

**BRITISH COLUMBIA  
MINISTRY OF FORESTS, LANDS AND NATURAL  
RESOURCE OPERATIONS**

**Tree Farm Licence 44**

held by

**Western Forest Products Inc.**

**Rationale for  
Allowable Annual Cut (AAC)  
Determination**

**Effective May 5, 2011**

**Jim Snetsinger, RPF  
Chief Forester**

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## **Objective of this document**

This document provides an accounting of the factors I have considered and the rationale I have employed as chief forester in making my determination, under Section 8 of the *Forest Act*, of the allowable annual cut (AAC) for Tree Farm Licence 44 (TFL 44). This document also identifies where new or better information is needed for incorporation into future determinations.

## **Description of TFL 44**

TFL 44 is located on west central Vancouver Island in the vicinity of the Alberni Inlet and Barkley Sound. It extends from Strathcona Park in the north to Walbran Creek in the south. The TFL area includes land ranging from the Pacific Ocean to the Beaufort Range and Mount Arrowsmith. The TFL is held by Western Forest Products Inc. and is administered by the Ministry of Forests, Lands and Natural Resource Operations (FLNR) South Island Resource District.

At the time of this determination, TFL 44 occupies about 141 566 hectares of land, of which about 125 135 hectares are forested. The current timber harvesting land base (THLB) is 80 409 hectares, or 57 percent of the total TFL area. The forests of TFL 44 are mostly located within the wetter and very dry maritime Coastal Western Hemlock biogeoclimatic zone, and the dominant tree species are western hemlock, western redcedar, amabilis fir, Douglas-fir and yellow cedar.

Communities within or adjacent to the TFL include Port Alberni, Bamfield, Anacla, Nitinat and Kildonan. While economic activities in and around these communities include aquaculture, commercial fishing, recreational fishing and tourism, forestry activities provide for the majority of employment in the area.

The AAC of TFL 44 immediately before the date of this determination was 882 742 cubic metres.

## **New AAC determination**

Effective May 5, 2011, the new AAC for TFL 44 will be 800 000 cubic metres.

This AAC will remain in effect until a new AAC is determined, which must take place within 10 years of this determination.

## **Information sources used in the AAC determination**

- Existing Stand Yields, accepted by Forest Analysis and Inventory Branch, March 26, 2009;
- Managed Stand Yields/Site Index, accepted by Forest Analysis and Inventory Branch, October 8, 2009;
- *Western Forest Products Inc., Tree Farm Licence 44, Timber Supply Analysis Information Package*, accepted by Forest Analysis and Inventory Branch, October 8, 2009;
- *Western Forest Products Inc., Tree Farm Licence 44, Timber Supply Analysis*, accepted by Forest Analysis and Inventory Branch, May 6, 2010;
- *Western Forest Strategy, A Program for Conserving Biodiversity on Company Tenures*, September 2007;
- *WFP Tree Farm Licence 44 draft Management Plan Number 5, (MP #5)* submitted June 30, 2010;

- *Tree Farm Licence 44 Rationale for Allowable Annual Cut Determination*; Effective August 1, 2003;
- *Identified Wildlife Management Strategy. Accounts and measures for managing identified wildlife: Coast Forest Region. Version 2004. Province of BC*;
- *Order Establishing Provincial Non-Spatial Old Growth Objectives, 2004*;
- Letter from the Minister of Forests and Range (now the Minister of Forests, Lands and Natural Resource Operations) to the Chief Forester, stating the economic and social objectives of the Crown, July 4, 2006;
- *Summary of dead potential volume estimates for management units within the Coastal Forest Region*, Ministry of Forests, Mines and Lands, March 2006;
- *First Nation Consultation Summary, TFL 44 Management Plan Number 5 and Allowable Annual Cut Determination*, Ministry of Forests, Lands and Natural Resource Operations, March 18, 2011;
- *Vancouver Island Land Use Plan Higher Level Plan Order*, Province of British Columbia, Effective December 1, 2000;
- *Maa-Nulth First Nations Final Agreement Act, British Columbia*, November, 2007;
- *Bill C-41, Maanulth First Nations Final Agreement Act*, Statutes of Canada 2009;
- *Maa-Nulth First Nations Final Agreement*, April 9, 2009;
- *Maa-nulth Forest Compensation Interim Regulation*, Effective April 1, 2011;
- *Forest and Range Practices Act – Regulations and amendments*, current to March 23, 2011;
- *Forestry Revitalization Act*, current to March 23, 2011;
- *Forest Act*, current to March 23, 2011;
- *Allowable Annual Cut Administration Regulation, with amendments to December 6, 2010*;
- *Forest Practices Code of British Columbia Act and amendments and guidebooks*, January 31, 2004;
- *Environment and Land Use Act*, current to March 23, 2011;
- *Order-Fisheries Sensitive Watersheds – Vancouver Island*, effective December 28, 2005;
- Established Wildlife Habitat Areas, Ministry of Environment (<http://www.env.gov.bc.ca/wld/frpa/iwms/wha.html>);
- Established Ungulate Winter Ranges, Ministry of Environment ([http://www.env.gov.bc.ca/wld/frpa/uwr/approved\\_uwr.html](http://www.env.gov.bc.ca/wld/frpa/uwr/approved_uwr.html));
- Designated Community Watersheds, Ministry of Environment, ([http://www.env.gov.bc.ca/wsd/plan\\_protect\\_sustain/comm\\_watersheds/index.html](http://www.env.gov.bc.ca/wsd/plan_protect_sustain/comm_watersheds/index.html));
- *Order to Establish Visual Quality Objectives for the South Island Forest District*, December 15, 2005;
- *Procedures for factoring visual resources into timber supply analyses*, Ministry of Forests, Lands and Natural Resource Operations, 1998;
- Tree Farm Licence 44, Instrument Number 42, July 9, 2004;
- Tree Farm Licence 44, Instrument Number 46, July 17, 2009;

- Tree Farm Licence 44, Instrument Number 50, June 16, 2010;
- Tree Farm Licence 44, Instrument Number 52, July 26, 2010;
- *Forestry Revitalization Act* Order No. 3(4)27-3, May 17, 2010;
- *Order to Identify Recreation Sites, Trails, and Interpretative Forest Sites as Resource Features for the South Island Forest District*, December 1, 2005;
- Technical review and evaluation of current operating conditions on TFL 44 through comprehensive discussions with staff from the Ministry of Forests, Lands and Natural Resource Operations and the Ministry of Environment, including the AAC determination meeting held in Victoria, BC on November 30, 2010.

### **Role and limitations of the technical information used**

Section 8 of the *Forest Act* requires the chief forester, in determining AACs, to consider biophysical, social and economic information. Most of the technical information used in determinations is in the form of a timber supply analysis and its inputs of inventory and growth and yield data. These are concerned primarily with biophysical factors – such as the rate of timber growth and the definition of the land base considered available for timber harvesting – and with management practices.

The analytical techniques used to assess timber supply necessarily are simplifications of the real world. Many of the factors used as inputs to timber supply analysis are uncertain, due in part to variation in physical, biological and social conditions. Ongoing scientific studies of ecological dynamics will help reduce some of this uncertainty.

Furthermore, computer models cannot incorporate all of the social, cultural and economic factors that are relevant when making forest management decisions. Technical information and analysis; therefore, do not necessarily provide the complete answers or solutions to forest management decisions such as AAC determinations. Such information does provide valuable insight into potential impacts of different resource-use assumptions and actions, and thus forms an important component of the information I must consider in AAC determinations.

In determining this AAC for TFL 44, I have considered known limitations of the technical information provided. I am satisfied that the information provides a suitable basis for my determination.

### **Guiding principles for AAC determinations**

Rapid changes in social values and in the understanding and management of complex forest ecosystems mean there is always uncertainty in the information used in AAC determinations. In making the large number of periodic determinations required for British Columbia's many forest management units, administrative fairness requires a reasonable degree of consistency of approach in incorporating these changes and uncertainties. To make my approach in these matters explicit, I have set out the following body of guiding principles. In any specific circumstance where I may consider it necessary to deviate from these principles, I will explain my reasoning in detail.

Two important ways of dealing with uncertainty are:

- (i) minimizing risk, in respect of which in making AAC determinations I consider particular uncertainties associated with the information before me and attempt to assess and address

the various potential current and future, social, economic and environmental risks associated with a range of possible AACs; and

- (ii) redetermining AACs frequently, in cases where projections of short-term timber supply are not stable, to ensure they incorporate current information and knowledge.

In considering the various factors that Section 8 of the *Forest Act* requires the chief forester to take into account in determining AACs, I intend to reflect, as closely as possible, those forest management factors that are a reasonable extrapolation from current practices. It is not appropriate to base my decision on unsupported speculation with respect to factors that could affect the timber supply that are not substantiated by demonstrated performance or are beyond current legal requirements.

In many areas, the timber supply implications of some legislative provisions remain uncertain, particularly when considered in combination with other factors. In each AAC determination I take this uncertainty into account to the extent possible in context of the best available information.

It is my practice not to speculate on timber supply impacts that may eventually result from land-use decisions not yet finalized by government. However, where specific protected areas, conservancies, or similar areas have been designated by legislation or by order in council, these areas are deducted from the timber harvesting land base and are not considered to contribute any harvestable volume to the timber supply in AAC determinations, although they may contribute indirectly by providing forest cover to help in meeting resource management objectives such as for biodiversity.

In some cases, even when government has made a formal land-use decision, it is not necessarily possible to fully analyse and account for the consequent timber supply impacts in a current AAC determination. Many government land-use decisions must be followed by detailed implementation decisions requiring, for instance, further detailed planning or legal designations such as those provided for under the *Land Act* and the *Forest and Range Practices Act* (FRPA). In cases where there is a clear intent by government to implement these decisions that have not yet been finalized, I will consider information that is relevant to the decision in a manner that is appropriate to the circumstance. The requirement for regular AAC reviews will ensure that future determinations address ongoing plan-implementation decisions.

Where appropriate I will consider information on the types and extent of planned and implemented silviculture practices as well as relevant scientific, empirical and analytical evidence on the likely magnitude and timing of their timber supply effects.

Some persons have suggested that, given the large uncertainties present with respect to much of the data in AAC determinations, any adjustments in AAC should wait until better data are available. I agree that some data are incomplete, but this will always be true where information is constantly evolving and management issues are changing. The requirement for regular AAC reviews will ensure that future determinations incorporate improved information.

Others have suggested that, in view of data uncertainties, I should immediately reduce some AACs in the interest of caution. However, any AAC determination I make must be the result of applying my judgement to the available information, taking any uncertainties into account. Given the large impacts that AAC determinations can have on communities, no responsible AAC determination can be made solely on the basis of a response to uncertainty. Nevertheless, in

making my determination, I may need to make allowances for risks that arise because of uncertainty.

With respect to First Nations' issues, I am aware of the Crown's legal obligation resulting from recent court decisions to consult with First Nations regarding asserted rights and title (aboriginal interests) in a manner proportional to the strength of their aboriginal interests and the degree to which the decision may impact these interests. In this regard, I will consider the information provided to First Nations to explain the timber supply review (TSR) process and any information brought forward respecting First Nations' aboriginal interests including how these interests may be impacted, and any operational plans and actions that describe forest practices to address First Nations' interests, before I make my decision. As I am able, within the scope of my authority under Section 8 of the *Forest Act*, where appropriate I will seek to address aboriginal interests that will be impacted by my proposed decision. When aboriginal interests are raised that are outside my jurisdiction, I will endeavour to forward these interests for consideration by appropriate decision makers. Specific concerns identified by First Nations in relation to their aboriginal interests within the TFL are addressed in various sections of this rationale.

The AAC that I determine should not be construed as limiting the Crown's obligations under court decisions in any way, and in this respect it should be noted that my determination does not prescribe a particular plan of harvesting activity within TFL 44. It is also independent of any decisions by the Minister of Forests, Lands and Natural Resource Operations with respect to subsequent allocation of wood supply.

Overall, in making AAC determinations, I am mindful of my obligation as a steward of the forested land of British Columbia, of the mandate of the Ministry of Forests, Lands and Natural Resource Operations (formerly the Ministry of Forests and Range) as set out in Section 4 of the *Ministry of Forests and Range Act*, and of my responsibilities under the *Forest and Range Practices Act (FRPA)*.

### **The role of the base case**

In considering the factors required under Section 8 of the *Forest Act* to be addressed in AAC determinations, I am assisted by timber supply forecasts provided to me through the work of the Timber Supply Review Program for timber supply areas (TSA) and TFLs.

For most AAC determinations, a timber supply analysis is carried out using an information package including data and information from three categories: land base inventory, timber growth and yield, and management practices. Using this set of data and a computer simulation model, a series of timber supply forecasts can be produced to reflect different starting harvest levels, rates of decline or increase, and potential tradeoffs between short- and long-term harvest levels.

From a range of possible forecasts, one is chosen in which an attempt is made to avoid both excessive changes from decade to decade and significant timber shortages in the future, while ensuring the long-term productivity of forest lands. This is known as the "base case" forecast and forms the basis for comparison when assessing the effects of uncertainty on timber supply. The base case is designed to reflect current management practices.

Because it represents only one in a number of theoretical forecasts, and because it incorporates information about which there may be some uncertainty, the base case forecast is not an AAC recommendation. Rather, it is one possible forecast of timber supply, whose validity – as with

all the other forecasts provided – depends on the validity of the data and assumptions incorporated into the computer simulation used to generate it.

Therefore, much of what follows in the considerations outlined below is an examination of the degree to which all the assumptions made in generating the base case forecast are realistic and current, and the degree to which resulting predictions of timber supply must be adjusted to more properly reflect the current and foreseeable situation.

These adjustments are made on the basis of informed judgment using currently available information about forest management, and that information may well have changed since the original information package was assembled. Forest management data are particularly subject to change during periods of legislative or regulatory change, or during the implementation of new policies, procedures, guidelines or plans.

Thus, in reviewing the considerations that lead to the AAC determination, it is important to remember that the AAC determination itself is not simply a calculation. Even though the timber supply analysis I am provided is integral to those considerations, the AAC determination is a synthesis of judgment and analysis in which numerous risks and uncertainties are weighed. Depending upon the outcome of these considerations, the AAC determined may or may not coincide with the base case forecast. Judgements that in part may be based on uncertain information are essentially qualitative in nature and, as such, are subject to an element of risk. Consequently, once an AAC has been determined, no additional precision or validation would be gained by attempting a computer analysis of the combined considerations.

### **Timber supply analysis for TFL 44**

The timber supply analysis for TFL 44 was completed in 2010 by the licensee using Remsoft Woodstock. Woodstock is a spatially implicit optimization computer model in which harvest volume is maximized while ensuring all other forest management objectives are met. The forecasts from this timber supply model were reviewed by ministry staff, who advised me about the function of the model, and any associated implications with the harvest projections.

The timber supply analysis incorporated assumptions about timber and non-timber values. These included requirements to meet the *Vancouver Island Land Use Plan Higher Level Plan Order*, and information about the land base, non-timber resources and timber yields for TFL 44. These assumptions are discussed in the information package and in the timber supply analysis documentation.

Since the 2002 timber supply analysis supporting the 2003 AAC determination, the land base covered by TFL 44 has been significantly reduced. In developing the base case, the licensee updated the land base contributing to timber supply by excluding areas that had been deleted when the analysis was initiated, and that were expected to be deleted before this AAC determination. The licensee also derived the initial harvest level used in the base case by deducting the harvest rates attributable to each of the deleted areas from the AAC determined in 2003. The details of these two procedures are described below.

Since the 2003 determination, mapping refinements made through inventory updates and reclassifications resulted in a reduction of 1354 hectares in the total TFL area. In addition, three area deletions resulted in a reduction of 147 168 hectares in the total TFL area. These deletions consisted of private lands, the BCTS Sproat operating area and an area that will eventually become a First Nations Woodland Licence owned by the Huu-ay-aht First Nation. As a result,

the AAC for the TFL was reduced by a total of 722 058 cubic metres from 1 700 000 cubic metres to 977 942 cubic metres under one administrative adjustment and two adjustments made under the provisions of the *Allowable Annual Cut Administration Regulation*.

In addition to the area adjustments described above, since 2003, 6383 hectares were deleted from the TFL under Instrument 46 to provide for the Alberni Community Forest Agreement and 2345 hectares under a *Forestry Revitalization Act* order to provide for the Huu-ay-aht Community Forest Agreement. The AAC for the TFL was not adjusted to account for these deletions because, at the time of the deletions, the *Allowable Annual Cut Administration Regulation* that now effects such adjustments had not yet been promulgated. For the base case, the licensee calculated the volume contribution of these areas — 35 674 cubic metres per year — and deducted this from the AAC of 977 942 cubic metres. This resulted in a harvest level of 942 268 cubic metres per year.

At the time of the analysis the licensee expected that the Maa-nulth First Nation lands and the T'iitsk'in Paawats protected area would be deleted by the time this AAC determination took place. The licensee conducted a sensitivity analysis that included these two areas in the land base and with the initial harvest level of 942 268 cubic metres per year as derived above. I will discuss this sensitivity analysis further under 'land base contributing to timber harvesting'. Finally, the licensee excluded these two areas and projected a harvest forecast that paralleled the sensitivity analysis at the highest possible level. The resulting forecast was used as the base case in the analysis.

The initial harvest level attained in the base case was 837 268 cubic metres per year starting in the year 2008. This initial harvest level could be maintained for five years before declining to the long-term harvest level of 806 600 cubic metres per year. For the base case, the total area of TFL 44 was 139 446 hectares.

I have reviewed the assumptions and methodologies applied in the base case and related sensitivity analyses. As part of this review, I have examined projections over the forecast period of the growing stock of timber in the TFL, including the dominant tree species, their age and the average age at which they were harvested, as well as their contributions to the volumes of timber projected to be harvested over time. Details of my considerations of particular aspects of the analysis and its projections, in some cases in relation to uncertainties in associated assumptions, are provided in the following sections of this document.

From my review of the timber supply analysis, including discussions with FLNR staff who reviewed the analysis, I find that the base case forecast provides a suitable basis for my considerations in this determination. In addition to the base case, I have reviewed sensitivity analyses and alternative harvest forecasts which have also been helpful in my considerations as documented in the following sections and in the reasoning leading to my determination.

### **Consideration of Factors as Required by Section 8 of the *Forest Act***

I have reviewed the information for all of the factors required for consideration under Section 8 of the *Forest Act*. Where I have concluded that the modelling of a factor in the base case appropriately represents current management or the best available information, and uncertainties about the factor have little influence on the timber supply projected in the base case, no discussion is included in this rationale. These factors are listed in Table 1.

**Table 1. List of factors for which base case modelling assumptions have been accepted**

<b><i>Forest Act</i> section and description</b>	<b>Factors accepted as modelled</b>
8(8)(a)(i) Composition of the forest and its expected rate of growth	<ul style="list-style-type: none"> <li>• Inventory</li> <li>• Non-forest</li> <li>• Existing roads</li> <li>• Non-productive forests</li> <li>• Physical operability</li> <li>• Riparian management areas</li> <li>• Ungulate winter ranges</li> <li>• Wildlife habitat areas</li> <li>• Terrain stability</li> <li>• Future roads</li> <li>• Recreation features inventory</li> <li>• Caves and karst</li> <li>• Deciduous stands</li> <li>• Productivity assignments</li> <li>• Aggregation procedures</li> <li>• Natural stand yields</li> <li>• Existing and future managed stand yields</li> <li>• Minimum harvest ages</li> </ul>
8(8)(a)(ii) Expected time it will take the forest to become re-established following denudation	<ul style="list-style-type: none"> <li>• Regeneration delays</li> <li>• Not satisfactorily restocked areas</li> </ul>
8(8)(a)(iii) Silvicultural treatments to be applied	<ul style="list-style-type: none"> <li>• Silvicultural systems and the Western Forest Strategy</li> <li>• Regeneration</li> <li>• Genetic gains</li> <li>• Fertilization, spacing and thinning</li> </ul>
8(8)(a)(iv) Standard of timber utilization and allowance for decay, waste and breakage	<ul style="list-style-type: none"> <li>• Utilization standards</li> <li>• Decay, waste and breakage</li> </ul>
8(8)(a)(v) Constraints on the amount of timber produced by use of the area for purposes other than timber production	<ul style="list-style-type: none"> <li>• Adjacency</li> <li>• Watershed management</li> <li>• Visual quality management</li> <li>• Sensitive ecosystem inventory</li> <li>• Stand-level biodiversity</li> </ul>
8(8)(a)(vi) Any other information	<ul style="list-style-type: none"> <li>• Area reduction</li> <li>• Cut control/harvest performance</li> <li>• Harvest rules and harvest flow objectives</li> <li>• Harvest levels—cedar</li> </ul>
8(8)(e) Abnormal infestations in and devastation of, and major salvage program planned for, timber on the area	<ul style="list-style-type: none"> <li>• Forest health issues</li> <li>• Non-recoverable losses</li> </ul>

For other factors, where more uncertainty exists, or where public or First Nations' input indicates contention regarding the information used, modelling, or some other aspect under consideration,

this rationale incorporates an explanation of how I considered the essential issues raised and the reasoning leading to my conclusions.

#### Section 8 (8)

**In determining an allowable annual cut under this section the chief forester, despite anything to the contrary in an agreement listed in section 12, must consider**

- (a) **the rate of timber production that may be sustained on the area, taking into account**
  - (i) **the composition of the forest and its expected rate of growth on the area**

#### Land base contributing to the timber harvest

##### *- Huu-ay-aht community forest agreement*

In the base case the total area deleted for Huu-ay-aht First Nation tenures was overestimated by 295 hectares. No information was provided that quantifies the amount of THLB that is included in this area. Therefore I conclude that the harvest levels projected in the base case underestimate timber supply over the forecast period by an unknown, but small amount, and I will discuss this further under '**Reasons for Decision**'.

##### *- Maa-nulth First Nations Agreement*

The Maa-nulth First Nations' Final Agreement was first initialled on December 9, 2006, and subsequently ratified by Maa-nulth First Nation members in the summer and fall of 2007. Provincial ratification legislation received Royal Assent on November 29, 2007 and, on June 18, 2009 the Federal Government gave Royal Assent to the *Maanulth First Nations Final Agreement Act* (Bill C-41, 2009).

Effective March 31, 2010 the area covered by the Maa-nulth First Nation lands was designated under Section 169 of the *Forest Act*. To account for the designation, on July 21, 2010, I reduced the AAC for TFL 44 by 88 700 cubic metres under Section 173 of the *Forest Act*. The designated area expired on April 1, 2011, and as of that date the AAC reduction no longer applies.

On April 1, 2011, the effective date of the Maa-nulth First Nations' Final Agreement, 11 684 hectares within TFL 44 became fee-simple land owned by the Maa-nulth First Nations (referred to as the Maa-nulth First Nation lands) and the area known as T'iitsk'in Paawats, covering 2120 hectares, became a protected area within TFL 44.

As described above under 'timber supply analysis', the licensee excluded the Maa-nulth First Nation lands and the T'iitsk'in Paawats area from contributing to the base case timber supply. The licensee provided a sensitivity analysis that showed the impact on timber supply of adding these areas to the land base modelled in the base case. Including the areas increased the short-term timber supply by 105 000 cubic metres per year and the medium- and long-term by 104 000 cubic metres per year. No sensitivity analysis was provided to show the impact on timber supply of adding each area individually. In order to provide an estimate of the timber supply contribution of each area individually, FLNR staff allotted the total increase in harvest level from the sensitivity analysis to each area based on the THLB of each area. The resulting estimate of timber supply flowing from the Maa-nulth First Nation lands in the medium- and long-term is 95 200 cubic metres per year and from the T'iitsk'in Paawats area 8800 cubic metres per year.

While I acknowledge that before the T'iitsk'in Paawats area was established as a protected area it contributed 8800 cubic metres to the AAC for TFL 44, for this determination it contributes no volume as it is now a protected area.

- - *physical operability*

Physical operability refers to the presence or absence of terrain characteristics that limit the areas on which timber may be harvested. For this analysis, the licensee defined three operability classes: 'conventional', which denotes terrain accessible using ground-based equipment; 'non-conventional', which comprises areas where aerial systems such as helicopters are required; and 'inoperable', which comprises areas where, because of physical limitations, harvesting is not occurring.

In the base case the licensee did not remove areas classified as 'non-conventional' from the THLB, but limited the contribution from these areas to 50 000 cubic metres per year. The limit used in the analysis is based on the average annual performance over the past few years using helicopter harvesting systems. Having reviewed the assumptions used in the base case for non-conventional areas and discussed them with district staff, I concur the modelling assumptions accurately reflect current management practices and I accept the information used as suitable for this determination.

- - *operational adjustment factor (OAF)*

In the analysis, the volume estimates for all but mature stands were based on the ministry's Table Interpolation Program for Stand Yields version 4.1 (TIPSY). Typically, TIPSY is only used for existing and future managed stands. The use of TIPSY for immature natural stand volume estimates for TFL 44 – stands aged from 37 years to 137 years - was accepted in the previous analysis, as a large proportion of immature natural stands have been cruised. TIPSY includes features that allowed the licensee to produce yield curves that intersect with the cruised volume of stands. The volume yields for the remaining uncruised portion of immature natural stands were assumed to be similar to comparable cruised immature stands. While I agree the stand yields for natural stands were modelled adequately, I find there is some uncertainty regarding the assumptions used for existing and future managed stands. This uncertainty is discussed in more detail below.

TIPSY projections are initially based on ideal conditions where trees are evenly distributed, fully occupy the site, and pests, diseases and significant brush competition is absent. Two operational adjustment factors (OAFs) are applied to the TIPSY projections to approximate natural conditions: OAF 1 accounts for factors such as small stand openings, uneven tree distribution, and endemic pests and diseases that affect stand yields across all ages; and, OAF 2 accounts for factors whose impacts increase over time such as decay, waste and breakage. The standard provincial OAF values are 15 percent for OAF 1 and five percent for OAF 2.

For this analysis, non-standard OAFs were applied for existing and future managed stands. A five percent OAF adjustment was applied to reflect non-productive areas; a two percent adjustment to account for insects and diseases; and a six percent adjustment to account for decay, waste and breakage. These adjustments were applied multiplicatively and resulted in a 12 percent adjustment applied as OAF 1 with no further OAF 2 adjustment. These non-standard OAFs were also applied for cruised immature stands, but this was considered a minor risk as the OAF-adjusted TIPSY yield tables used intersected the measured volume of these stands.

I note that the non-standard OAF values were accepted in the previous analysis in which stand yields were modelled using the licensee's yield model Y-Xeno. The non-standard OAFs were accepted based on the understanding that Y-Xeno was calibrated with local data that already accounted for gaps and spacing. I also note that OAF assessments and studies have been completed for other management units and these studies were used to generate non-standard OAFs that were accepted for use in timber supply reviews. However, since no study or assessment supporting a specific change from the default OAF values was provided for TFL 44, and since TIPSy differs from Y-Xeno, Forest Analysis and Inventory Branch staff do not support the use of non-standard OAFs for this analysis.

As harvest within TFL 44 will soon be dependent on managed stands, it is imperative that we improve our understanding of how management practices and natural processes affect stand yields over time. Therefore, I request that the licensee utilize local growth and yield data and continue to monitor stand development in order to improve the OAF values used in subsequent timber supply reviews, as I have requested under '**Implementation**' below.

I have reviewed the information and procedures used in estimating volumes for managed stands, and conclude that the use of non-standard OAFs for managed stands was not appropriate for this analysis. FLNR staff estimate that, at the average forecasted harvest age, the total reduction applied using defaults in the absence of local data should have been about 18 percent. This results in an overestimation of projected volumes for managed stands in the mid- and long-term of about six percent. I have taken into consideration the result of a sensitivity analysis that indicates that if the managed stand yields are decreased by 10 percent, the mid- to long-term harvest level would be 77 300 cubic metres per year lower than in the base case. Proportionally, a six-percent decrease would reduce the timber supply by 46 380 cubic metres per year compared to the base case.

In my determination, I have accounted for an overestimation in the base case for OAF values of 46 380 cubic metres per year in the mid- to long-term as noted in '**Reasons for Decision**'.

(ii) **the expected time that it will take the forest to become re-established on the area following denudation:**

As noted in Table 1, I have considered factors related to regeneration delay and non-satisfactorily restocked areas, and I find them to have been appropriately accounted for in the base case, with no further comment required.

(iii) **silvicultural treatments to be applied to the area:**

As noted in Table 1, I have considered the silvicultural systems and treatments to be applied to the area, and I find them to have been appropriately accounted for in the base case, with no further comment required.

(iv) **the standard of timber utilization and the allowance for decay, waste and breakage expected to be applied with respect to timber harvesting on the area:**

- - *log grade adjustments*

On the coast of BC, logs from trees that were dead prior to harvest have been scaled and charged to the AAC. Dead western redcedar and old growth Douglas-fir stems can remain sound and potentially suitable for milling for many years. However, dead potential volume is not currently included in the inventory volumes, and therefore, has not been accounted for in previous AAC determinations.

Currently, there are no sources of information available to estimate the amount of dead potential volume within TFL 44. Therefore short-term timber supply in the base case has been underestimated by an unknown amount and I will discuss this further in ‘**Reasons for Decision**’.

- (v) **the constraints on the amount of timber produced from the area that reasonably can be expected by use of the area for purposes other than timber production:**

- - *integrated resource management objectives*

The Ministry of Forests, Lands and Natural Resource Operations is required under the *Ministry of Forests and Range Act* to manage, protect and conserve the forest and range resources of the Crown and to plan the use of these resources so that the production of timber and forage, the harvesting of timber, the grazing of livestock and the realization of fisheries, wildlife, water, outdoor recreation and other natural resource values are coordinated and integrated.

Accordingly, the extent to which integrated resource management (IRM) objectives for various forest resources and values affect timber supply must be considered in AAC determinations.

- - *identified wildlife*

Government has recognized a timber supply budget for the implementation of the Identified Wildlife Management Strategy (IWMS) of up to one percent of the provincial THLB. Where required in other management units, I have accounted for up to a one-percent timber supply impact attributable to established wildlife habitat areas (WHAs) and ungulate winter ranges (UWRs) to reflect IWMS.

Within TFL 44, a number of WHAs and UWRs have been established for species at risk such as marbled murrelet, Scouler’s corydalis, red-legged frog and black-tailed deer, and I consider the timber harvesting land base reductions applied in the base case for established WHAs and UWRs to be appropriate. I commend the efforts made by the licensee in completing a sensitive ecosystem inventory and the analysis work done to quantify the potential timber supply impact of reserving rare or sensitive ecosystems from harvest. However, as the protection of areas identified in the sensitive ecosystem inventory is neither currently legislated or part of current management practices, I will therefore not consider this information as part of this determination.

Regarding the IWMS, Ministry of Environment staff inform me that up to 1600 hectares of THLB remain to be attributed to WHAs in the South Island Resource District before the one-percent timber supply budget is fully allocated. Considering the known presence of numerous species at risk within TFL 44, I recognize there is a high likelihood future WHAs will be established within the TFL. Based on the proportion of THLB in TFL 44 relative to the THLB in the South Island Resource District— 34 percent— I conclude the timber supply for this TFL may be overestimated by up to 0.7 percent and I have noted this below in my ‘**Reasons for Decision**’.

- - *old-growth management areas*

The 2004 Order Establishing Provincial Non-Spatial Old Growth Objectives identifies the amount of old forest that will be maintained to promote biodiversity. The Order applies to TFL 44 until such time as old-growth management areas (OGMAs) are designated. OGMAs have been established for the Caycuse, Nitinat and Walbran landscape units and draft OGMAs have been identified for all remaining landscape units except for the Effingham, Sarita and Henderson landscape units. In the base case, all established and draft OGMAs were excluded

from the THLB. Old-growth retention targets from the 2004 Order were applied for the Effingham landscape unit and for the Sarita and Henderson landscape units where the draft OGMA's only addressed a portion of the old-growth targets. While a public and First Nations review process must still be completed prior to the legal establishment of the draft OGMA's, I am aware that the licensee operationally considers the OGMA's as removed from the THLB. Therefore, I find their exclusion from the THLB in the base case was appropriate and based on current management practices.

Ministry of Environment (MOE) staff advised me that within the very wet maritime subzone of the Coastal Western Hemlock zone (CWHvm1) of the Corrigan landscape unit, the Vancouver Island Land Use Plan (VILUP) states that, while the full old-seral target of 13 percent should be retained, one-third of the target may be recruited from second growth under certain conditions. In the base case two-thirds of the 13-percent target was identified as draft OGMA's. MOE staff advise me that there is a risk that the entire requirement may have to come from old-growth stands. As a result, I find there is a risk that the timber supply may be overestimated by up to 0.5 percent over the forecast period and I have accounted for this under '**Reasons for Decision**'.

(vi) any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber:

#### Other Information

##### *- - economic operability*

As a result of the recent economic downturn, during the 2008-2009 period the licensee harvested about 35 percent of the available AAC. In the analysis, the licensee provided information about the effects on economic timber supply of poor market conditions. It provided this information in the form of an exploratory analysis in which it changed several base case assumptions related to economic operability factors. However, for this determination I have found the base case assumptions related to these factors to be acceptable and reasonable, given that no information is available to the contrary. Assumptions related to economic timber supply are always uncertain and this uncertainty is accentuated during extended periods of poor market conditions.

In examining the exploratory analysis compared to the base case, I note that, despite an assumed reduction of 14 percent in the THLB, increased minimum harvestable ages and decreased yields in second-growth stands, it was possible to manage the transition to the long-term harvest level in five percent increments every five years. This indicates that, even if the significant changes in assumptions applied in the exploratory analysis come to pass, any associated reductions in timber supply over time can be managed in acceptable increments.

I am aware that the harvest performance during 2010 has been much better than in the previous two years. However, economic uncertainty remains that may affect the licensee's ability to utilize marginally economic timber. To address these economic uncertainties, the licensee plans to develop a framework that would provide a detailed assessment of strategic economic timber supply. I am encouraged by the licensee's plans. If the results show a significant effect on timber supply, I am prepared to review the AAC for TFL 44 sooner than in 10 years.

For this determination, I am mindful of the licensee's concern that economic operability may have been overstated in the base case and that as a result, there is a risk that the base case timber supply is too high. I further note that on this account, the licensee has recommended a lower

harvest level than projected in the base case. I find this approach to be prudent and have considered this as discussed in ‘**Reasons for Decision**’.

- - *First Nations considerations*

The Crown has a duty to consult with, and accommodate if necessary, those First Nations for whom it has knowledge of the potential existence of aboriginal interests that may be impacted by a proposed decision, including strategic-level decisions such as AAC determinations. I must therefore consider information arising from the consultation process with First Nations respecting aboriginal interests and treaty rights that may be affected by my AAC determination. As well, I will consider other relevant information available to the ministry regarding aboriginal interests, including information gathered during other consultation processes.

TFL 44 falls within the asserted traditional territories of the following First Nations: Ditidaht First Nation, Hupacasath First Nation, Tseshah First Nation, Ucluelet First Nation, Cowichan Tribes, Huu-ay-aht First Nation, Chemainus First Nation, Lake Cowichan First Nation, Pacheedaht First Nation, Penelakut First Nation, Lyackson First Nation, and the Uchucklesaht First Nation.

All twelve First Nations listed above entered into a Forest and Range Agreement (FRA), a Forest and Range Opportunities agreement (FRO) or an Interim Measures Agreement Extension (IMAE). These agreements provide for revenue sharing and forest tenure opportunities. They also contain provisions for consultation on administrative decisions including AAC determinations, and these were followed by district staff. Some of these agreements have expired. The Province recently introduced the new Forestry Consultation and Revenue Sharing Agreement (FCRSA) to replace expired FROs and FRAs.

At the time of this AAC determination, the Pacheedaht, Penelakut, Ditidaht and Tseshah First Nations and the Cowichan Tribes have FCRSAs in place. The agreements with the Ucluelet, Huu-ay-aht and Uchucklesaht First Nations expired on April 1, 2011. These three First Nations, along with the Kyuqot, Checleseht and Toquaht First Nations whose asserted territories do not overlap TFL 44 entered into the Maa-nulth First Nations treaty with the federal and provincial governments, effective April 1, 2011.

The *Maa-Nulth First Nations Final Agreement* was given Royal Assent on June 18, 2009. Effective April 1, 2011, this agreement created the Maa-nulth First Nation Lands within the Uchuck-Useless Inlet area, the Henderson Lake area and the Sarita/Bamfield area of TFL 44. As discussed under ‘Land base contributing to the timber harvest’ above, for the base case the Maa-nulth First Nation Lands were excluded from the THLB, and this reflects the current situation on TFL 44. The T’iitsk’in Paawats area, having been established as a protected area effective April 1, 2011, was also appropriately excluded from the base case THLB.

Information sharing with the twelve potentially affected First Nations regarding the timber supply review for TFL 44 was initiated by the licensee in June 2009. The Information Package was sent to each group with a letter requesting they review the document and provide any comments. The Analysis Report was later sent to all First Nations in February 2010 for review and comment and the licensee followed-up with reminder letters to the First Nations in March 2010.

On June 11, 2009 district staff initiated consultation with the twelve First Nations by sending a letter providing information on the timber supply review process. District staff also asked the

First Nations to provide information on how their aboriginal interests may be impacted by an AAC determination for TFL 44. On July 29, 2009, shortly after the release of the Information Package by the licensee, the district sent a follow-up letter to all affected First Nations. A second follow-up letter was sent to the First Nations on February 16, 2010 informing them that the timber supply analysis report would be made available soon by the licensee.

Initially the Tla-o-qui-aht First Nation was also consulted about this determination. However, on June 16, 2010 the area of TFL 44 overlapping the Tla-o-qui-aht First Nation's traditional territory was deleted from TFL 44 and included in the new Pacific Timber Supply Area (TSA). On August 17, 2009, the Tla-o-qui-aht First Nation sent a letter to district staff expressing its concern with assumptions leading to the TFL 44 AAC potentially not being consistent with the Tla-o-qui-aht's desire to maintain a continuous forest canopy in their traditional territory. District staff responded that the TFL 44 AAC determination will not have any impact on the Tla-o-qui-aht's aboriginal interests because their traditional territory will no longer overlap with TFL 44.

In September 2009 the Cowichan Tribes sent a letter expressing concerns about forest harvesting impacts on their economic opportunities and a need to address cedar supply, particularly monumental cedar, for traditional uses. District staff responded and indicated they could provide Cowichan Tribes with free-use permits to access cedar for cultural purposes and suggested their community forest could be managed to provide a component of monumental cedar.

Several meetings with First Nations representatives, the licensee and district staff occurred throughout the consultation process. In September 2009, two meetings took place with representatives from the Hupacasath and Tseshah First Nations and with the licensee and district staff, at which time a general review of the draft Management Plan No. 5 for TFL 44 and the Information Package was provided. In April 2010, a meeting was held with the Hupacasath First Nation and the licensee to review the timber supply analysis in relation to the Great Central Operating Area. This is the core area of Hupacasath's traditional territory and there are specific areas they would like protected. No concerns specific to the TFL 44 AAC determination were expressed at this meeting. In addition, the licensee met with the Tseshah First Nation in May 2010 to review the timber supply analysis report.

The Huu-ay-aht First Nation sent a letter in November 2009 supporting Management Plan No. 5 for TFL 44, and raising questions about OGMAs in the Sarita landscape unit, offsite Douglas-fir stands, stand-level retention, utilization of wood biomass from logging slash and the genetic gain of planting stock. Since many of the questions involved the licensee's forest practices, a response to each of their questions was provided by the licensee in January 2010. Following, in March 2010, the licensee met with representatives of the Huu-ay-aht First Nation to review the Management Plan. Subsequently, in April 2010, the Huu-ay-aht sent a letter requesting a meeting and information on how specific areas within TFL 44, including the Maa-nulth First Nation lands, contribute to the AAC. In response to this letter, the licensee met with the Huu-ay-aht in May 2010, and as a result of the meeting, the Huu-ay-aht sent a letter indicating their support of this AAC determination for TFL 44.

In October 2009, district staff and the licensee met with representatives of the Ucluelet First Nation. The Ucluelet expressed concerns over access to monumental cedar and berry picking areas and indicated forest management should be compatible with the uses of treaty settlement lands once the treaty becomes effective. Following, in May 2010, the Ucluelet First Nation sent

a letter identifying concerns over ungulate winter ranges and pesticides, and requested that the Ucluelet First Nation be engaged to conduct archaeological impact assessments prior to finalizing cutting permits for all areas. District staff responded in a letter and also discussed these issues with a staff member of Ucluelet First Nation, noting that the Ucluelet First Nation asserted territory overlaps the TFL 44 area by only a small amount. The Ucluelet First Nation staff member concurred and expressed no further concern regarding this AAC determination.

Regarding the concerns raised about monumental cedar, the licensee provided me with an analysis showing the forecasted volume of cedar within the productive forest area and the THLB over time. This analysis suggests there is a significant amount of cedar outside the THLB and also shows that the total volume of cedar is expected to decrease over the next 30 years but will eventually recover to a higher long-term level. I note, however, that the quality of this cedar for First Nations purposes is unknown and I encourage the licensee to work with First Nations to ensure their need for monumental cedar is met, as noted below in **'Implementation'**.

The Ditidaht and the Hupascasath First Nations provided the licensee with spatial information on areas where they request that timber harvesting not occur for cultural or treaty-related reasons. The licensee prepared a sensitivity analysis to investigate the timber supply impacts of removing these areas from the THLB. These areas total about 11 000 hectares of productive forest, of which about 7000 hectares are in the THLB. The analysis shows that the base case harvest level could be maintained for the first 10 years before declining due to a long-term harvest level that is 7.8 percent lower than in the base case.

There is uncertainty about whether land would need to be excluded from harvesting to address the interests these First Nations wish to protect. Therefore I find it preliminary to make adjustments to timber supply on the basis of the information provided by the First Nations. If further clarity is gained on this issue, for instance through a treaty process, this can be considered in future determinations.

No specific information was presented to me that quantifies the amount of wildlife or wildlife habitat that is needed in addition to the assumptions made in the base case to address First Nations' hunting needs. The ungulate winter ranges on TFL 44 for black-tailed deer and Roosevelt elk, as well as the old-growth management areas, riparian reserve zones and areas excluded from the THLB for other reasons will serve to address this interest to some extent.

Based on my review of the information sharing and consultation process followed, the aboriginal interest information available to FLNR staff, and the potential impact my decision may have on these interests, I believe that the FLNR has engaged in consultation at an appropriate level on the consultation spectrum as outlined in the *Haida* decision. Furthermore, I note that district staff will continue to be available to meet and consult with First Nations on issues at the operational planning level.

Opportunities were provided to all First Nations to share their concerns related to specific aboriginal interests that may be impacted by this decision. If new information regarding First Nations' aboriginal interests becomes available that significantly varies from the information that was available for this determination and that may affect timber supply, I am prepared to revisit this determination sooner than in 10 years as required by legislation.

**(b) the short and long term implications to British Columbia of alternative rates of timber harvesting from the area;**

*- - alternative harvest flows*

The nature of the transition from harvesting old-growth forests to harvesting second-growth forests is a major consideration in determining AACs in many parts of the province. In the short term, the presence of large timber volumes in older forests often permits harvesting above long-term levels without jeopardizing future timber supply. In keeping with the objectives of good forest stewardship, AACs in British Columbia have been and continue to be determined to ensure that current and mid-term harvest levels will be compatible with a smooth transition toward usually (but not always) the lower long-term harvest level. Thus, timber supply should remain sufficiently stable so that there will be no inordinately adverse impacts on current or future generations. To achieve this, the AAC determined must not be so high as to cause later disruptive shortfalls in supply nor so low as to cause immediate social and economic impacts that are not required to maintain forest productivity and future harvest stability.

In addition to the base case, two alternative harvest flows were provided by the licensee. These alternative flows represent trade-offs between short-, mid- and long-term harvest levels.

The first alternative flow was prepared to examine the impact of maintaining the initial harvest level for 20 years. After 20 years, the harvest level declines below the base case long-term level for a further 20 years before increasing to a long-term harvest level of 806 250 cubic metres per year in the ninth period. This long-term harvest level is slightly lower than the base case long-term harvest level of 806 600 cubic metres per year.

In the second alternative flow, the objective was to examine the effect on timber supply of maintaining a non-declining even-flow harvest forecast. In this scenario, a harvest level of 807 900 cubic metres per year could be maintained throughout the forecast period.

I have considered these alternatives in my determination. I note that the initial harvest level of 837 268 cubic metres per year used in the base case cannot be sustained any further in the short term without causing a shortfall in the mid-term. The base case and alternative harvest forecasts provided suggest that it would now be appropriate to transition to an even-flow harvest level for TFL 44 and I have been mindful of this in my determination.

**(c) the nature, production capabilities and timber requirements of established and proposed timber processing facilities;**

This section of the *Forest Act* has been repealed [2003-31-2 (B.C. Reg. 401/2003)]

**(d) the economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia;**

**Economic and Social Objectives**

*- Minister's letter*

The Minister of Forests, Lands and Natural Resource Operations has expressed the economic and social objectives of the Crown for the province in a letter to the chief forester, dated July 4, 2006 (attached as Appendix 3). The letter stresses the importance of a stable timber supply to maintain a competitive and sustainable forest industry while being mindful of other forest values. In respect of this, one of the base case harvest forecast objectives was to attain a stable, long-term harvest level where the growing stock becomes stable, neither increasing nor

decreasing over time. In my determination, I have been mindful of the need for the allowable harvest level in the short term to remain consistent with maintaining the integrity of the timber supply projection throughout the planning horizon. The base case and alternative forecasts demonstrate the feasibility of attaining this objective. I have also considered with care the adequacy of the provisions made both in current practice, and assumed in the analyses, for maintaining a range of forest values.

- *local objectives*

In the letter of July 4, 2006, the Minister also asks that I consider important local social and economic objectives expressed by the public during the Timber Supply Review process, where these are consistent with the government's broader objectives as well as any relevant information received from First Nations.

Local objectives for land and resource use in TFL 44 are captured in the *Vancouver Island Land Use Plan Higher Level Plan Order* and in orders under the *Government Actions Regulation of the Forest and Range Practices Act*. The base case assumptions reflected the directions provided by these orders.

The licensee provided the public with the opportunity to comment on the timber supply review as part of the management planning process. No comments were received.

The consultation process with First Nations, and the feedback received, was discussed above under 'First Nations considerations'.

I am satisfied that this determination accords with the objectives of government as expressed by the Minister.

(e) **abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area.**

As noted in Table 1, I accept as modelled the factors considered under this section.

## **Reasons for Decision**

In reaching the AAC determination for TFL 44 I have considered all the factors required under Section 8 of the *Forest Act* and I have reasoned as follows.

In the base case, an initial harvest level of 837 268 cubic metres per year can be maintained until 2012. The harvest level then declines by 3.7 percent to a long-term harvest level of 806 600 cubic metres per year. I am satisfied the assumptions applied in the base case for the majority of the factors applicable to TFL 44 are appropriate.

In determining an AAC for TFL 44, I have identified a number of factors which, considered separately, indicate reasons why the timber supply may be greater or less than that projected in the base case. Some of these factors can be quantified and their impact on the harvest level assessed with reliability. Others may influence timber supply by adding an element of risk or uncertainty to the decision, but cannot be reliably quantified at this time.

In my considerations, the following factors have been identified as reason why the timber supply projected in the base case may have been overestimated:

- *operational adjustment factors (OAF 1 and OAF 2)*: the OAF values used in the base case differ from the provincial standard values. In the absence of local studies, I have

concluded this factor represents an overestimate of timber supply in the mid- to long-term of six percent.

- *identified wildlife*: while I concluded that the base case assumptions for established wildlife habitat areas and ungulate winter ranges were appropriate, I identified some uncertainty about the amount of WHA that remains to be established within the South Island Resource District and the proportion that may fall within TFL 44. I concluded the base case may be overestimated by up to 0.7 percent over the forecast period.
- *old-growth management areas*: as a result of the possibility that further old-growth retention may be required in the Corrigan landscape unit, I concluded that the base case may be overestimated by up to 0.5 percent over the forecast period.
- *economic operability*: I accepted the licensee's concern that economic operability may have been overstated and that therefore the harvest level projected in the base case may be too high. The licensee recommended a lower harvest level than projected in the base case and I have considered this in this determination.

I have also identified factors in my considerations that indicate the timber supply projected in the base case was underestimated:

- *log grade adjustments*: I discussed the change in accounting for dead potential volume in AAC determinations and concluded that short-term timber supply in the base case has been underestimated by an unknown amount.
- *Huu-ay-aht First Nation tenures*: in the base case the total area deleted for Huu-ay-aht First Nation tenures was 295 hectares greater than the area that was finally deleted. I concluded that harvest levels projected in the base case underestimate timber supply over the forecast period by an unknown, but small amount.

In considering the above-mentioned influences, I note that the uncertainty in the OAFs used is the only quantified uncertainty, and it acts in the mid- to long-term. It will therefore not affect short-term timber supply and thus I make no adjustment to my determination on this account.

My considerations of the identified wildlife and old-growth management area assumptions identified an overall potential overestimate of timber supply over the forecast period of up to 1.2 percent. To the extent that this overestimate affects short-term timber supply, the underestimate of short-term timber supply resulting from the lack of accounting for log grades and the overestimate of the Huu-ay-aht community forest agreement areas will offset the overestimate to some extent, if not entirely.

I am aware that, in the base case, the transition to the long-term harvest level of 806 600 cubic metres per year is projected to occur in 2012. The licensee has recommended an immediate transition to a harvest level of 800 000 cubic metres per year in order to account for the possible overestimate of the economic land base. I find this approach prudent and therefore determine the AAC for TFL 44 to be 800 000 cubic metres.

## Determination

I have considered and reviewed all the factors as documented above, including the risks and uncertainties of the information provided. It is my determination that a timber harvest level that accommodates objectives for all forest resources during the next 10 years and that reflects current management practices as well as the socio-economic objectives of the Crown, can be best achieved in TFL 44 by establishing an AAC of 800 000 cubic metres

This determination is effective May 5, 2011 and will remain in effect until a new AAC is determined, which must take place within 10 years after the effective date of this determination.

If additional significant new information is made available to me, or major changes occur in the management assumptions upon which I have predicated this decision, then I am prepared to revisit this determination sooner than the 10 years required by legislation.

## Implementation

In the period following this decision and leading to the subsequent determination, I encourage licensee staff to undertake the tasks noted below, and as discussed previously in this rationale document. I recognize the ability of the licensee to undertake these projects is dependent on available resources including funding. However these projects are important to help reduce the risk and uncertainty associated with key factors that affect the timber supply in TFL 44 and thus I recommend the licensee undertake the following:

- Develop OAF 1 and OAF 2 values that accurately reflect site occupancy, endemic pests and diseases, and decay, waste and breakage in managed stands in order to localize TIPS Y yield projections.
- Work with local First Nations regarding their needs for monumental cedar.



Jim Snetsinger, RPF  
Chief Forester

May 5, 2011



## Appendix 1: Section 8 of the *Forest Act*

Section 8 of the *Forest Act*, as of April 27, 2011, reads as follows:

### Allowable annual cut

8 (1) The chief forester must determine an allowable annual cut at least once every 10 years after the date of the last determination, for

- (a) the Crown land in each timber supply area, excluding tree farm licence areas, community forest agreement areas and woodlot licence areas, and
- (b) each tree farm licence area.

(2) If the minister

- (a) makes an order under section 7 (b) respecting a timber supply area, or
- (b) amends or enters into a tree farm licence to accomplish a result set out under section 39 (2) or (3),

the chief forester must make an allowable annual cut determination under subsection (1) for the timber supply area or tree farm licence area

- (c) within 10 years after the order under paragraph (a) or the amendment or entering into under paragraph (b), and
- (d) after the determination under paragraph (c), at least once every 10 years after the date of the last determination.

(3) If

- (a) the allowable annual cut for the tree farm licence area is reduced under section 9 (3), and
- (b) the chief forester subsequently determines, under subsection (1) of this section, the allowable annual cut for the tree farm licence area,

the chief forester must determine an allowable annual cut at least once every 10 years from the date the allowable annual cut under subsection (1) of this section is effective under section 9 (6).

(3.1) If, in respect of the allowable annual cut for a timber supply area or tree farm licence area, the chief forester considers that the allowable annual cut that was determined under subsection (1) is not likely to be changed significantly with a new determination, then, despite subsections (1) to (3), the chief forester

- (a) by written order may postpone the next determination under subsection (1) to a date that is up to 15 years after the date of the relevant last determination, and
- (b) must give written reasons for the postponement.

(3.2) If the chief forester, having made an order under subsection (3.1), considers that because of changed circumstances the allowable annual cut that was determined under subsection (1) for a timber supply area or tree farm licence area is likely to be changed significantly with a new determination, he or she

- (a) by written order may rescind the order made under subsection (3.1) and set an earlier date for the next determination under subsection (1), and
- (b) must give written reasons for setting the earlier date.

(4) If the allowable annual cut for the tree farm licence area is reduced under section 9 (3), the chief forester is not required to make the determination under subsection (1) of this section at the times set out in subsection (1) or (2) (c) or (d), but must make that determination within one year after the chief forester determines that the holder is in compliance with section 9 (2).

(5) In determining an allowable annual cut under subsection (1) the chief forester may specify that portions of the allowable annual cut are attributable to one or more of the following:

(a) different types of timber or terrain in different parts of Crown land within a timber supply area or tree farm licence area;

(a.1) different areas of Crown land within a timber supply area or tree farm licence area;

(b) different types of timber or terrain in different parts of private land within a tree farm licence area.

(c) [Repealed 1999-10-1.]

(6) The regional manager or district manager must determine an allowable annual cut for each woodlot licence area, according to the licence.

(7) The regional manager or the regional manager's designate must determine an allowable annual cut for each community forest agreement area, in accordance with

(a) the community forest agreement, and

(b) any directions of the chief forester.

(8) In determining an allowable annual cut under subsection (1) the chief forester, despite anything to the contrary in an agreement listed in section 12, must consider

(a) the rate of timber production that may be sustained on the area, taking into account

(i) the composition of the forest and its expected rate of growth on the area,

(ii) the expected time that it will take the forest to become re-established on the area following denudation,

(iii) silviculture treatments to be applied to the area,

(iv) the standard of timber utilization and the allowance for decay, waste and breakage expected to be applied with respect to timber harvesting on the area,

(v) the constraints on the amount of timber produced from the area that reasonably can be expected by use of the area for purposes other than timber production, and

(vi) any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber,

(b) the short and long term implications to British Columbia of alternative rates of timber harvesting from the area,

(c) [Repealed 2003-31-2.]

(d) the economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia, and

(e) abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area.

(9) Subsections (1) to (4) of this section do not apply in respect of the management area, as defined in section 1 (1) of the *Haida Gwaii Reconciliation Act*.

(10) Within one year after the chief forester receives notice under section 5 (4) (a) of the *Haida Gwaii Reconciliation Act*, the chief forester must determine, in accordance with this section, the allowable annual cut for

(a) the Crown land in each timber supply area, except the areas excluded under subsection (1) (a) of this section, and

(b) each tree farm licence area

in the management area, as defined in section 1 (1) of the *Haida Gwaii Reconciliation Act*.

(11) The aggregate of the allowable annual cuts determined under subsections (6), (7) and (10) that apply in the management area, as defined in section 1 (1) of the *Haida Gwaii Reconciliation Act*, must not exceed the amount set out in a notice to the chief forester under section 5 (4) (a) of that Act.

## **Appendix 2: Section 4 of the *Ministry of Forests and Range Act***

Section 4 of the *Ministry of Forests and Range Act*, as of April 27, 2011, reads as follows:

### **Purposes and functions of ministry**

- 4 The purposes and functions of the ministry are, under the direction of the minister, to do the following:
- (a) encourage maximum productivity of the forest and range resources in British Columbia;
  - (b) manage, protect and conserve the forest and range resources of the government, having regard to the immediate and long term economic and social benefits they may confer on British Columbia;
  - (c) plan the use of the forest and range resources of the government, so that the production of timber and forage, the harvesting of timber, the grazing of livestock and the realization of fisheries, wildlife, water, outdoor recreation and other natural resource values are coordinated and integrated, in consultation and cooperation with other ministries and agencies of the government and with the private sector;
  - (d) encourage a vigorous, efficient and world competitive
    - (i) timber processing industry, and
    - (ii) ranching sectorin British Columbia;
  - (e) assert the financial interest of the government in its forest and range resources in a systematic and equitable manner.

### Appendix 3: Minister's letter of July 4, 2006



JUL 04 2006

Jim Snetsinger  
Chief Forester  
Ministry of Forests and Range  
3<sup>rd</sup> Floor, 1520 Blanshard Street  
Victoria, British Columbia  
V8W 3C8

Dear Jim:

**Re: Economic and Social Objectives of the Crown**

The *Forest Act* gives you the responsibility for determining Allowable Annual Cuts-decisions with significant implications for the province's economy, communities and environment. This letter outlines the economic and social objectives of the Crown you should consider in determining Allowable Annual Cuts, as required by Section 8 of the *Forest Act*. This letter replaces the July 28, 1994 letter expressing the economic and social objectives of the Crown, and the February 26, 1996 letter expressing the Crown's economic and social objectives for visual resources. The government's objective for visual quality is now stated in the Forest Practices and Planning Regulation of the *Forest and Range Practices Act*.

Two of this government's goals are to create more jobs per capita than anywhere in Canada and to lead the world in sustainable environmental management. The Ministry of Forests and Range supports these objectives through its own goals of sustainable forest and range resources and benefits. In making Allowable Annual Cut determinations, I ask that you consider the importance of a stable timber supply in maintaining a competitive and sustainable forest industry, while being mindful of other forest values.

The interior of British Columbia is in the midst of an unprecedented mountain pine beetle outbreak. Government's objectives for management of the infestation are contained in British Columbia's Mountain Pine Beetle Action Plan. Of particular relevance to Allowable Annual Cut determinations are the objectives of encouraging long-term economic sustainability for communities affected by the epidemic; recovering the greatest value from dead timber before it burns or decays, while respecting other forest values; and conserving the long-term forest values identified in land use plans.

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Minister of  
Forests and Range  
and Minister Responsible  
for Housing

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Minister

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Jim Snetsinger

To assist the province and affected communities in planning their responses to the beetle infestation, it would be best to have realistic assessments of timber volumes that can be utilized economically. Therefore, in determining the best rate of harvest to capture the economic value from beetle-killed timber, I ask that you examine factors that affect the demand for such timber and products manufactured from it, the time period over which it can be utilized, and consider ways to maintain or enhance the mid-term timber supply.

The coast of British Columbia is experiencing a period of significant change and transition. In making Allowable Annual Cut determinations I urge you to consider the nature of timber supply that can contribute to a sustainable coast forest industry, while reflecting decisions made in land and resource management plans.

You should also consider important local social and economic objectives expressed by the public during the Timber Supply Review process, where these are consistent with the government's broader objectives as well as any relevant information received from First Nations.

Sincerely yours,

A handwritten signature in black ink, appearing to be 'Rich Coleman', with a long horizontal stroke extending to the right.

Rich Coleman  
Minister