

**OPPORTUNITIES FOR AREA-BASED FOREST TENURES IN BC**  
**DRAFT—FOR DISCUSSION ONLY**  
**November 8, 2011**

**Background:**

In 2009, the Working Roundtable on Forestry (the Roundtable) presented the following vision for BC's forest sector going forward.

*British Columbia has a vibrant, sustainable, globally competitive forest industry that provides enormous benefits for current and future generations and for strong communities.*

In support of this vision, the Roundtable report (the report) identified 6 priority areas with a number of desired outcomes in each area, and 29 specific recommendations for action. Many of the specific recommendations have been acted upon, and the desired outcomes are still very valid today. This discussion paper explores one potential avenue for realizing the following desired outcomes from the report:

- *A cost competitive jurisdiction that attracts capital*
- *We attract private investment in forests*
- *We have a secure commercial forest land base*
- *Communities continue to benefit from forestry*
- *First Nations are full partners in forestry.*

In a number of areas, the report raised the possibility of these outcomes being achieved through the conversion of volume-based forest tenures to area-based tenures. The report stressed the need to focus on future timber supplies in BC, to mitigate the impact of the mountain pine beetle (MPB) in the Interior and to assist the transition to second-growth forest on the Coast, and expressed the opinion that companies may be more likely to make investments in activities such as inventory and silviculture within an area-based tenure. The report specifically recommended the expansion of area-based tenure opportunities for First Nations and for communities. The report also recommended that transactions between government and industry be streamlined, and expressed the opinion that volume-based tenures are collectively more costly to manage than area-based.

With the above in mind, this paper explores one potential pathway for a limited conversion of volume-based to area-based forest tenures in BC.

## Discussion:

Approximately 20% of the provincial AAC is allocated to area-based tenures with approximately 18% in Tree Farm Licences (TFLs), ( which are predominately on the coast) and another 2% in Community Forest Agreements (CFAs) and Woodlots (WLs). The bulk (approximately 63%) of provincial AAC is allocated to volume-based Forest Licences (FLs) operating in multi-licensee Timber Supply Areas (TSAs), which are located throughout the province, although most of the FL AAC is in the interior.

In the past, government has examined the opportunities associated with moving towards more area-based tenures. Most recently, in 1988, government introduced legislation to allow conversion of FLs to TFLs. This move was generally supported by major forest companies, and government received approximately 100 applications for conversions. Forest Minister Parker then conducted a significant round of public meetings across the province where considerable concerns were expressed particularly from environmentalists, loggers, First Nations and small operators. Following this, the legislation was not pursued.

Since that time, and particularly over the last few years, the small business program has been expanded and significant volume has been moved into smaller, local area-based tenures (CFAs and WLs), with general public support for that initiative. In addition, a significant volume of timber has been directed towards First Nations through a variety of agreements.

As noted by the Roundtable, expanding area-based forest tenures can offer a number of opportunities to either the province or the licensee:

- greater security of the land base and associated harvesting rights, which could lead to more investment in areas such as: production facilities, infrastructure, forest management and/or improving future timber supplies
- streamlining of business processes, both internal and between government and industry
- the potential ability to advance the bio-economy or the management of non-timber forest products
- the potential for the licensee to provide specific benefits back to the province, First Nations or communities in exchange for the benefit they receive from the tenure conversion
- the ability to "grow" the AAC of the licence, and the province, through higher levels of forest management.

At the same time, converting volume-based to area-based forest tenures would present a number of challenges:

- The need to respect the public concerns that were raised earlier, and to ensure that this program will have a net benefit to the province
- the need to ensure strong First Nations and community support
- the need to avoid impacts on other licensees not participating
- the potential to negatively impact future timber supplies (AACs) by fragmenting larger land-bases

- the reality that the MPB infestation will limit the potential areas suitable for area-based tenures
- reduces the flexibility for government and industry to react to another event such as the mountain pine beetle infestation
- a significant workload wherever it is implemented, with the onus on the proponents of conversion to bear that workload.

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**Conclusion:**

Conversion of volume-based licences to area-based licences can offer some potential advantages to government and industry, and benefits to the province. However, this is a concept that must be carefully managed to ensure that it delivers those advantages and is clearly seen to be a benefit.



## Effect on timber supply of issuing area-based tenures in a TSA

**Background:** In a timber supply area (TSA) licences of various types are issued to harvest certain volumes of timber for various periods of time. Apart from certain areas where harvesting is not permitted (wildlife habitat, OGMAs, riparian areas etc), operators are basically free to harvest their allotment of timber from anywhere in the TSA. Currently, about 80% of the timber harvested in BC originates from such volume-based tenures in TSAs. The remainder of the provincial timber harvest originates from area-based tenures (TFLs, CFAs, WLs, FNWLs). Forest Analysis & Inventory Branch was asked to explore the effects on timber supply of subdividing a TSA into several area-based tenures.

**Method:** For this analysis we looked at the Okanagan TSA which has a total area of 2.5 million hectares and a timber harvesting land base of 800,000 hectares. This TSA was divided into 26 landscape units and most non-timber constraints, such as old seral requirements, are applied at the landscape unit level. The data and forest management assumptions used in this analysis are the same as were used in the recent timber supply review conducted for the Okanagan TSA. The THLB in the landscape units ranged from 2200 hectares to 56,400 hectares. Using a timber supply optimization model (Woodstock) we calculated the highest sustainable timber supply possible from the entire TSA. We then sequentially disaggregated the TSA, one LU at a time, and found the highest timber supply possible from the two parts – the LUs being disaggregated and the remainder of the TSA. A total of 52 model runs were required for this part of the analysis.

**Results:** The attached worksheet “run\_as\_a\_whole\_unit” shows that it is possible to obtain a timber supply of 2.7 million m<sup>3</sup>/year from the Okanagan TSA for 100 years (twenty 5-year periods). It also shows the contribution to the harvest by period from each of the LUs. The harvest from any one LU varied considerably throughout the harvest forecast horizon. There were some periods where no harvesting occurred in some LUs.

The worksheet “run\_as\_separate\_unit” shows the timber supply forecasts as the TSA was disaggregated. It shows for example, that it is possible to get a sustainable timber supply of 14,100 m<sup>3</sup>/yr from the Anarchist LU and 2,688,961 m<sup>3</sup>/yr from the remainder of the TSA for a total of 2.7 million m<sup>3</sup>/year – the same as the TSA as a whole. Further disaggregation of the TSA showed that the sum of the parts only decreased slightly to 98.3% of what was possible from the intact TSA.

**Discussion:** It is generally believed that disaggregation of a TSA into separate area-based tenures would lead to a significant reduction in overall timber supply. In this example, where we broke up the TSA one LU at a time we did not see any significant reduction in timber supply. It seems that the age-class structure in each LU was such that the sum of the sustainable timber supply from each LU was almost equal to that from the TSA as a whole.

We believe that if the harvesting history of the TSA was such that some LUs were more heavily harvested than others – and resulted in a skewed age-class distribution - then the sum of the parts would be significantly less than the whole. Apart from harvesting history, the most likely cause of an age-class imbalance in the Interior would be the MPB infestation. In TSAs where lodgepole pine was a significant portion of the growing stock and where the majority of that pine was killed by the MPB, we expect that a similar analysis as was completed for the Okanagan TSA will produce quite different results.

**Next steps:** The next step in this project is to do a similar analysis for the Lakes TSA where lodgepole pine comprised 64 % of the mature volume on the THLB and it is estimated that 76% of that volume is dead.

Atmo Prasad

July 25, 2012



Ref: 193035

**APR 03 2013**

Doug Perdue, R.P.F.  
Chief Forester  
Dunkley Lumber Ltd.  
P.O. Box 173  
Prince George, British Columbia  
V2L 4S1

Dear Mr. Perdue:

I would like to thank Dunkley Lumber Ltd. for your letter of January 29, 2013, and meeting with me on March 12, 2013, regarding your interest in converting Forest Licence (FL) A18169 into a tree farm licence (TFL).

I now understand that Dunkley Lumber is a strong advocate for further area-based licences, which provide the additional security for longer-term investments in the forest land base.

The proposed amendments to the *Forest Act* to allow for area-based conversion have been deferred to allow for greater public engagement to ensure everyone is better informed about area-based tenures, their intent and their benefits.

Dunkley Lumber's Ltd. advice and support as we develop the policy and procedures around the tenure conversion initiative would be greatly appreciated. If you wish to discuss this further, please contact Greg Rawlings, Regional Executive Director for the Omineca Region by phone at 250 565-6102 or by email at [Greg.Rawling@gov.bc.ca](mailto:Greg.Rawling@gov.bc.ca).

To conclude, I look forward to further consideration of an opportunity for Dunkley Lumber Ltd. to convert FL A18169 into a new TFL, or an addition to TFL 53

Sincerely,

Steve Thomson  
Minister

Attachments: Guiding principles for the conversion of volume based to area based tenures

Page 1 of 2

Ministry of Forests, Lands and  
Natural Resource Operations

Office of the Minister

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Doug Perdue, R.P.F.

pc: Greg Rawling, Regional Executive Director, Omineca Region  
Lynda Currie, District Manager, Fort St. James and Vanderhoof Resource Districts  
John Huybers, District Manager, Prince George Forest Resource District

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Ministry of Forests, Lands and Natural Resource Operations, Environment Sector, Cariboo Chilcotin Coast Region, Kootenay Rockies Region, Northern B.C. Region, Provincewide, Thompson / Okanagan Region, Vancouver Coast & Mountains Region, Vancouver Island / Coast Region

## New legislation supports mid-term timber supply

<http://www.newsroom.gov.bc.ca/2013/02/new-legislation-supports-mid-term-timber-supply.html>



[View on Flickr](#)

Wednesday, February 20, 2013 1:55 PM

VICTORIA - Forest Act amendments introduced today will help improve forest stewardship and support community resiliency in mountain pine beetle impacted areas.

The legislation fulfils recommendations made by the Special Committee on Timber Supply in their August 2012 report, which was based on public hearings and written submissions from First Nations, local communities, industry stakeholders and the public.

The legislation proposes a new section 34.1 be added to the Forest Act that will create the ability to convert volume-based forest licences to area-based tree farm licences at the minister's invitation. Invitations will be publicly advertised, and applicants must make their application for an area-based licence available for public review and comment for at least 60 days and indicate how they have incorporated public feedback before submitting to the minister.

The minister may reject an application if the best interests of the public are not met. This summer, the ministry will consult with the public on the evaluation criteria and use the results to refine policy before the first application for a conversion to an area-based tenure occurs.

Supporting area-based tenures has a number of benefits, such as creating an incentive for licence holders to make enhanced silviculture and infrastructure investments that will improve the mid-term timber supply. As with other forms of forest licences on Crown land, public consultations on forest stewardship plans and timber supply reviews are required on any new area-based tenures.

Another important legislative amendment will create a supplemental forest licence, which ensures wood fibre can be obtained for bioenergy, pellet producers and secondary manufacturers by providing greater fibre security for licence holders.

The legislation will also create the ability to establish sustainable maximum harvest limits on the amount of low-grade timber credited to a non-sawlog facility. This will ensure access to low-quality timber but prevent overharvesting. A number of related and consequential amendments are also included in the legislation, such as creating regulation-making powers.

On Oct. 9, 2012, the Province announced the Mid-Term Timber Supply Action Plan, consisting of nine sustained and 11 new actions. To facilitate implementation of the action plan, the Province committed to introducing supporting legislation at the earliest possible opportunity.

### Quotes:

Forests, Lands and Natural Resource Operations Minister Steve Thomson -

"The legislation introduced today is a milestone and meets key commitments in our Mid-Term Timber Supply Action Plan. We are creating the conditions needed to help B.C.'s Interior weather the impacts of the mountain pine beetle infestation."



Parliamentary Secretary for Forestry John Rustad -

"This government is fulfilling an important commitment to support the recommendations made by the Special Committee on Timber Supply. Innovations such as the supplemental forest licence will provide security to the wood bioenergy sector and help enable increased investment."

Jason Fisher, vice president, Dunkley Lumber -

"As a family-owned company, we plan our business in terms of generations. Operating on an area-based licence provides us with the security we need to bring that long-term approach to forest management so that we can continue to invest in B.C.'s most important public resource."

Mayor Luke Strimbold of Burns Lake -

"As a forestry-based community, Burns Lake shares a common vision with the province to increase mid-term timber supply for the future of our families. These amendments help create the foundation we need to accomplish this goal."

#### **Quick Facts:**

- Since 2001, British Columbia has committed \$884 million to battle the beetle and mitigating future impacts.
- Forestry is a key driver of B.C.'s economy, providing direct employment to over 56,000 B.C. families, especially in rural communities.
- The Special Committee on Timber Supply consulted with 15 communities in the central interior, held three days of hearings in Vancouver, and reviewed over 650 submissions from First Nations, local governments, industry stakeholders and the public.

#### **Learn More:**

For more information on the Mid-Term Timber Supply Action Plan and the mountain pine beetle, visit: [www.gov.bc.ca/pinebeetle](http://www.gov.bc.ca/pinebeetle)

To view a copy of the bill, visit: [http://www.leg.bc.ca/39th5th/1st\\_read/index.htm](http://www.leg.bc.ca/39th5th/1st_read/index.htm)

A backgrounder follows.

#### **Media Contact:**

Vivian Thomas  
Communications Manager

Ministry of Forests, Lands and Natural Resource Operations  
250 356-2475

#### **BACKGROUNDER**

##### **Guiding principles - Implementation of volume-based to area-based tenures**

Conversions of volume-based replaceable forest licences to area-based management will be guided by the following principles:

- The minister will only approve applications for conversions that will provide a clear, measurable benefit to the public. Examples could include:
  - Return of allowable annual cut (AAC) to government to support priority programs such as First Nations woodland licences, community forests, woodlots and BC Timber Sales.
  - Creation of new business models, which are not supported through volume-based tenures, which will provide long-term, incremental employment and revenue, for example, development of the bio-energy sector.
  - Commitments for licensee-funded activities or investments that have a very high likelihood of increasing the AAC of the

landbase and/or improving stewardship or other economic opportunities as compared to the status quo.

- Commitments to conduct a long-term forest management regime that is incremental to the minimum standards required by current legislation and policy.
- Furthering First Nations' involvement in the business of forestry over the long term.
- The area proposed for area-based management will support an AAC that is commensurate with the AAC being surrendered under forest licences and commensurate with the general timber supply forecast for the timber supply area as a whole. If the replaceable forest licence holder offers to return AAC to government as part of an application, the new area-based tenure landbase must reflect the reduced AAC.
- The AAC and management of the residual timber supply area will not be unduly impacted.
- The proposed area-based tenure must represent a fair and balanced exchange of rights and opportunity.
- Conversions will support, or not hinder, existing government forest tenure commitments and goals for example, issuance of First Nations woodland licences and expansion of the community forest and woodlot licence programs.
- Conversions will not unduly impact existing forest tenure holders or tenure holders within other resource sectors, for example, oil and gas, mining, and must not result in payment of compensation by government to any tenure holder or stakeholder.
- The protection of Aboriginal interests must be supported.
- Existing land-use plans must be supported.
- The application must be available for public review and comment for at least 60 days, and the applicant must submit the results of the public review process and show how public concerns have been addressed before submitting to the minister for decision.

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Pages 6 through 8 redacted for the following reasons:

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**MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS  
INFORMATION NOTE**

Date: March 14, 2013  
File: 19500-20/A18169  
19700-20/TFL 53  
280-20  
CLIFF/tracking #: 193035

**PREPARED FOR:** The Honourable Steve Thomson, Minister, Forests, Lands and Natural Resource Operations

**ISSUE:** Minister's meeting of March 12, 2013 with Dunkley Lumber regarding conversion of Forest Licence (FL) A18169 to a Tree Farm Licence (TFL).

**BACKGROUND:**

Dunkley Lumber has requested a meeting with the minister to discuss their request of January 29, 2013 (attached) to convert their replaceable FL A18169 (AAC of 201 978m<sup>3</sup> and operating areas in the southern portion of the Fort St. James District) to an area in proximity to their TFL 53 (AAC of 188 687m<sup>3</sup> and located in the southern portion of the Prince George District).

Dunkley Lumber has been a good performer on TFL 53 and always been a strong advocate for area based licences.

**DISCUSSION:**

In keeping with their January 29, 2013 letter, it is expected that during the meeting Dunkley Lumber will:

- Make the case that the operating area of FL A18169 could be better utilized to land areas for First Nations Woodland Licences or potentially an expansion of the District of Fort St. James Community Forest. This is because that operating area is close to the community of Fort St. James and the district's main First Nations bands territories.
- For logistics and efficiencies, emphasize that it is logical to have a larger area based tenure closer to their milling operations in Strathnaver/Hixon. The critical issue would be who would be impacted by the new area for TFL53. Dunkley Lumber is currently evaluating different potential areas.

**MINISTRY RESPONSE:**

The minister is pleased that Dunkley Lumber is expressing interest in the conversion and acknowledges that they were always a strong advocate for area based licences.

The legislation that would allow for conversion of replaceable forest licences to tree farm licences has been deferred to allow for greater public engagement to ensure everyone is better informed about area-based tenures, their intent and their benefits.



Dunkley's advice and support as we further develop the policy and procedures around the tenure conversion initiative will be very important and appreciated.

Government has committed to further consultation with the public and stakeholders this summer before going any further with the legislation.

The minister looks forward to further consideration of an opportunity for Dunkley Lumber to convert FL A18169 into a new TFL or additional area for TFL 53, if the legislation passes and following public consultations this summer. However, no commitments can be made at this time.

**Attachments:**

- 1) Guiding principles - Conversion of volume based to area based tenures
- 2) Incoming letter of Dunkley Lumber dated January 29, 2013
- 3) Draft response letter from the minister to Dunkley's letter of January 29, 2013

**Contact:**

*ADM: Kevin Kriese  
Div: North Area  
Phone: 250-847-7789*

**Alternate Contact:**

*Name: Greg Rawling  
Region: Omineca Region  
Phone: 250-565-6102*

**Prepared by:**

*Name: Louis Gagné  
Region: Omineca Region  
Phone: 250-565-6147*

Reviewed by	Initials	Date
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ADM	KK	2013/03/07
Dir./Mgr.		
Author	LG	2013/02/28

Cc's: Greg Rawling, Regional Executive Director, Omineca Region  
Lynda Currie, District Manager, Fort St. James and Vanderhoof Resource Districts  
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Ref: 193035

Doug Perdue, R.P.F.  
Chief Forester  
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Prince George, British Columbia  
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Attachments: Guiding principles for the conversion of volume based to area based tenures

Page 1 of 2

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Page 017 to/à Page 061

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# Converting Volume-based Tenures to Area-based Tenures

## July 18, 2012

### 1. PERCEIVED ADVANTAGES AND CHALLENGES

#### 1.1. PERCEIVED ADVANTAGES OF MOVING TO MORE AREA-BASED TENURES

- Business Opportunities - The superior security of the land base could promote new investment and help to facilitate partnerships and 3<sup>rd</sup> party agreements that may not be possible under a volume-based tenure. In addition, area-based tenures may encourage entrepreneurship and provide greater potential for new business opportunities and the streamlining of existing business processes.
- Improved Forest Management – Arguably, greater investment in silviculture and a higher level of forest management can be expected on area-based forest tenures because, unlike volume-based tenures, the holder of area-based tenures are the direct beneficiary of the silviculture investments. As well, this may provide an opportunity for the licensee to grow the AAC or stabilize the AAC earlier in mountain pine beetle impacted areas.
- Potential Return of AAC – Due to their greater land base certainty the forest industry generally views area based tenures as more desirable than volume-based tenures. Consequently, for the opportunity to convert volume-based tenures to area-based tenures, licensees may be prepared to accept an area-based tenure that represents less AAC than their current volume based tenure. This could allow for a return of AAC to government.

#### 1.2. PERCEIVED CHALLENGES OF MOVING TO MORE AREA-BASED TENURES

- Public Perception – The concept of shifting to more area-based tenures has been proposed in the past but was received negatively by the public. While the landscape has changed since this time, the public may still not endorse the perception of major forest corporations “controlling” more public forest land.
- First Nations – Area-based forest tenures may not be supported by First Nations as it may be perceived that government is granting a higher level of right to lands that are within their traditional territories.
- Affects on Current Programs – Current government priorities include the expansion of community forests, woodlot licences and First Nations woodland licences, which are all area-based tenures. Conversion of existing volume-based tenures to area-based tenures may constrain the land base available for these other area-based tenures.
- Loss of Flexibility – Area-based tenures generally reduce the flexibility of the Crown in providing additional opportunities to new entrants (e.g. bioenergy), First Nations, etc. Additionally, compensation costs have been historically (significantly) higher when landing new opportunities in an area-based tenure in comparison to landing new opportunities in a volume-based management unit.
- Land base fragmentation – Dividing up a TSA into a number of new area-based management units will have an impact on the overall timber supply. The implications for each timber supply area will be different depending on its harvest history, timber profile and licence types. Fragmentation impacts will be more pronounced in areas with a declining timber supply (e.g. mountain pine beetle impacted areas).



## 2. LITERATURE SUMMARY AND BACKGROUND ON THE BENEFITS AND CHALLENGES TO AREA BASED TENURES

### 2.1. PREVIOUS STUDIES

The merits of BC's volume-based tenures versus area-based tenures have been studied at various times throughout the past two decades. The Forest Resources Commission's report The Future of Our Forests (1991) considered area and volume-based tenures; however, the Commission was not able "to state a clear preference, based on past performance, for either form of tenure." The report went on to say:

"However, if enhanced stewardship for multiple values is a primary goal of tenure allocation under the Land Use Plan, the tenure must be area-based. The Forest Resources Commission has concluded that area-based tenures, based upon long-term contractual commitments, will best achieve stewardship goals. The very nature of volume-based tenures, where the company has no long-term stake in a given area of forest, virtually assures a level of stewardship no higher than required by the term of the licence."

In the mid-1990s several studies attempted to provide empirical evidence that tenure type played a role in silviculture investment and forest management. Three of these papers are summarized below:

Paper/author(s)	General findings	Selected quotes
<u>Differences in Silvicultural Investment Under Various Types of Forest Tenure in British Columbia</u> Zhang and Pearce 1995.	Paper provides empirical data that shows greater silviculture expenditures occurred on cut blocks located on more secure forms of tenure where private land was the highest followed by Crown land in a TFL, then Timber Licences and Forest Licences.	<p>"The variables for the form of tenure show that tenure is a significant influence on the level of silviculture investment."</p> <p>"Among the other significant influences on silvicultural investment, the positive coefficients for good and medium site quality suggest that higher site quality induces higher silvicultural investment, as expected".</p> <p>"...per hectare silvicultural investment on private lands, Crown lands within Tree Farm Licences and Timber Licences is 67, 24, 14% more, respectively, than Forest Licences."</p>
<u>The influence of the form of tenure on reforestation in BC</u> Zhang and Pearce, 1997.	Paper presents empirical data that shows higher levels of intensive silviculture occurring on more secure forms of tenure, particularly private land.	<p>"Generally, the findings support the proposition that reforestation is significantly influenced by the form of forest tenure, and more intensive resource management is fostered by more secure forms of tenure."</p> <p>"our findings should not be interpreted as demonstrations of the relative efficiency of the forest management under different forms of tenure."</p>
<u>The effect of forest tenure on environmental quality in BC</u> Zhang, 1996	Study provides empirical evidence that compliance to Coastal Fisheries Forestry Guidelines was higher on Tree Farm Licences compared to Forest Licences.	"Thus, the proposal of changing Forest Licences to Tree Farm Licences has its merits not only in encouraging more silvicultural investment and better forest practice, but protecting environmental quality as well."



All the above mentioned papers are frequently referenced in literature review papers discussing tenure in BC and Canada.

In 2000, the BC Ministry of Forests commissioned three papers from Consultants Friesen<sup>1</sup> Rea and Company: Strengths and Weaknesses of Tree Farm Licence Areas & Timber Supply Areas, Conversion of Forest Licences, and Consortium Based Management. One of the papers, Strengths and Weaknesses of Tree Farm Licence Areas & Timber Supply Areas, directly compared the merits of TFLs and TSAs/FLs. The methodology for this report included an exhaustive literature review as well as interviews with licensees.

The report compares TFLs and TSAs/FLs on various government objectives including: Resource Management, Enhancement of Forest Productivity, Jobs and Community Stability, and several others. Page 44 of the report provides a table that indicates where TFLs are superior, inferior or the same as TSAs and FLs for each of the Government Objectives. Viewed as pros and cons, this table would appear as follows:

<b>Government Objective</b>	<b>TFL</b>	<b>FL</b>
Jobs and community stability	Neutral	Neutral
Change flexibility	Con	Pro
Resource management	Neutral	Neutral
Enhancement of forest productivity	Pro	Con
Generation of revenue	Neutral	Neutral
Minimize gov't mgmt costs	Pro	Con
Maintain world competitive industry	Neutral	Neutral
Opportunity for new entrants	Con	Pro
Flexibility to achieve non-timber objectives	Neutral	Neutral

Friesen concludes: "Are area-based tenures such as the TFL the superior form of tenure? They are in the eyes of industry but there is little evidence in past performance to indicate that area-based tenures on Crown lands generate more 'public good' than volume-based tenures."

In 2007, a PHD thesis from the University of Alberta entitled: Perceived tenure security and incentives for investment in Canadian forest tenures: A literature review and empirical analysis looked at tenure security and investment across Canada. They found that security of tenure did not have a significant direct effect on silviculture investment. However, they did find that tenure security did have a positive influence on investing in processing facilities.

## 2.2. DISCUSSION

The studies done in the mid-1990s do support, through empirical data, the concept that greater security of tenure leads to greater silviculture investment. However, the 1990s were relatively good economic times for the forest industry, and if repeated today, these studies may yield different results (i.e. it is doubtful that many, if any, forest companies are investing in silviculture today above the minimum levels required by legislation, unless it is done with outside funding). The 2007 thesis would support this view. If economic times do improve, the studies from the 1990s do suggest that area-based tenure holders are more likely to invest in enhanced silviculture, particularly on higher sites.

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<sup>1</sup> It should be noted that lead author, Bob Friesen had previously worked for the Ministry and later came back to the Ministry and was a long standing ADM until his retirement in 2010.

### **2.3. CONCLUSION**

Research provides some support that a shift to a more area-based tenure has the potential to lead to increased levels of investment and intensive resource management. However, the number of studies is limited and those increased investments are not guaranteed, particularly in times of poorer market conditions. In addition, there are many challenges associated with shifting to more area-based tenures, which government must consider before moving in this direction.

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Page 62 redacted for the following reason:

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## Finck, Kelly E FLNR:EX

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**From:** Stewart, Doug B FLNR:EX  
**Sent:** Tuesday, July 9, 2013 9:35 AM  
**To:** Goad, Jennifer FLNR:EX  
**Cc:** Finck, Kelly E FLNR:EX; Greschner, Ron FLNR:EX  
**Subject:** Volume to Area Information for Estimates

**Importance:** High

1. Volume to Area Conversion – I assume Dave P will have a quick review to ensure that he wants to provide all of this information.

Excerpt from the talk provided to the MTTs MLA committee on volume to area conversion:



Transcript from  
discussion wit...

Paper on potential benefits and cons of volume vs area based tenures:



Converting  
lume-based Tenur

Some key research on volume vs area based tenures:



ForEcolManage19  
97.pdf



Differences in  
Silvicultural I...



Effect of Forest  
Tenure on Env...

- Key finding from 3<sup>rd</sup> report above – tenure and silviculture investment was \$660/Ha in TFLs and \$536/Ha in FLs.

Internal papers completed by Bob Friesen (note these papers are referenced in the document above titled “Converting Volume to Area Based Tenures”):



Consortium  
ied Management



Conversion of  
Forests Licences...



Strength and  
Weakness of TFLs ..

Doug

Page 068 to/à Page 079

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# Mid-Term Timber Supply Mitigation Options

Presentation for the  
Special Committee on Timber Supply  
June 6, 2012  
Kevin Kriese, ADM

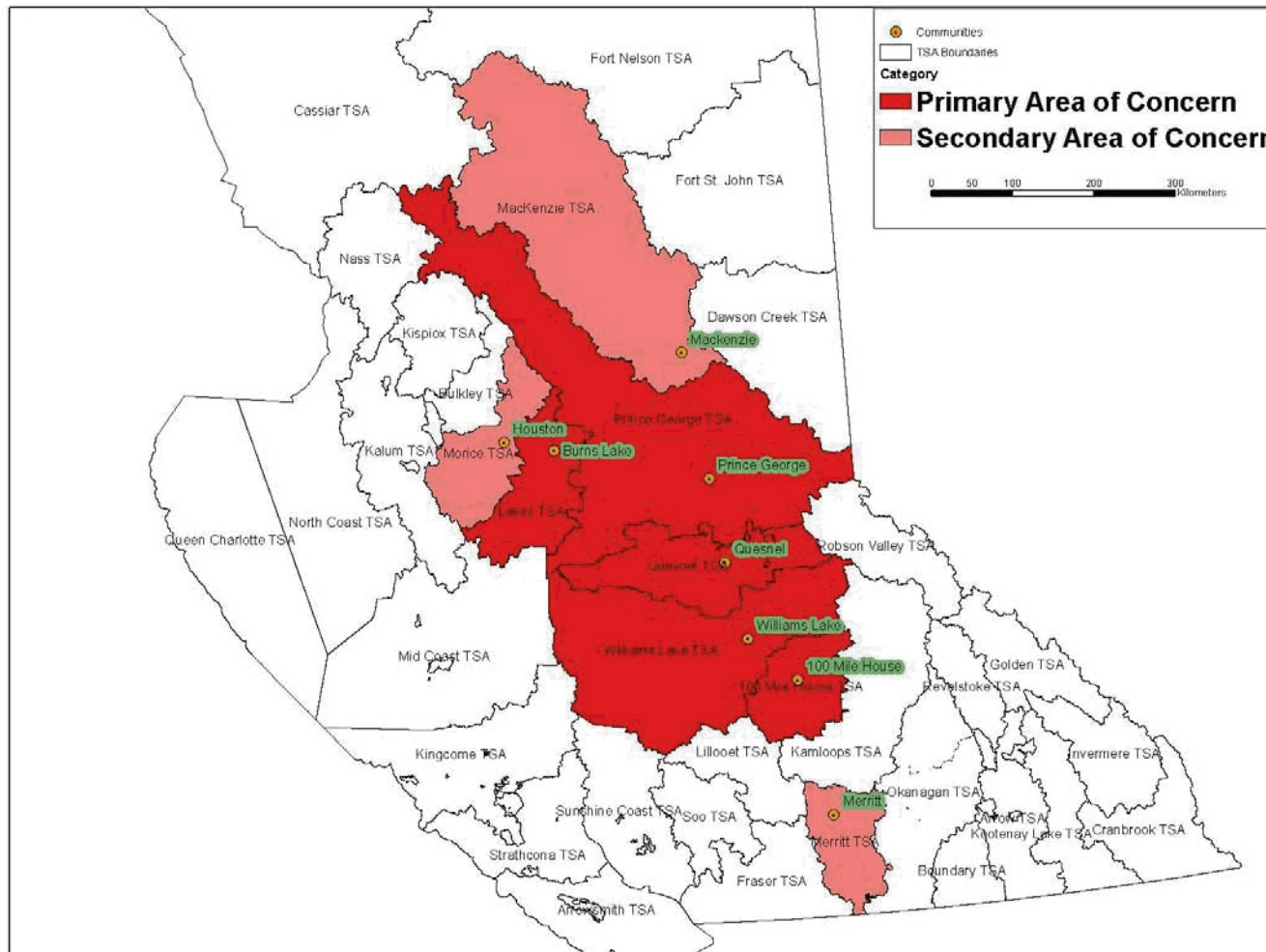


# Overview

- Background
- Mitigation Options
  1. Timber Constraints
    - VQOs
    - OGMAs
    - Riparian
    - UWR
    - Recreation
  2. AAC related
    - Timber flow
    - Merchantability definitions
    - Amalgamation of units
  3. Forest Management
    - Fertilization
    - Other intensive silviculture activities
    - Short-rotation Plantations
  4. Tenure
    - Volume to Area
  5. Economics of Low Quality Stands
    - Bioenergy
    - Infrastructure
  6. Composite Scenarios
    - Individual TSAs



# Background - Areas of Concern



# Background – Impact on Industry

## Forest Industry

- Significant shift in harvesting into pine
- Adaptation to harvesting smaller trees subject to more breakage
- Longer haul distances
- Adaptation to dry, poorer quality logs





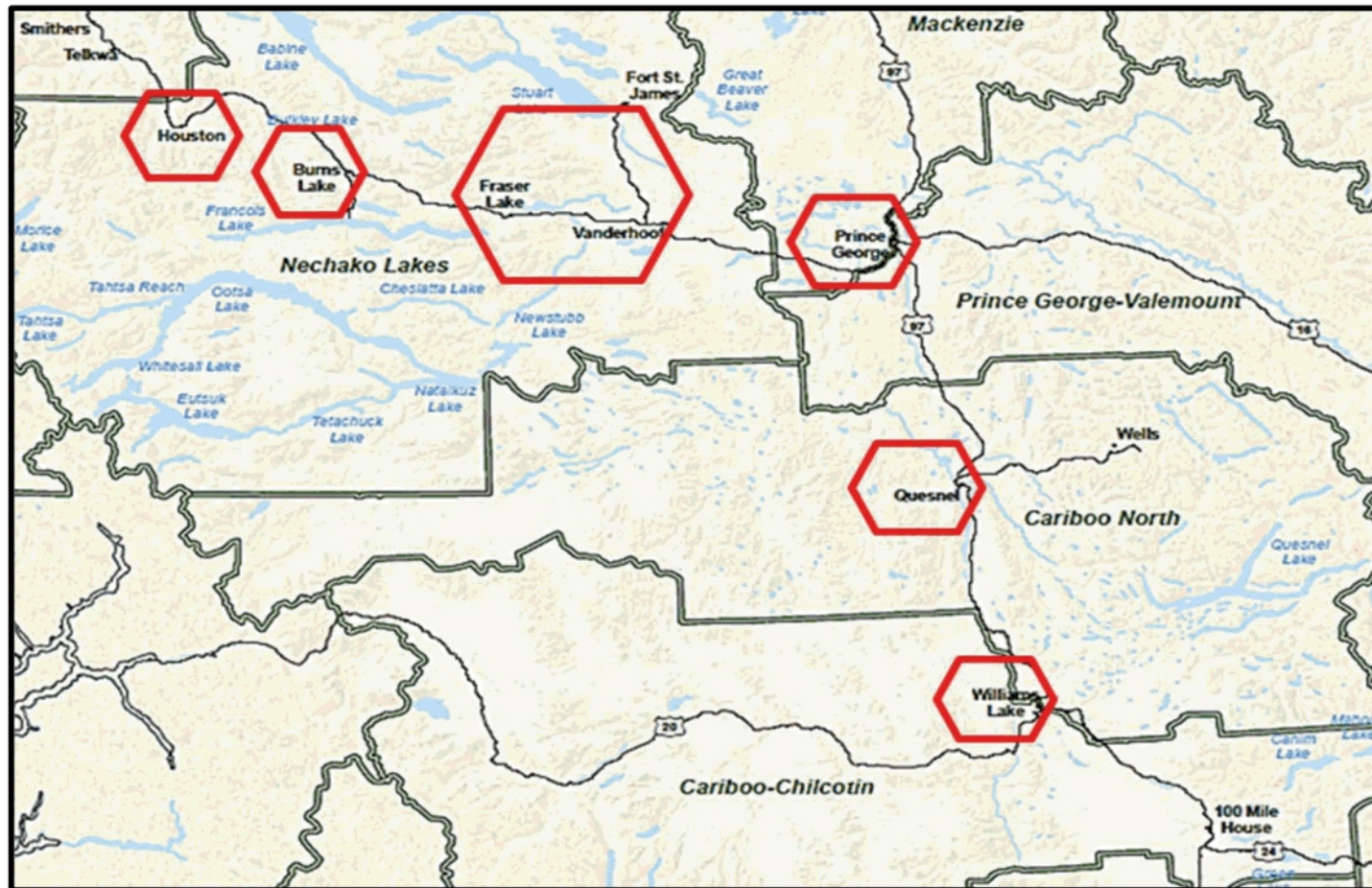
# Background – Impact on Industry

## Forest Industry

- In several management units the AACs have already started to decline
- The economically available supply of dead pine timber is limited and will start to decline first in areas around Burns Lake, Quesnel and Williams Lake.
- This has implications for utilizing dead pine for other purposes such as bioenergy.

# Background – Impact on Industry

## Forest Industry cont'd



# Background – Impact on Industry

## Tourism

- Approx. 980,000 clients spend estimated \$1.5 billion at nature based tourism business annually
- Industry has indicated that visual resources and scenic values are an essential component of a high quality tourism experience

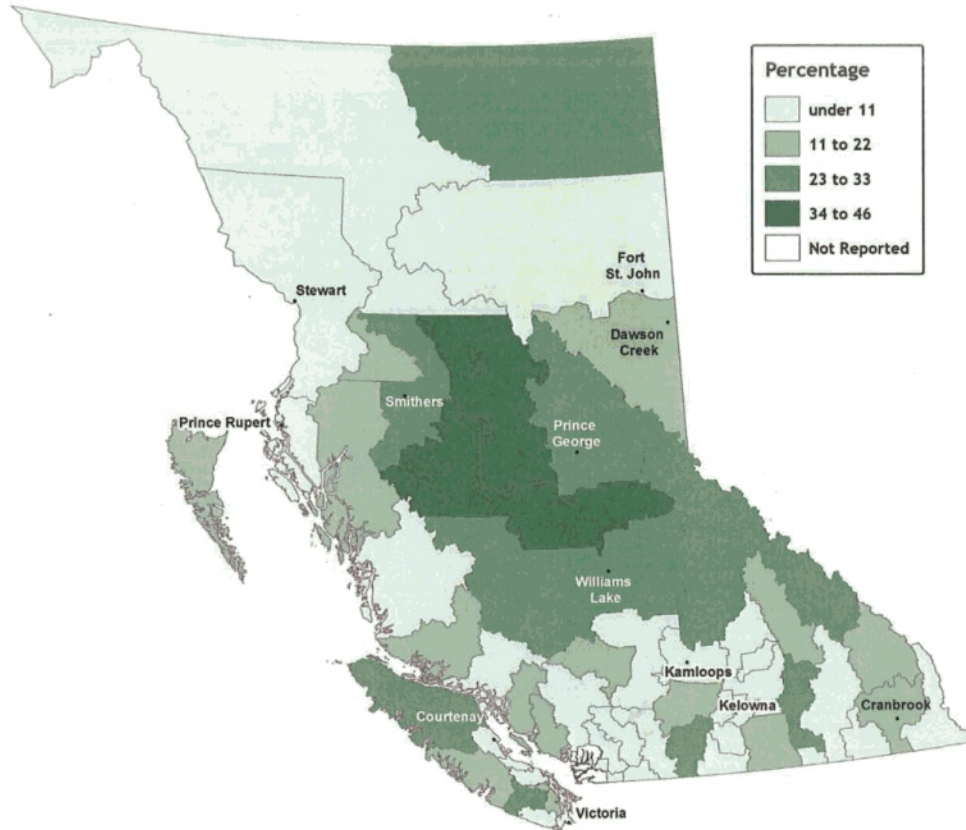
# Background – Impact on Industry

Range



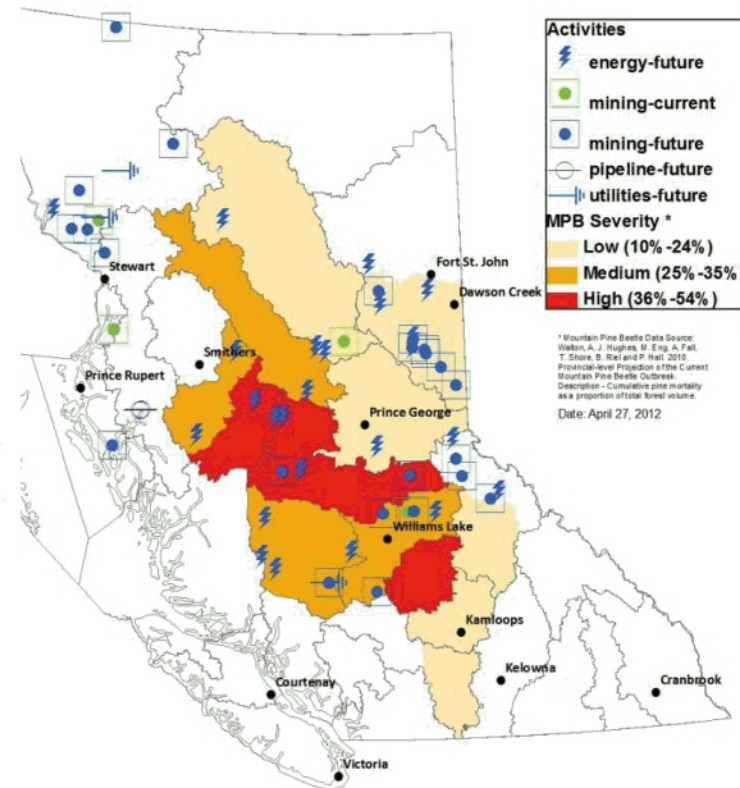
# Background – Economic diversification

*Dependence on Forestry and Wood Processing*



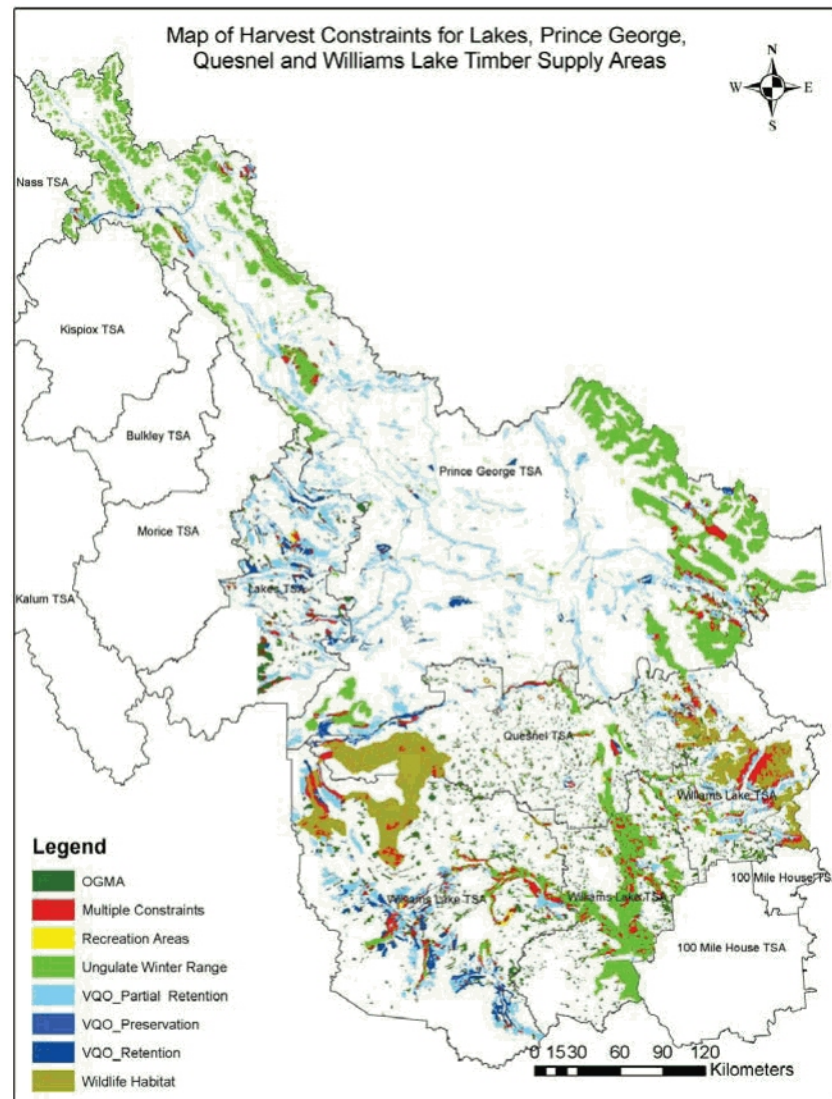
Prepared by BC STATS  
January 2009

*Current & Future Major Projects*



\* Mountain Pine Beetle Data Source:  
Wabers, A. J. Hughes, B. Eng, A. Fall,  
T. Shore, B. Rei and P. Hall, 2010.  
Provincial-level Projection of the Current  
Mountain Pine Beetle Outbreak.  
Description - Cumulative pine mortality  
as a proportion of total forest volume.  
Date: April 27, 2012

# Background – Timber Constraints, Non-Timber Values



# Background – Considerations

## Due Regard Statements:

- Fiscal (balanced budget/rate payer considerations)
- Environmental standards/values
- Community health including resource projects in development
- Competitive forest industry
- First Nations rights and title
- Softwood Lumber and other trade agreements

# Mitigation Options – Timber Constraints

## **1. Visual Quality Objectives (VQOs)**

- VQOs are in the THLB as well as outside the THLB
- Limits are placed on the rate of harvest of VQOs
- VQOs usually overlap with areas managed for other values
- Removing the VQO constraints increased mid-term timber supply by 5% in Quesnel TSA, 5% in Prince George TSA, 4% in Williams Lake TSA and <1% in Lakes TSA



# Mitigation Options – Timber Constraints

## 2. OGMA

- Some TSAs have spatial OGMAs, others have non-spatial old-growth orders or a mixture of both
- Spatial OGMAs are not in the THLB whereas non-spatial old-growth areas are in the THLB with a rate of harvest constraint. Like VQOs, OGMAs overlap areas managed for other values
- Removing the requirement for old growth increased mid-term timber supply by 11% in Quesnel TSA, 16% in Prince George TSA, 11% in Williams Lake TSA and 7% in Lakes TSA

# Mitigation Options – Timber Constraints

## **3. Riparian and stand-level bio-diversity (WTP)**

- Riparian areas are usually linked to wildlife tree patches (WTP) because about 50% of WTPs are riparian areas
- Several First Nation values can be found in riparian areas
- Removing the requirement for riparian and WTP areas increased mid-term timber supply by 13% in Quesnel TSA, 6% in Williams Lake TSA and 10% in Lakes TSA
- There were about 350,000 hectares (11% of the THLB) of riparian and WTP areas excluded from harvesting in the Prince George TSA. No analysis was done to determine the contribution of this area to mid-term timber supply.

# Mitigation Options – Timber Constraints

## **4. Ungulate Winter Range (UWR)**

- There are 22,928 ha of UWR areas in the THLB in the Quesnel TSA, 86,486 ha in the Prince George TSA, 134,600 ha in the Williams Lake TSA, and none in the Lakes TSA
- These areas are managed by ensuring a certain balance of young, mature and old forest
- No analysis was done to eliminate the requirement for old forest in UWRs, but it is estimated that this action may improve mid-term timber supply by <1%

# Mitigation Options – Timber Constraints

## 5. Recreation

- In the Quesnel TSA there are 1155 ha of recreation areas in the THLB; in the Prince George TSA there are 2589 ha of recreation areas in the THLB; in the Williams Lake TSA there are 5668 ha of recreation areas in the THLB; in the Lakes TSA there are 135 ha of recreation areas in the THLB
- These areas are managed by ensuring a certain balance of young, mature and old forest
- It is estimated that the elimination of recreation areas will have negligible effect on mid-term timber supply



# Mitigation Options – AAC Management

## **1. Timber flow**

# Mitigation Options – AAC Management

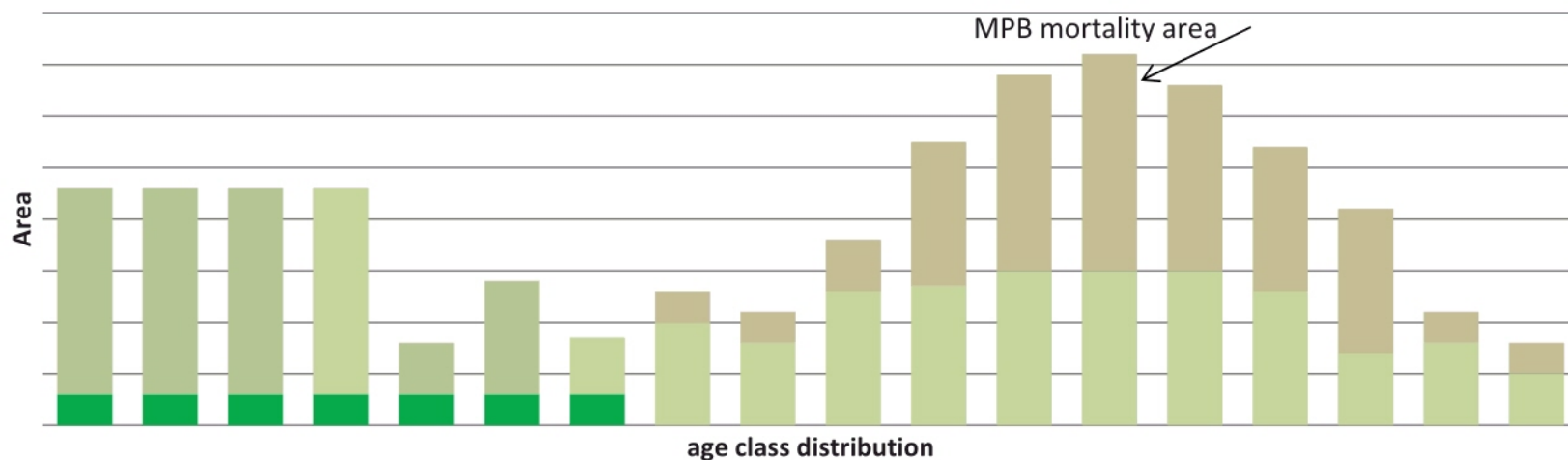
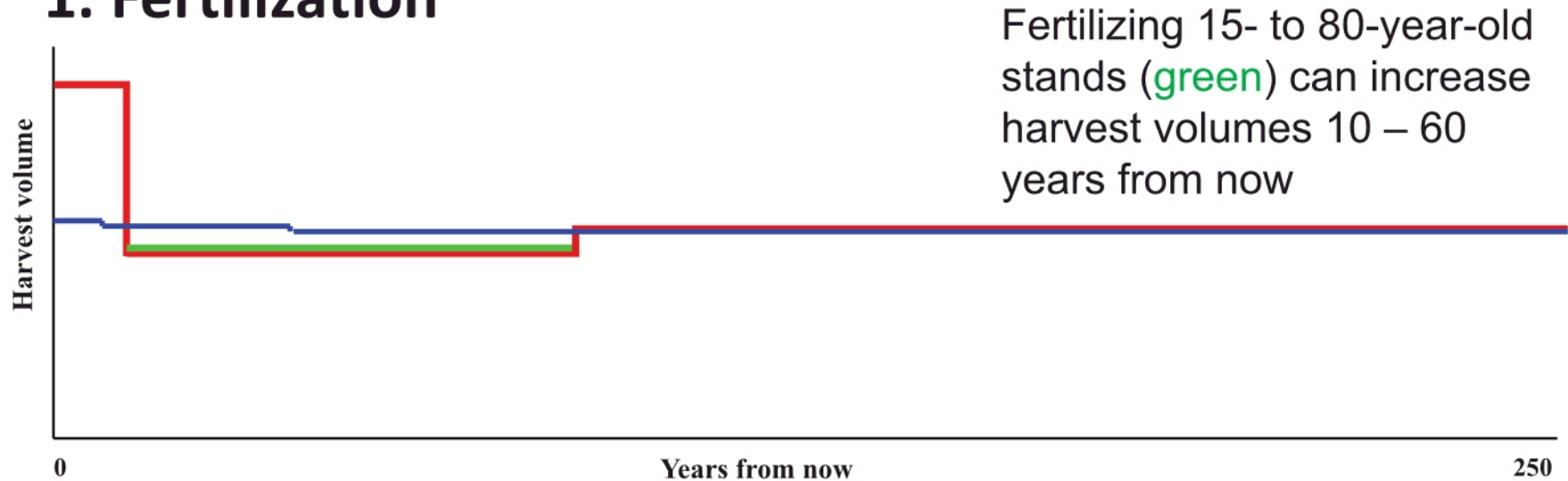
## **2. Merchantability definition**

# Mitigation Options – AAC Management

## **3. Amalgamation of management units**

# Mitigation Options – Forest Management

## 1. Fertilization





# Mitigation Options – Forest Management

## 1. Fertilization cont'd

- A sustained investment of \$11m /year could increase timber supply by as much as 230,000 cubic metres/year for the area of primary concern starting in 2022

Timber Supply Area	Timber Supply Increase from Fertilisation Program
Morice (Houston area)	Not yet modelled
Lakes (Burns Lake area)	20,000 m3/year
Prince George	120,000 m3/year
Quesnel	37,200 m3/year
Williams Lake	27,800 m3/year
100 Mile House	27,400 m3/year
Rough Estimated Total	232,400 m3/year

# Mitigation Options – Forest Management

## 1. Fertilization cont'd

- Pros:
  - Investment yields future returns in the form of stumpage revenues, provincial, personal and corporate tax revenue and adds to provincial GDP from forestry.
  - Scalable
- Cons:
  - Funding is difficult within the fiscal plan.
  - Large program would necessitate including areas where the return on investment is low

# Mitigation Options – Forest Management

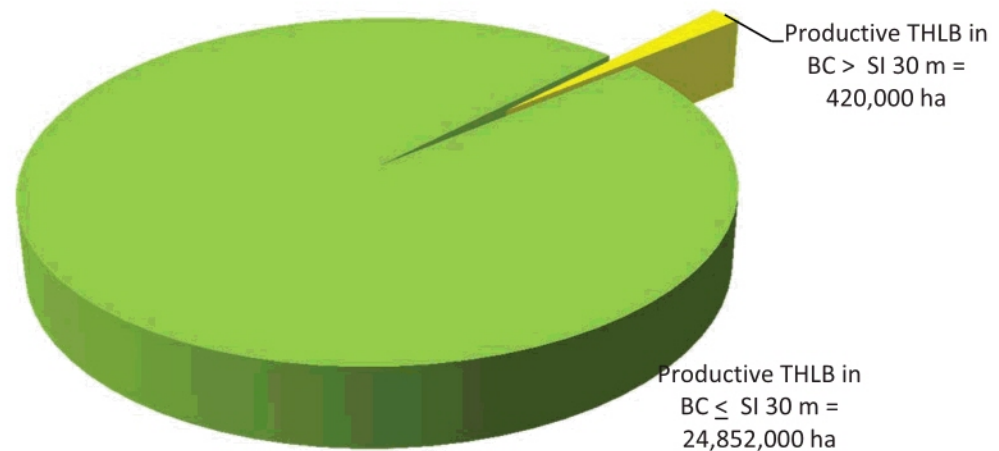
## **2. Other intensive silviculture activities**

- Commercial thinning, juvenile spacing and non-commercial brush conversion are other activities that could lead to increased timber supply
- All these activities can be currently carried out by tenure holders but they are not widely utilized management tools
- Economic timber supply potential from these activities is limited

# Mitigation Options – Forest Management

## 3. Short-rotation plantations

- All current commercial species in British Columbia have the potential to be managed on shorter rotations
- In order to maximize growth potential and minimize investment to achieve maximum growth only the high productive sites are considered suitable for short rotation plantations
- Almost all of the high productivity sites occur on the coast of BC.

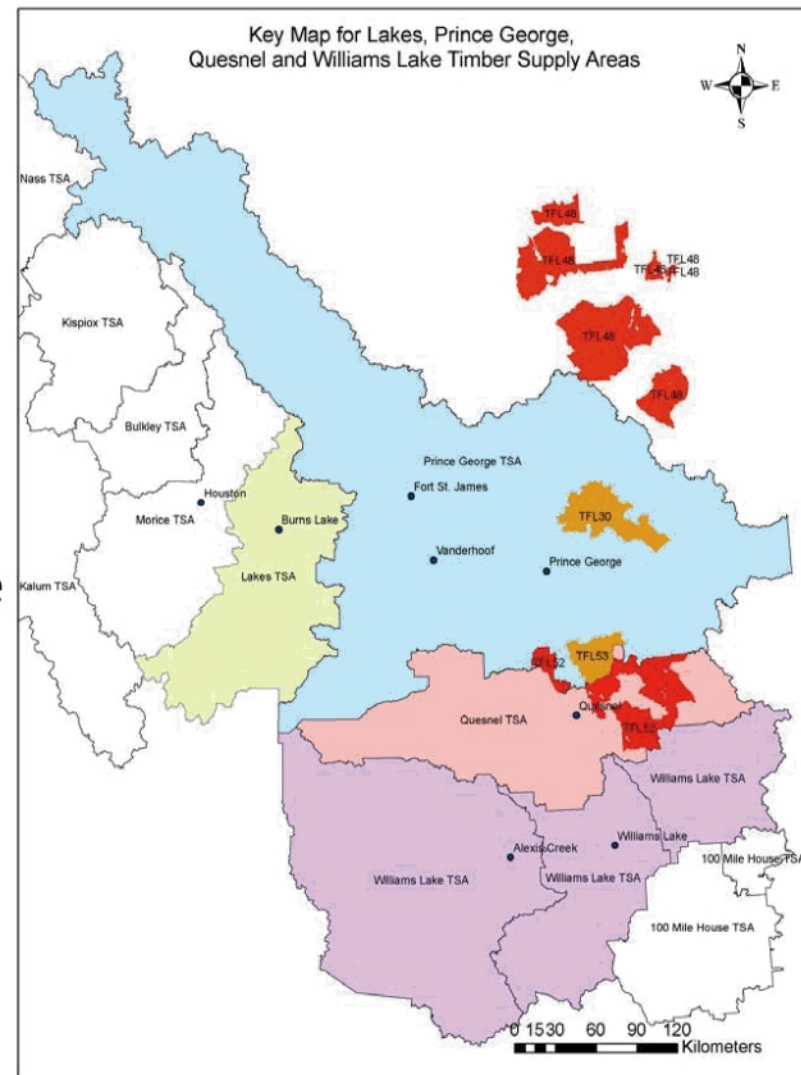




# Mitigation Options – Tenure

## 1. Volume to area

- The special rights included in area-based licenses can incentivize the holder to apply forest management actions/investments to increase timber supply over time (10-15 years) by about 10%.
- If licensees were to make the appropriate investments or act more aggressively to minimize non salvaged timber losses, it is possible to increase the future timber supply over a 10-15 year period.
- Pursuing this action requires enabling legislation, First Nations consultation and legally required public hearings.



# Mitigation Options – Tenure

## 1. Volume to area cont'd

- **Pros:**
  - No dollar cost to the province.
  - Licensees are interested
- **Cons:**
  - Uncertainty of the gains
  - The issuance of large area-based tenures has been controversial in the past.
  - First Nations may oppose this option on the basis of rights and title.
  - Implementation would be challenging
  - Fragmentation of the landbase could reduce volume gains

# Mitigation Options – Economics of Low Quality Stands

- There are large areas damaged by pine beetle that still contain commercial timber which cannot be economically harvested under current market conditions
- There are potential policy and investment tools that could improve the economics
- Due regard statements need to be carefully considered when evaluating these options

# Mitigation Options – Economics of Low Quality Stands

## 1. Bioenergy

- Further investment in rehabilitation of beetle damaged forests
- Targeted bioenergy calls





# Mitigation Options – Economics of Low Value Stands

## **2. Infrastructure**

- Investing in multi-resource roads in strategic locations to create access to all resources
- High positive impact possible in some areas but funding is difficult within the fiscal plan

Page 109 to/à Page 143

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**Transcript from discussion with MTTTS MLA committee on  
June 6, 2012 in Vancouver**

**D. Stewart:** I'm Doug Stewart. I'm the director of forest tenures branch. Specifically about this question about increased investment, some of you may recall back in 1987 when Minister Parker and the government wanted to convert about two-thirds of the forest licences in the province to tree farm licences. So there is a public record out there. There were a series of public hearings that happened at that time. Based on public input, that didn't go ahead.

[ Page 167 ]

One of the reasons that didn't go ahead was that there wasn't empirical evidence around what the benefit would be in terms of increased timber supply or investment — just the question we're talking about. Based on that, there was some research done in the mid-1990s by some people at UBC. Some of you probably know Peter Pearse. There is a report out. I've provided it as part of the record if some of you want to read it.

Some of the information they found about increased silviculture investment, in particular, is that tree farm licences generally had about a 24 percent better investment in silviculture than forest licences. So that's primarily what we're talking about when we're talking about volume-to-area conversion. It would mostly be forest licences, which is the biggest volume-based tenure, to tree farm licences. But there are other options out there.

When they looked at forest practices, they couldn't come up with a statistical difference, but the general overall trend was that there appeared to be better forest management practices on the tree farm licences. I think a lot of people that have worked with area-based tenures have seen that play out over time.

**N. Macdonald (Deputy Chair):** You're talking about 1987, and that initiative. I think, actually, Parker was in Golden for a

while. He was busy with Evans for a while.

Part of the push-back on that was the social licence aspect. I think the politics of it were very problematic, and I know there were some problems the licensees had. Primarily, it seemed to be that there was this concern about losing the public ability to get on the land. I mean, there were all sorts of things, but pretty clearly, there was discomfort with that direction.

Is your sense that there is enough data, that that can be put on the table so that it would be a compelling case? I know you highlighted one example, but is it something that's really been studied so that you would be able to put information? Or is it, as often happens, a lot of anecdotal information?

[1400]

**D. Stewart:** There is some research, but I wouldn't say it's definitive. Probably one of the most important factors is the actual licensee. And we have seen that — as we were talking about the example at Dunkley there — where you have a really good proactive licensee. That makes the biggest difference. So it's not necessarily the tenure type that makes a difference, but it's probably not the most important factor.

**J. Rustad (Chair):** If I could add to that, I think the challenge to think about that is that the licensee would not have had the opportunity to do that type of activity on the land base under a volume base. The only way you're going to see those kinds of improvements is, if they have the opportunity, under an area base. Why would they do it when it could be a company down the road that would see the benefit from it?

**N. Macdonald (Deputy Chair):** Here again we're going into a huge discussion, because it depends. Dunkley: we visited there, and you leave with a certain impression of the company — right? You've talked about it. It's a certain type of company. Sometimes area-based.... If you go to a woodlot or something, you see what they're doing there and you think: "Wow, if you could put that on the land base everywhere that would be pretty exciting."



The other part of it, too, is that when you go to certain areas, they will be talking about the owners being based in New York. They're playing the stock exchange. It's a very different sort of feeling that the community has towards the commitment of the company. They don't talk in glowing terms as you and others talk about Dunkley, where it seems embedded, and there's a commitment that's different.

Again, I think it's a really huge and interesting discussion, but one that you'd really want to frame, and you'd really want to approach with an awful lot of information. Donna, you've said that you've already been through a process where it was tried, and the public went "Whoa." That was when, I think, all companies were.... That was a time when you had to be a B.C. company to participate in this way. Now we are talking about hedge funds and everything else. It's a different world. So it's an interesting discussion, I think, as we go forward.

**J. Rustad (Chair):** Well, this has sparked a lot of hands in terms of discussion.

**L. Pedersen:** Norm, I'd like to respond to your reference, appropriately, to the need to always be mindful about social licence.

I did attend some of the tree farm licence hearings in the late-'80s that Minister Parker chaired, in particular the ones in Williams Lake that were intensively protested by First Nations communities and environmental advocates. At that time, basically that was a call for more sophisticated forest management, forest management that was more thoughtful about the broad array of values on the landscape.

We didn't have a code. We didn't have land use plans. Absent that, I would say — and just my opinion — what I thought I saw unfolding was a highly skeptical public saying: "Are you kidding? Not right now. We're not going to intensify and increase your rights at a point in time when we think that timber is already too predominant a force and when there needs to be recognition of other values."

However, from that period to now — and we're all aware; we've talked about it — there has been intensive land use planning. There has been a substantial sophistication and elevation around non-timber values and codification — between the Forest Practices Code, now

[ Page 168 ]

□FRPA. We've got certification. Even companies now use language like corporate social responsibility and social licence. We've been cautioned already in this exercise by some forest companies to stay mindful of that.

I think the environment is different. I can't speculate on whether there's public appetite for changes in tenure. That I don't know. But I do think that the context has changed, so I kind of see the question as being in a slightly different point in time with a different dynamic. I agree you've got to really stay thoughtful about social licence, but perhaps there is more social willingness to change now.

**D. Peterson:** I would add to Larry's observations because I think the environment is different now. Coming back to your question, Norm, there's limited empirical evidence when you look across the suite at all the tree farm licences and say: "On average, are they better production?" Clearly, there are some that are better. So I think moving to an area-based tenure needs to be viewed as an enabler of better management, but it's not necessarily a guarantee of better management.

[1405]

Then I add to that that there are significant differences, area to area, across the province around the ability to move to area-based tenure. In some timber supply areas it would be relatively easy, and in others it would be very, very difficult. In some timber supply areas there is more of a social licence at that community level, and the community, the First Nations, etc., are quite supportive. In others there is not that level of social licence.

I think one of the observations I would have from Minister



Parker's initiative was that it was viewed as: "This is something we would do everywhere." I think if we tried to move in that same direction now in B.C. we probably wouldn't get universal support. If it was more a premise of, "Are there some locations in the province — for a whole combination of reasons, including social licence, including the commitment of the licensee — where you could move to an area-based tenure," there probably are. I think that conversation would be different than saying: "Should we do it everywhere?"

**D. Barnett:** I would disagree with the last two speakers. After being through the process, I think there is an appetite there right now in some areas. When I talk to and work with the trappers, the guide-outfitters and all those types of people that use the land base, they talk area-based tenure for forestry. They're very interested in it. I think it's a subject that in some areas could come back on the table for discussion, and in some areas I don't think you'd touch it. One size doesn't fit all.

**K. Kriese:** A commentary back. Our community forest program is actually run.... I mean, there are our area-based tenures. I can't remember when it started, but 12 years ago or ten years ago, with a series of pilots that were proved successful. Then it moved. It's also done not as a one-size-fits-all program but a program at the right place, the right time, with a lot of careful work to locate it and make it meet the community values.

That's actually an area-based tenure program that has been really well received. It is a symbol that if you do it right, there is a different receptivity. There might be some lessons there around the piloting approach leading ultimately to implementation of a program.

**D. Stewart:** Around this concept, it's important to keep in mind that there's kind of a range of how this could be applied where it makes sense. One, you could convert an individual volume-based tenure to area-based — so one forest licence to a TFL — or you could convert part of a whole timber supply area, or you could convert almost an entire timber supply area. There's kind

of a range of different options that could be looked at under this concept, depending on what the land base looks like.

One of the tricks is going to be how you convert people equitably so that everyone gets a fair share of the remaining green timber, has relatively similar access, has relatively similar timber supply projections. That's the trick on this land base that has been affected by mountain pine beetle. We're also trying to put First Nations on, communities, woodlots. How do you do this conversion and also uphold those licensees' rights by being equitable across the board? It's definitely not easy, but I think it can make sense in certain areas.



Easton, Elizabeth J FLNR:EX

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**From:** Bedford, Lorne FLNR:EX  
**Sent:** Saturday, July 20, 2013 10:45 AM  
**To:** Finck, Kelly E FLNR:EX  
**Cc:** Winter, Ralph FLNR:EX; Powelson, Allan FLNR:EX; Stewart, Doug B FLNR:EX  
**Subject:** followup from estimate debates: TSA vs TFL

Hi Kelly

I understand the "conversion to area base" is your file.. This is the Estimate debate follow-up material we sent to Trevor Morrison. He will use it to add a bullet or two to the letter he is preparing for the Forestry critic..

If we can be any help to you by in providing information on "stewardship" on TFL vs TSA let us know..

Lorne Bedford  
Deputy Director  
Resource Practices Branch  
FLNRO  
250-387-8901

---

**From:** Bedford, Lorne FLNR:EX  
**Sent:** Wednesday, July 17, 2013 4:39 PM  
**To:** Morrison, Trevor FLNR:EX  
**Cc:** Bedford, Lorne FLNR:EX; Nussbaum, Albert F FLNR:EX; Sutherland, Jim D FLNR:EX; Powelson, Allan FLNR:EX  
**Subject:** FW: Final Verison

As requested.. Let us know if you need any more information or clarification required for the letter you are preparing for the Forestry Critic..

Lorne Bedford  
Deputy Director  
Resource Practices Branch  
FLNRO  
250-387-8901

---

**From:** Sutherland, Jim D FLNR:EX  
**Sent:** Wednesday, July 17, 2013 4:32 PM  
**To:** Bedford, Lorne FLNR:EX  
**Cc:** Powelson, Allan FLNR:EX  
**Subject:** Final Verison

Thanks for all of your work on this Al.



✓Silviculture  
vestment AREA v.

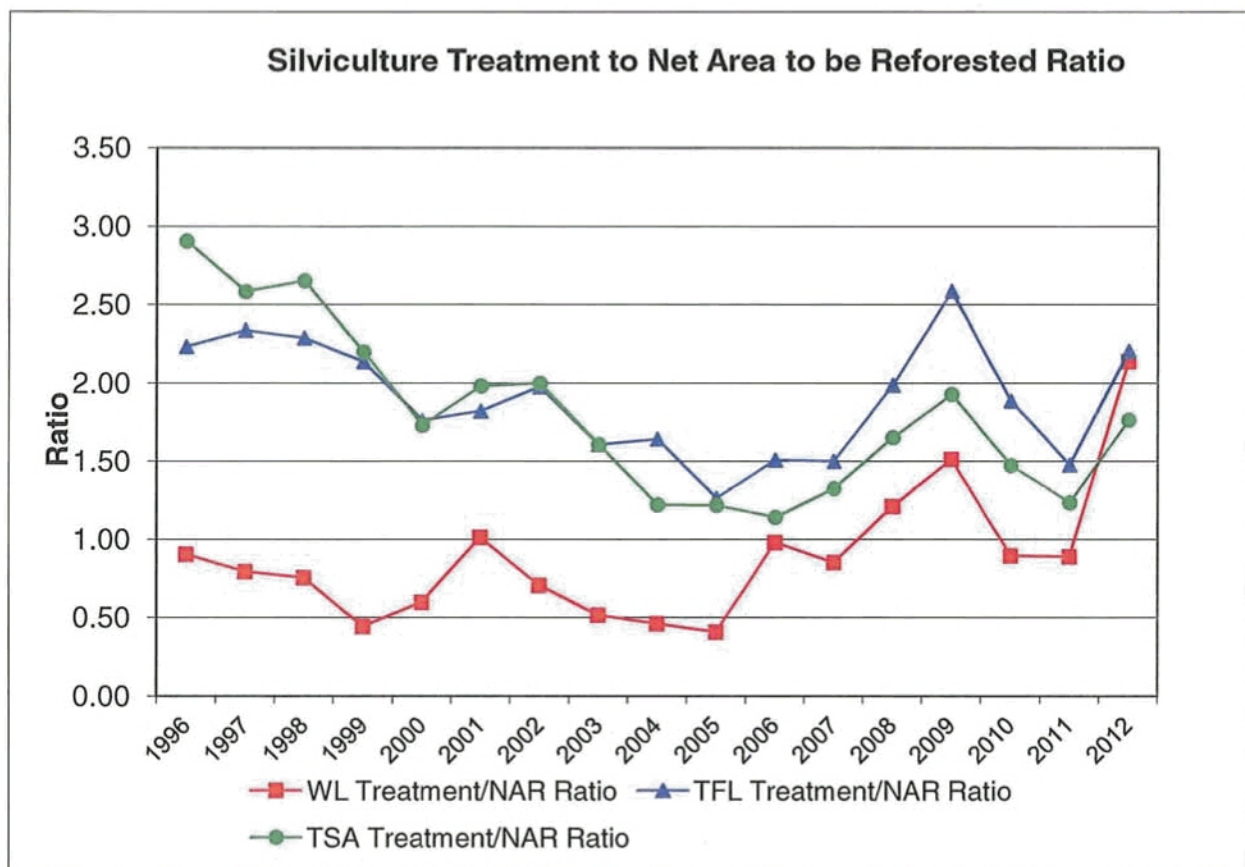
~~~~~  
J D Sutherland, RPF

Deputy Chief Forester/Director, Resource Practices Branch  
Ph: 250-398-4527 (Williams Lake)  
250-387-0088 (Victoria)  
Fax: 250-387-2136  
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[Mailto:Jim.D.Sutherland@gov.bc.ca](mailto:Jim.D.Sutherland@gov.bc.ca)

### Silviculture investment AREA vs VOLUME based tenures:

The FLNR does not have a direct means of recording or comparing silviculture investments on area-based tenures as compared to volume-based tenures

However, the graphic below shows all basic silviculture treatments (excluding surveys) done on an annual basis compared to the Net Area to be reforested (this is not a direct measure of amount of investment but is a reasonable index of intensity of management)

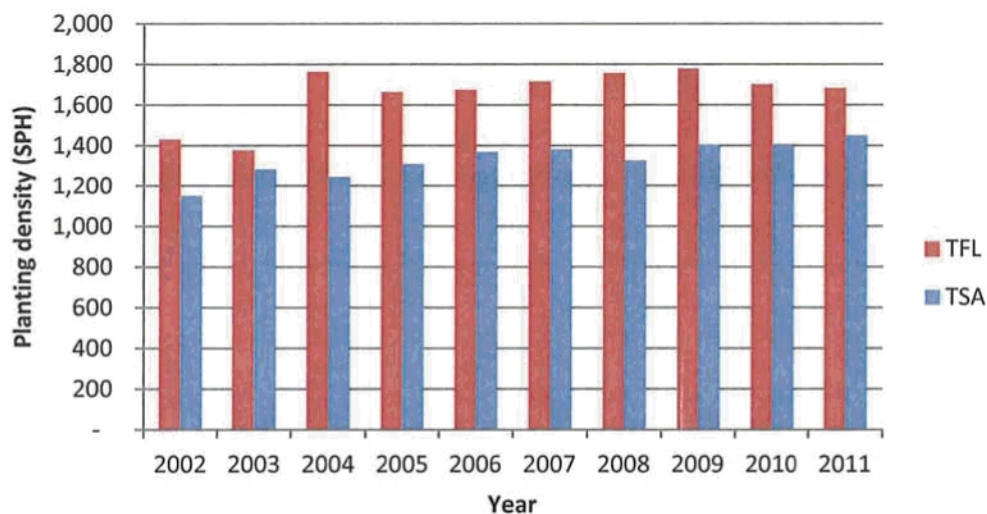


From this we see that, on average, there is very little difference in the intensity of management between area based and volume based tenures.

However, it can be demonstrated that for some companies an area-based tenure does influence management in a positive way. (e.g. The graphic below demonstrates that West Fraser increased planting density and use of select seed on TFL vs TSA tenures.) Therefore, the data suggests that area based tenure alone will not necessarily incent greater investment or better management but area based tenure in combination with other factors has facilitated some of the best management we have seen.

## Planting Density Area vs Volume Based Tenures

### West Fraser



## Use of Class A Seed on Area vs Volume based Tenures (required on both by the CF standards on seed use)

### WestFraser

