood products. |



| | |
|---|---|
| UBC Department of Chemical & Biological Engineering | Bioproducts – Study optimum conditions for extraction and hydrolysis of hemicellulose sugars from MPB pulp chips, ferment to produce ethanol and other bioenergy compounds and conduct kraft pulping trials on MPB wood chips that have the hemicellulose removed to assess the impacts on pulping. |
| BC Wood Specialties Group | Value-Added – Evaluate the stability of thin blue-stained MPB boards for the production of flooring using a commercial wood hardening and colouring process. The colours best suited to masking the blue-stain will be selected and consumer response to these will be assessed. |
| FPInnovations Canada – Forintek Division | Treated Wood – Demonstrate the termite resistance of post MPB lumber treated with various combinations of borate and organic termiticide and determine if these are equal to or better than the standard levels of borate treatment in preventing termite activities on the wood. Investigate and eliminate technical impediments to the manufacture of laminated wood products made from MPB wood treated with ACQ and CA. The project will determine methods to bond the treated laminating stock without needing to be re-planed prior to gluing, investigate ways of eliminating the need to re-plane after laminating and manufacture sufficient full size treated glulams to carry out weathering exposure and durability testing.<br><br>Plywood – Conduct a mill manufacturing trial to utilize MPB plywood veneer in the manufacture of specialty concrete form panel products. Assess the product structure to determine the optimum mix of veneers in mixed Douglas-fir/ MPB plywood and overlaid MPB plywood. |
| | Lumber – Optimize coating systems for hot soy oil-treated bluestained MPB lumber that could be used for exterior sidings. The project will try a series of coatings over the hot oil-treated MPB lumber with systemic surface modification, surface characterization and coating performance testing. |
| UBC Department of Wood Science | Lumber – Develop pre-treatments to prevent the discolouration of paint films and opaque finishes on wood affected by MPB and restrict water absorption and swelling of painted MPB-affected wood. |
| FPInnovations Canada – Forintek Division | Engineered Wood – Investigate the feasibility of mixing MPB pine with coast BC species for LVL manufacturing through mill veneer testing and pilot plant manufacturing. Mixed hemlock/MPB and mixed Douglas-fir/MPB LVL will be manufactured and overall performance will be evaluated. |

| | | |
|---|---|---|
| Market Development Projects | BC Wood Specialties Group | Lumber – Conduct a market study to determine the colour preferences for small dimensional blue-stained specialty treated landscaping products and validate the scope of the market opportunities for this type of product. This project will further the opportunity for the recovery and supply of blue-stained 1 inch side boards that would otherwise be converted into pulp chips in an over-supplied market. |
| | FPInnovations Canada – Forintek Division | Bioproducts – Conduct a literature search and market study to determine the feasibility of pursuing the production of activated and/or solid charcoal materials using low grade MPB fibre. |
| Future Forest Ecosystems Initiative | Ministry of Forests and Range | The Future Forest Ecosystems Initiative is looking into measures that are required to adapt BC's forests so they are resilient to impacts from climate change.<br><br>www.for.gov.bc.ca/hts/Future_Forests |
| Mountain Pine Beetle Action Plan, 2006-2011 | Province of British Columbia | This plan provides a framework to direct provincial ministries and assist coordination between governments, industries, and stakeholders with seven objectives.<br>1. Encourage immediate and long-term sustainability for communities.<br>2. Maintain and protect worker and public health and safety.<br>3. Recover the greatest value from dead timber before it burns or decays, while respecting other forest values.<br>4. Conserve the long-term forest values identified in land use plans.<br>5. Prevent and reduce damage to forests in areas that are susceptible but not yet experiencing epidemic infestations.<br>6. Restore the forest resources in areas affected by the epidemic.<br>7. Maintain a management structure that ensures effective and coordinated planning and implementation of mitigation measures.<br><br>www.for.gov.bc.ca/hfp/mountain_pine_beetle<br>www.for.gov.bc.ca/hfp/mountain_pine_beetle/MPB-Annual_Report_20070917.pdf |
| Northern Development Initiative Trust | Province of British Columbia | The Province provided $50 million in December 2005 for the Northern Development Initiative Trust to help communities respond to the MPB infestation.<br>• $30 million for cross-regional MPB recovery projects<br>• $5 million for development projects in each of the four regions to help leverage new investments and partnerships to build economic strength.<br><br>www.nditrust.ca/ndit/funding/policies.php |

*Provincial and First Nations Initiatives, continued.*

| | |
|---|---|
| Forest Regulatory Review | The purpose is to review regulations, policies and processes affecting the forest industry to identify opportunities to streamline and reduce unnecessary red tape, cut processing time, and eliminate unnecessary cost burdens resulting from regulation and processes. The review will consider policies, processes and regulations that are implemented by not only the Ministry of Forests and Range, but also those of other government Ministries and organizations. |
| The Working Roundtable on Forestry | The Roundtable has been established by the provincial government to, “identify key issues and opportunities facing the forest sector in BC, and make recommendations to ensure a strong, vibrant, sustainable forest industry in BC for this generation, and for future generations.”<br>The Working Roundtable will determine conditions necessary for the long-term success of the forest sector in the context of global paradigm shifts such as:<br>• climate change and the challenges and opportunities it presents for BC’s forests<br>• changed competitiveness in the face of evolving world economies<br>• evolving markets<br>• evolving technology<br>• changing demographics as the workforce ages<br>• issues affecting BC’s forest stock such as the pine beetle<br>• changing social expectations with respect to forests and the forest industry.<br><br>www.for.gov.bc.ca/mof/Forestry_Roundtable |

| | | |
|---|---|---|
| Burns Lake Energy Committee | | The Burns Lake Energy Committee (BLEC) consists of representatives from Babine Forest Products Ltd., Decker Lake Forest Products Ltd., Cheslatta Forest Products Ltd., Comfor Management Services Ltd., the Burns Lake Native Development Corporation, and the Corporation of the Village of Burns Lake. The group's primary purpose is to address the wood waste issues of its respective members, and determine how beetle-killed timber can best be used.<br><br>A focal point for the BLEC is the identification of a project that will generate the highest financial returns for its members while at the same time maximizing socio-economic benefits for the Village of Burns Lake and promoting full participation by local First Nations.<br><br>During the past few years, many firms have made presentations to the committee outlining how they would use local wood waste and create opportunities for committee members. |
| Prince George Community Energy | City of Prince George | The City of Prince George has recently proposed the development of a community energy project that will use, in part, MPB derived fuel. A community energy system produces hot water at a central plant and then pipes it to buildings for space heating and domestic hot water heating. Individual buildings don't need their own boilers or furnaces and the the community energy plant can use renewable fuels. |
| Community Forests and Woodlots | | Recently, several communities in the region have been awarded Community Forest Agreements (CFA), and several others have been invited to apply for a CFA. Provided for a specific area close to or within the community, community forests are an important growth opportunity for communities. Forestry activities on CFA's can provide a source of revenue, and allow for locally determined forest management objectives. Both Burns Lake and Cheslatta community forests have their own milling operations, that provide additional local jobs and revenues. Refer to Appendix D for a list of Community Forest Agreements.<br><br>The Woodlot Licence Program is mandated to provide small-scale forestry opportunities. Practicing good forest stewardship on small Crown and private land parcels promotes social and economic well being. |

## Appendix H Biomass Quantities and Recovery Costs

Woody biomass (roadside residual) for bio-fuel has not been yet recovered on a commercial basis in the OBAC region. However, biomass is being used on a industrial scale to generate energy in the region, with many forest companies using residual mill biomass for pellets or as hog fuel to produce heat and electricity for their operation. The BC forest sector is the second largest producer of electricity after BC Hydro. Some forest companies have studied the potential cost and supply of fuel wood for their operations. The sources of biomass for bioenergy include:

- Mill residues from sawmills and some hog fuel
- Residues from roadside debris piles associated with logging and road construction
- Standing dead trees and non-merchantable wood

A study undertaken in the neighbouring Quesnel/Nazko corridor[a] by FERIC provides some indications of potential costs and volumes of woody biomass (also referred to as fuelwood) in the OBAC region.

On sites with average to heavily infested MPB stands that have been harvested using conventional ground-based harvesting systems, sorted and merchandized at the roadside, the 2006 FERIC study found that the amount of forest biomass left at roadside is approximately 14-55% of the original stand biomass. FERIC estimates that about 60 oven dry tonnes per hectare harvested (ODt/ha)[b] is left in roadside accumulations. As a general rule, whole trees are brought to the roadside now for processing in order to ensure only sawlogs are hauled to area mills. Accumulations are comprised of the tops, branches, limbs, trimmed log pieces and non-merchantable logs that are normally left in debris piles and at the roadside. This amounts to about 15-20% of the stand biomass, or "for every 100 tonnes of logs that go over a log scale, the company leaves 15-20 tonnes on the roadside".[c] Therefore, for every 100,000 ha harvested in average to heavily infested MPB stands, approximately 6 million ODt (2.6 million m3) of biomass is potentially available at the roadside. The study also looked at biomass dispersed in the harvest areas but concludes that the piece sizes are too small to be commercially viable for processing to biomass, and that only roadside debris (which includes piles) is viable for recovery at this time.

The study estimates the cost to chip roadside residuals is about \$14/ODt to \$22/ODt (\$6/$m^3$ - \$9/$m^3$), excluding the costs for harvesting to the roadside, roads, planning, silviculture, risk or stumpage which are borne by the primary harvesting licensee. Trucking to a mill is the major cost consideration. To chip, load and truck 50 km one-way haul is about \$42/ODt (\$18/$m^3$). A 100km one-way to a mill is about \$52/ODt (\$23/$m^3$).

Note that the study analyzed three scenarios for recovering woody biomass (tops, branches, non-merchantable logs and pieces) from the forest depending on the proportion of merchantable conventional forest products that can be recovered:

- Woody biomass from roadside residues after logging is complete, typically less than 50% of the stand was woody biomass
- where 50-90% of the stand is woody biomass, the entire volume is processed by way of a satellite yard to facilitate sorting the sawlogs from the woody biomass;
- for stands with 95% woody biomass, trees are full-tree chipped on-site.
- There is always potential for higher value products, although this will require more research into the product lines, and a desire by existing and/or new businesses to diversify wood products. Research organizations like FP Innovations Ltd. are well equipped to scope out the potential products and markets. A more complete list of value added forest products that are possible include:

---

a Estimated Costs for Harvesting, Comminuting, and Transporting Beetle-killed Pine in the Quesnel/Nazko Area of Central British Columbia, FERIC, Advantage Report Volume 7, Number 16, 2006, available at www.for.gov.bc.ca/hts/bioenergy/Link_Rep/FERIC_MPB%20report.pdf

b 1 m3 is approximately equal to 2.3 oven dry tonnes

c Pers comm. Jack McDonald, FERIC, Feb 27, 2008

**Volume and Cost Estimates of Biomass**

Additional information on the volume and cost estimates of biomass available by Timber Supply Area is available from the Ministry of Forests and Range (March 2008) at: www.for.gov.bc.ca/hts/bioenergy/potential_tenure.htm

Sources of information on "Bioenergy Opportunities Using Wood Resources" include:

- Volume Estimates for Bioenergy Tenure Opportunities
- Average Cost Estimate Tables by Forest District
- Cycle Time Contour Maps from Appraisal Points by Forest District

Ministry of Forests and Range region and district staff conducted a study in the fall of 2007 to estimate the potential tenure opportunity for bioenergy in the BC interior. The opportunity is guided by forest stewardship requirements, available low-grade timber, and available Allowable Annual Cut.

**Potential AAC for Bioenergy Tenures in the OBAC Region[d]**

| Timber Supply Area | Potential AAC available for 20-year bioenergy tenures |
|---|---|
| Lakes | 300,000 $m^3$/year |
| Morice | 250,000 $m^3$/year |
| Prince George | 1,300,000 $m^3$/year |
| Prince George Forest District | Nil |
| Vanderhoof Forest District | 300,000 $m^3$/year |
| Fort St. James Forest District | 1,000,000 $m^3$/year |
| **OBAC REGION TOTAL*** | **1,850,000 $m^3$/year** |

* The Mackenzie, Robson Valley and Bulkley TSAs were not included in this preliminary analysis. This does not imply that potential bioenergy harvesting opportunities do not exist in these TSAs. The presence of an existing Pulpwood Agreement licence in the Prince George District accounts for the absence of current opportunities in that district.

d Ministry of Forests and Range. October 2008. www.for.gov.bc.ca/hts/bioenergy/potential_tenure.htm

# Appendix I Community Forest Agreements in BC[e]

Communities in **bold** are in the OBAC region.

| Community Forest Agreements | Pre-uplift AAC ($m^3$) | Area (ha) | Date issued |
|---|---|---|---|
| **Burns Lake Community Forest Corp.** | **62,631** | **42,900** | **2005-04-12** |
| Esketemc First Nation | 17,000 | 25,000 | 2006-03-31 |
| **Village of McBride** | **50,000** | **60,860** | **2007-02-28** |
| Harrop-Procter Community Co-op | 2,603 | 10,860 | 2007-03-31 |
| Likely Community Forest Corp. | 12,231 | 14,000 | 2007-04-01 |
| **Cheslatta First Nation** | **16,613** | **39,129** | **2007-10-01** |
| **District of Fort St. James** | **23,895** | **15,131** | **2001-03-07** |
| Bamfield Huu-ay-aht CFS | 1,000 | 418 | 2001-09-20 |
| Ktunaxa Kinbasket | 5,790 | 20,234 | 2004-10-01 |
| Cowichan Tribes | 10,000 | 1,786 | 2004-12-31 |
| WestBank First Nation | 55,000 | 45,693 | 2004-08-27 |
| Sechelt | 20,000 | 10,790 | 2006-05-31 |
| Wells Gray | 20,000 | 13,154 | 2006-07-03 |
| Powell River | 25,000 | 7,109 | 2006-08-18 |
| **Prince George** | **12,000** | **5,443** | **2006-11-01** |
| Nuxalk First Nation | 20,000 | 48,614 | 2006-12-07 |
| Bella Coola | 30,000 | 79,888 | 2007-05-25 |
| Terrace | 30,000 | 9,500 | 2007-06-01 |
| **Smithers (Wetzin'kwa)** | **30,000** | **22,369** | **2007-07-01** |
| Lower North Thompson | 20,000 | 8,506 | 2007-08-01 |
| Sliammon | 28,000 | 9,340 | 2007-12-04 |
| Cascades Lower Canyon CF Corp | 34,300 | | |

| Invitations to apply | AAC(m3) | Date of invite |
|---|---|---|
| **Lheidli T'enneh** | **15,000** | **2003** |
| Kaslo | 25,000 | 2004-08-10 |
| Creston | 15,000 | 2004-08-11 |
| Ucluelet | 25,000 | 2004-09-16 |
| Port Alberni | 20,000 | 2004-10-15 |
| Massett | 25,000 | 2004-12-08 |
| Logan Lake | 20,000 | 2005-02-10 |
| Nakusp | 20,000 | 2005-11-16 |
| Slocan | 20,000 | 2005-11-16 |
| Haida | 120,000 | 2005-11-25 |
| **Mackenzie/Mcleod Lake Indian Band** | **30,000** | **2005-12-09** |
| Keremeos/Similkameen | 20,000 | 2006-04-04 |
| 100 Mile House | 20,000 | 2006-04-04 |
| Kimberley | 20,000 | 2006-04-04 |
| Valemont | 40,000 | 2006-04-04 |
| Chetwynd | 20,000 | 2006-05-03 |
| Tumbler Ridge | 20,000 | 2006-05-03 |
| **Houston** | **20,000** | **2006-09-11** |
| Xaxlip | 25,683 | 2006-12-01 |
| Toquaht | 6,600 | 2006-12-09 |
| Dunster | 15,000 | 2007-03-01 |
| Princeton | 20,000 | 2007-05-31 |
| Alexis Creek Indian Band/Tatla Lake | 40,000 | 2007-07-06 |
| Williams Lake | 20,000 | 2007-07-11 |
| Wells | 5,000 | 2007-11-19 |
| Pemberton | 10,000 | Pending consultation |
| Squamish | 10,000 | Pending consultation |
| Whistler | 10,000 | Pending consultation |
| Grand Total | 1,183,346 | |

e www.for.gov.bc.ca/hth/apportionment/apportionment.htm, March 8, 2008

**Omineca Beetle Action Coalition**
101-1968 Queensway Street, Prince George, BC V2L 1M2
Phone: (250) 563-7005 • Toll Free: 1-866-563-7005 • Fax: (250) 562-7880
www.ominecacoalition.ca
email: info@ominecacoalition.ca