

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

Tree Farm Licence 26

held by

The Corporation of the District of Mission

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

Effective July 7, 2020

**Diane Nicholls, RPF
Chief Forester**

Table of Contents

Objective of this document 1

Acknowledgement..... 1

Statutory Framework..... 1

Description of the Tree Farm Licence..... 1

History of the AAC 2

New AAC determination..... 2

Role and limitations of the technical information used..... 2

Guiding principles for AAC determinations 3

The role of the base case 6

Base case for TFL 26 7

Consideration of factors as required by Section 8 of the *Forest Act*..... 8

 Land base contributing to timber harvesting 10

 - general comments 10

 - deciduous-leading stands 10

 - terrain stability 11

 - recreation resources 12

 - minimum harvestable criteria 12

 - cultural heritage resources 13

 - silviculture systems..... 14

 - fibre recovery..... 14

 Integrated resource management objectives 15

 - cumulative effects..... 15

 - climate change 16

 Other information 18

 - First Nations 18

 - harvest performance 20

 - public comments..... 21

 Alternative rates of harvesting..... 21

 - alternative harvest forecast 21

 Economic and social objectives..... 21

 - Minister’s letter 21

Reasons for Decision..... 22

Determination..... 24

Implementation 24

Appendix 1: Section 8 of the *Forest Act*..... 25
Appendix 2: Section 4 of the *Ministry of Forests and Range Act* 28
Appendix 3: Minister’s letter of October 30, 2017 29
Appendix 4: Information sources used in the AAC determination..... 32

List of Tables

Table 1. List of factors accepted as modelled..... 9

Objective of this document

This document provides an accounting of the factors I have considered and the rationale I have employed in making my determination, under Section 8 of the *Forest Act*, of the allowable annual cut (AAC) for Tree Farm Licence (TFL) 26. This document also identifies where new or better information is needed for incorporation in future determinations.

Acknowledgement

For preparation of the information I have considered in this determination, I thank licensee staff, and staff of the British Columbia (BC) Ministry of Forests, Lands, Natural Resource Operations and Rural Development (the “Ministry”) in the Chilliwack Natural Resource District and Regional Operations Division – Coast Area, and the Forest Analysis and Inventory Branch. I am also grateful to First Nations, the public and staff from the District of Mission who have taken the time to make me aware of the issues unique to this TFL.

Statutory Framework

Section 8 of the *Forest Act* requires the chief forester to consider a number of specified factors in determining AACs for Timber Supply Areas (TSAs) and TFLs. Section 8 of the *Forest Act* is reproduced in full as Appendix 1 of this document.

Description of the Tree Farm Licence

TFL 26, which is held by the Corporation of the District of Mission, is located north of the community of Mission in southwestern BC, approximately 60 kilometres east of Vancouver in the most populous region of the province. Consisting of two parts, one on either side of the lower arm of Stave Lake, TFL 26 lies within the traditional territory of the Katzie First Nation, Kwantlen First Nation, Leq’á:mel First Nation, Matsqui First Nation, Musqueam Indian Band, Peters Band, Seabird Island First Nation, Semiahmoo First Nation, Shxw’ow’hamel First Nation, Skawahlook First Nation, Sto:lo Nation, Sto:lo Tribal Council and Sumas First Nation.

The total area of TFL 26 is 10 935 hectares, of which 7289 hectares (67 percent) is considered to be currently available for timber harvesting. After accounting for the additional wildlife tree retention and road development associated with future harvesting, the long-term timber harvesting land base (THLB) is 6563 hectares (66 percent of the total area).

The topography of the TFL is varied with most of the area located between 100 metres and 700 metres elevation; the highest point in the TFL is Mount Crickmer (1356 metres). The dominant biogeoclimatic ecosystem classification (BEC) zone in the TFL is the Coastal Western Hemlock (CWH) zone. Higher elevations of the TFL include small areas classified as Mountain Hemlock (MH) zone.

The THLB is dominated by western hemlock leading stands (50 percent), of which, approximately 82 percent are considered natural stands (i.e., stands that have not been harvested since 1958). Douglas-fir leading stands cover approximately 26 percent of the THLB, of which 58 percent are considered natural stands. The remainder of the THLB is covered by western redcedar (11 percent), deciduous (7 percent), and amabilis fir (3 percent) leading stands. Less common stand types, such as yellow cypress and western white pine, make up the remaining three percent of the THLB.

Due to historic harvesting, most of the stands in the THLB (89 percent) are younger than 100 years. Approximately five percent of stands on the forested land base is older than 200 years.

History of the AAC

TFL 26 was awarded to the District of Mission on July 22, 1958. It resulted from a recommendation of the Sloan Report that municipalities manage local forests and is recognized as the first community-managed forestry operation in BC.

In 1958, the initial AAC was set at 12 035 cubic metres. Between 1958 and 1989, the AAC was progressively increased to account for improved inventory and yield estimates, area additions, and site productivity reclassification. In 1989, the availability of new operability mapping resulted in an increase in the AAC to its current level of 45 000 cubic metres. The current AAC was determined on March 26, 2010.

Since 1958, there have been nine management plans for the TFL. The current draft management plan is the tenth. Of the current AAC, 43 398 cubic metres is apportioned to the Corporation of the District of Mission and 1602 cubic metres is apportioned to British Columbia Timber Sales.

The TFL consists of both municipal land ('Schedule 'A') and provincial crown land (Schedule 'B'). On July 16, 2018, in accordance with Section 39.1 of the *Forest Act*, TFL 26 was amended by Instrument 36. This amendment resulted in the deletion of 321 hectares of crown land from the Schedule 'B' lands of TFL 26 in exchange for 473 hectares of crown land from the Fraser TSA. The area deleted from TFL 26 was transferred to the Katzie Kwantlen First Nation Woodland. At the time of this determination, TFL 26 includes 1246 hectares of Schedule 'A' land and 9690 hectares of Schedule 'B' land. The land transfers had no effect on timber supply so the AAC remains unchanged at 45 000 cubic metres.

New AAC determination

Effective July 7, 2020, the new AAC for TFL 26 is 60 000 cubic metres. The new AAC is 33 percent higher than the AAC in place prior to this determination.

This AAC will remain in effect until a new AAC is determined, which must take place within 10 years of this determination. If additional significant new information is made available to me, or major changes occur in 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.

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 related to inventory, growth and yield, and management. The factors used as inputs to timber supply analysis have differing levels of uncertainty associated with them, due in part to variation in physical, biological and social conditions.

Computer models cannot incorporate all 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 issues that must be considered when making decisions such as AAC determinations. Such information does provide valuable insight into potential impacts of different uncertainties about or changes to resource information and management practices, and thus forms an important component of the information I must consider in AAC determinations.

In determining this AAC, I have considered the technical information provided, including any known limitations.

Guiding principles for AAC determinations

Given the large number of periodic AAC determinations required for British Columbia's many forest management units, administrative fairness requires a reasonable degree of consistency of approach in addressing relevant factors associated with AAC determinations. In order to make my approach in these matters explicit, I have considered and adopted the following body of guiding principles, which have been developed over time by BC's chief foresters and deputy chief foresters. However, in any specific circumstance in a determination where I consider it necessary to deviate from these principles, I will explain my reasoning in detail.

When considering the factors required under Section 8, I am also aware of my obligation as a steward of the forests of British Columbia, of the mandate of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (the "Ministry") as set out in Section 4 of the *Ministry of Forests and Range Act*, and of my responsibilities under the *Forest Act*, *Forest and Range Practices Act (FRPA)*, and *Forester's Act*.

AAC determinations 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 AAC determinations do not prescribe a particular plan of harvesting activity within the management units. They are also independent of any decisions by the Minister of Forests, Lands, Natural Resource Operations and Rural Development with respect to subsequent allocation of wood supply.

These guiding principles focus on: responding to uncertainties; incorporating information related to First Nations' rights, titles and interests; and considering information related to integrated decision making, cumulative effects, and climate change.

Information uncertainty

Given the complex and dynamic nature of forest ecosystems coupled with changes in resource use patterns and social priorities there is always a degree of uncertainty in the information used in AAC determinations.

Two important ways of dealing with this uncertainty are:

- (i) managing risks by evaluating the significance of specific uncertainties associated with the current information and assessing the potential current and future social, economic, and environmental risks associated with a range of possible AACs; and
- (ii) re-determining AACs regularly to ensure they incorporate current information and knowledge, and greater frequency in cases where projections of short-term timber supply are not stable and/or substantial changes in information and management are occurring.

In considering the various factors that Section 8 of the *Forest Act* requires the chief forester to take into account in determining AACs, it is important to reflect those factors, as closely as possible, that are a reasonable extrapolation of current practices. It is not appropriate to base decisions on proposed or potential practices that could affect the timber supply but are not consistent with legislative requirements and not substantiated by demonstrated performance.

It is not appropriate to speculate on timber supply impacts that may eventually result from land-use designations not yet finalized by government. Where specific protected areas, conservancies, or similar areas have been designated by legislation or by order in council that prohibit timber harvesting, these areas are deducted from the THLB 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 that helps meet resource management objectives such as biodiversity.

In some cases, even when government has made a formal land-use decision, it is not necessarily possible to fully analyse and immediately account for the consequent timber supply impacts in an AAC determination. Many government land-use decisions must be followed by detailed implementation decisions requiring, for instance, further detailed planning or legislated designations such as those provided for under the *Land Act* and FRPA. In cases where government has been clear about the manner in which it intends land use decisions to be implemented, but the implementation details have yet to be 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 on-going plan implementation decisions.

Where appropriate, information will be considered regarding 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.

I acknowledge the perspective that alternate strategies for dealing with information uncertainty may be to delay AAC determinations or to generally reduce AACs in the interest of caution. However, given that there will always be uncertainty in information, and due to the significant impacts that AAC determinations can have on communities, I believe that no responsible AAC determination can be made solely on the basis of a precautionary response to uncertainty with respect to a single value.

Nevertheless, in making a determination, allowances may need to be made to address risks that arise because of uncertainty by applying judgment as to how the available information is used. Where appropriate, the social and economic interests of the government, as articulated by the Minister of Forests, Lands, Natural Resource Operations and Rural Development, can assist in evaluating this uncertainty.

First Nations

The BC government has committed to true, lasting reconciliation with Indigenous peoples, including fully adopting and implementing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Reconciliation and implementation of UNDRIP will likely require changes to policies, programs and legislation, which will take time and involve engagement with Indigenous peoples. While this work is undertaken, BC is committed to fulfilling its legal obligations to consult and accommodate Aboriginal Interests consistent with the Constitution, case law, and relevant agreements between First Nations and the government of BC. Aboriginal Interests refers to Aboriginal rights and/or title or treaty rights.

Where First Nations and the Province are engaged in collaborative land and resource planning, the Province may make general commitments regarding stewardship and other aspects of resource management. Where such commitments have been made, I will consider them when determining AACs, within the scope of my statutory authority.

As is the case for land use and management planning in general, where land use zones or management objectives resulting from collaborative planning between First Nations and the Province have not been finalized, it is beyond the statutory authority of the chief forester to speculate on final outcomes. If the timber supply implications of final designations are substantial, application of the Allowable Annual Cut Administration Regulation to reduce a management unit AAC between Section 8 determinations, or a new AAC determination prior to the legislated deadline may be warranted.

Where the nature, scope and geographic extent of Aboriginal rights and title have not been established, the Crown has a constitutional obligation to consult with First Nations regarding their Aboriginal Interests in a manner proportional to the strength of those Interests and the degree to

which they may be affected by the decision. The manner of consultation must also be consistent with commitments made in any agreements between First Nations and the Province. In this regard, full consideration will be given to:

- (i) the information provided to First Nations to explain the timber supply review process and analysis results;
- (ii) any information brought forward through consultation or engagement processes or generated during collaboration with First Nations with respect to Treaty rights or Aboriginal Interests, including how these rights or interests may be impacted;
- (iii) any operational plans and/or other information that describe how First Nations' Treaty rights or Aboriginal Interests are addressed through specific actions and forest practices; and,
- (iv) existing relevant agreements and policies between First Nations and the BC Government.

Treaty rights or Aboriginal Interests that may be impacted by AAC decisions will be addressed consistent with the scope of authority granted to the chief forester under Section 8 of the *Forest Act*. When information is brought forward that is outside of the chief forester's scope of statutory authority, this information will be forwarded to the appropriate decision makers for their consideration. Specific considerations identified by First Nations in relation to their Aboriginal Interests that could have implications for the AAC determination are addressed in the various sections of this rationale where it is within the statutory scope of the determination.

Established Aboriginal title lands (meaning declared by a court or defined under an agreement) and other areas, such as Treaty Settlement Lands or Indian Reserves, are not provincial Crown land. Consequently, the timber on these lands does not contribute to the AAC of the timber supply area or tree farm licence with which they overlap. Prior to establishment of Aboriginal title, it is not appropriate for the chief forester to speculate on how potential establishment of Aboriginal title in an area, either by court declaration or by agreement, could affect timber supply, given uncertainties about the scope, nature and geographic extent of title. Until land has been established as Aboriginal title land, it remains as provincial land managed by the Province, and will contribute to timber supply.

Integrated decision making and cumulative effects

One of the responsibilities of the Ministry is to plan the use of forest and range resources such that the various natural resource values are coordinated and integrated. In addressing the factors outlined in Section 8 of the *Forest Act*, I will consider relevant available information on timber and non-timber resources in the management unit, including information on the interactions among those resources and the implication for timber supply.

With respect to cumulative effects, I must interpret related information according to my statutory authority. As emphasized above, the chief forester is authorized only to make decisions on allowable harvest levels, not to change or institute new management regimes for which other statutory decision makers have specific authority. However, cumulative effects information can highlight important issues and uncertainties in need of resolution through land use planning, which I can note and pass to those responsible for such planning. Information on cumulative effects can also support considerations related to Aboriginal Interests.

Climate change

One key area of uncertainty relates to climate change. There is substantial scientific agreement that climate is changing and that the changes will affect forest ecosystems. Forest management practices will need to be adapted to the changes, and can contribute to climate change mitigation

by promoting carbon uptake and storage. Nevertheless, the potential rate and specific characteristics of climate change in different parts of the Province are uncertain. This uncertainty means that it is not possible to confidently predict the specific, quantitative impacts on timber supply.

When determining AACs, I consider available information on climate trends, potential impacts to forest ecosystems and communities that depend on forests and related values, and potential management responses. As research provides more definitive information on climate change and its effects, I will incorporate the new information in future AAC determinations. Where forest practices are implemented to mitigate or adapt to the potential effects of climate change on forest resources, or where monitoring information indicates definite trends in forest growth and other dynamics, I will consider that information in my determinations.

I note, however, that even with better information on climate change, in many cases there will be a range of reasonable management responses. For example, it is not clear if either increases or decreases to current harvest levels would be appropriate in addressing potential future increases in natural disturbance due to climate change, which appear to be likely in some areas. Hypothetically, focused harvests in at-risk forests could forestall losses of timber and allow for planting of stands better adapted to future conditions. Conversely, lower harvest levels could provide buffers against uncertainty. The appropriate mix of timber supply management approaches is ultimately a social decision.

Deciding on the preferred management approach will involve consideration of established climate change strategies, and available adaptation and mitigation options together with social, economic, cultural, and environmental objectives. Analysis will be useful for exploring options and trade-offs. Any management decisions about the appropriate approach and associated practices will be incorporated into future AAC determinations. In general, the requirement for regular AAC reviews will allow for the incorporation of new information on climate change, on its effects on forests and timber supply, and on social decisions about appropriate responses as it emerges.

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 projections provided to me through the work of the Timber Supply Review Program for TSAs 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 model, a series of timber supply forecasts can be produced to reflect different starting harvest levels, rates of decline or increase, and potential trade-offs between short- and long-term harvest levels.

From a range of possible harvest projections, 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 it 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 of the assumptions made in generating the base case are realistic and current, and the degree to which any adjustments to its predictions of timber supply must be made, if necessary, to more properly reflect the current situation.

These adjustments are made based on 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 analyses I am provided are 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. Judgments 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.

Base case for TFL 26

The timber supply analysis for TFL 26 was prepared for the licensee, the Corporation of the District of Mission, by Forsite Consultants Ltd. using the modelling software Patchworks™ which has been approved by Forest Analysis and Inventory Branch (FAIB) for use in timber supply reviews. Patchworks is a spatially explicit forest estate model used to project timber harvesting activities following current management practices including; objectives for non-timber values such as biodiversity, wildlife habitat, cultural heritage resources, recreation, and visual quality. Based on the review by Ministry staff, as well as my own experience reviewing results from similar models, I am satisfied that Patchworks is capable of providing an appropriate projection of timber supply.

Harvest flow objectives in the base case are to achieve the highest non-declining harvest projection subject to maintaining non-timber objectives. Other harvest flow objectives in the base case conform to the following provincial policy:

- avoid large or abrupt changes (greater than 10 percent per 10-year period) in timber supply during the transition from short- to mid- to long-term harvest levels;
- avoid deep mid-term harvest reductions; and,
- achieve the highest harvest level while maintaining a stable inventory of growing stock.

The inventory used in the base case was projected to January 1, 2017 and updated for harvest disturbance and silvicultural treatments to June 26, 2018. The base case begins in 2018 and the harvest levels are reported in 10-year increments for 300-years.

In the base case, an initial harvest level of 62 058 cubic metres per year, which is 17 058 cubic metres per year or 38 percent higher than the current AAC of 45 000 cubic metres, is maintained for 90 years before increasing by 12 percent to 69 680 cubic metres per year.

The notable changes in the timber supply analysis for TFL 26 since the current AAC was determined in 2010 include:

- transfer of 321 hectares of TFL 26 crown land to the Katzie Kwantlen First Nation Woodland in exchange for 473 hectares of crown land from the Fraser TSA, which increased the forest management land base by 169 hectares;

- decrease in the long-term THLB from 7236 hectares (2010) to 6563 hectares;
- use of a spatially explicit forest estate model (Patchworks);
- use of LiDAR-enhanced forest inventory to develop existing natural stand yields that represent 74 percent of the THLB;
- use of the Provincial Site Productivity Layer (PSPL) to develop managed stand yields that represent about 26 percent of the THLB;
- use of updated growth and yield models for natural and managed stand yields;
- establishment of spatial old growth management areas and long-term reserves to meet landscape- and stand-level biodiversity requirements;
- use of Terrestrial Ecosystem Mapping;
- exclusion of non-merchantable balsam and hemlock stands;
- inclusion of deciduous-leading stands; and,
- increased reductions for future in-block retention.

The increase in the base case initial harvest level is largely attributed to the LiDAR-enhanced inventory for natural stands and the PSPL for managed stands. These changes result in a 10 percent increase in the volume available for harvest within the THLB.

In my determination, I have also considered several sensitivity analyses. A sensitivity analysis examines how changes in base case assumptions affect timber supply. These analyses have been helpful as I made specific considerations and reasoning in my determination as documented in the following sections. I am satisfied that the base case, and the other analyses as noted and described, represent the best information available to me respecting various aspects of the current projection of the timber supply in this TFL, and as such they are suitable for reference in my considerations in this determination.

Consideration of factors as required by Section 8 of the *Forest Act*

I have reviewed the information for all the factors required to be considered under Section 8 of the *Forest Act*. Where I have concluded that the modelling of a factor in the base case is a reasonable reflection of current legal requirements, demonstrated forest management and 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.

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 that led to my conclusions.

Table 1. List of factors accepted as modelled

Forest Act section and description	Factors accepted as modelled
8(8)(a)(i) Composition of the forest and its expected rate of growth	<i>forest inventory</i> <i>non-forest and non-productive areas</i> <i>existing and future roads, trails and landings</i> <i>physical operability</i> <i>economic operability</i> <i>wildlife habitat areas and ungulate winter range</i> <i>karst resource features</i> <i>riparian reserves and management zones</i> <i>research sites</i> <i>site productivity assignments</i> <i>natural stand yields</i> <i>managed stand yields</i> <i>dead potential volume</i> <i>genetic gain</i> <i>operational adjustment factors for managed stands</i> <i>backlog and current non-stocked areas</i>
8(8)(a)(ii) - the expected time that it will take the forest to become re-established on the area following denudation	<i>stand establishment</i>
8(8)(a)(iii) - silviculture treatments to be applied to the area	
8(8)(a)(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	<i>decay, waste and breakage</i> <i>timber utilization</i>
8(8)(a)(v) Constraints on the amount of timber produced by use of the area for purposes other than timber production	<i>higher level plans</i> <i>landscape level biodiversity</i> <i>stand level biodiversity</i> <i>community watersheds</i> <i>scenic areas and visual resources</i> <i>cutblock adjacency and green-up</i>
8(8)(a)(vi) Any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber	<i>unharvested volume carry forward</i>
8(8)(e) Abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area	<i>non-recoverable losses</i>

Forest Act 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 timber harvesting

- general comments

The timber harvesting land base is an estimate of the land where timber harvesting is considered both available and economically feasible, given the objectives for all relevant forest values, existing timber quality, market values and applicable technology. It is a strategic-level estimate developed specifically for the timber supply analysis and, as such, could include some areas that may never be harvested or could exclude some areas that may be harvested.

The total area of the TFL 26 is approximately 10 935 hectares. Of this total area, 7289 hectares are deemed to be currently available as THLB after deductions are applied for factors noted in Table 1 above and in factors discussed below.

As part of the process used to define the THLB, a series of deductions was made from the forest management land base to account for various land classes that do not contribute to the TFL timber supply (e.g., non-forest areas, uneconomic areas). These deductions account for biophysical, economic or ecological factors that reduce the forested area available for harvesting. In reviewing these deductions, I am aware that some areas may fall into more than one land class. For example, an area may be both uneconomic and in unstable terrain. To ensure accuracy in defining the THLB, care was taken to avoid double-counting areas with overlapping objectives. Hence, the deduction amount for a given factor stated in the analysis, or in this document does not necessarily reflect the total area within that land class, as some portion of it may have been deducted earlier under another land class.

For this determination, I accept that the approach used to determine the THLB for the TFL 26 base case was appropriate.

As noted under '*Role and limitations of the technical information used*', several of the factors considered influence the size of the THLB. Where I have concluded that there was an overestimate or underestimate in the land base available for harvesting, I have described my reasoning and conclusion in the sections below.

- deciduous-leading stands

In previous timber supply reviews, deciduous-leading stands were fully excluded from the THLB. In the Chief Forester's Order postponing the AAC determination for TFL 26, issued on May 29, 2006, the chief forester recommended the inclusion of deciduous-leading stands in the THLB. Consequently, deciduous-leading stands were included in the current analysis and account for seven percent of the THLB. In the base case, deciduous-leading stands are converted to coniferous-leading stands following initial harvest. The minimum harvest criteria used in the analysis were reduced for 80 hectares of deciduous-leading stands in the THLB in order for them to be eligible for harvest in the timber supply model.

According to district staff, deciduous-leading stands in the TFL are generally located within sensitive riparian areas and are not suitable for timber harvesting. Furthermore, harvested deciduous-leading stands are difficult to reforest to coniferous species and require costly manual brushing, especially as the licensee does not utilize herbicides. Maintaining deciduous species adjacent to communities, urban areas, and campgrounds enhances biodiversity and may act as fire breaks. Consequently, with the exception of two stands that were harvested about 10 years ago to improve stream quality, deciduous-leading stands in the TFL are not harvested.

Based on this information, I conclude that inclusion of deciduous-leading stands in the THLB is not supported by current performance and results in an unquantified, but likely small, overestimation of the short- and mid-term and a seven percent overestimation of the long-term timber supply projected in the base case. I will account for this factor in my determination, as discussed in '**Reasons for Decision**'.

With respect to the chief forester's recommendation in the 2006 postponement order; due to the location of deciduous-leading stands in sensitive riparian areas, their role in maintaining biodiversity and potential to serve as fire breaks; as well as the difficulty reforesting harvested deciduous stands, I find it reasonable for the licensee to continue to exclude these stands from timber harvesting.

I note that the 2019 *Provincial Timber Management Goals, Objectives & Targets* document indicates that the licensee is harvesting the incidental deciduous volume in coniferous-leading stands. I commend the licensee on this practice, as it improves the fibre recovery from harvested stands and is consistent with the province's *Forest Fibre Action Plan* (see *fibre recovery*).

- *terrain stability*

Detailed terrain stability mapping for TFL 26 was completed in 1999. During mapping, areas within the TFL were classified into one of five terrain classes based on the likelihood for post-harvest instability. Areas classified as terrain classes IV and V exhibit unstable soils for both timber harvesting and road construction; whereas, areas assigned to terrain class IV-R are sensitive to road building but generally not to timber harvesting. A recent review of terrain stability resulted in the reclassification of many class IV areas in the southern portion of the TFL to class IV-R. The THLB area in each terrain class is as follows: class V – 723 hectares; class IV – 69 hectares; and, class IV-R – 306 hectares.

Terrain stability mapping is used to identify areas that require further assessment prior to development. Following these site specific assessments, some areas assigned to terrain classes V, IV, and IV-R are found to be operable. In order to account for areas within each terrain class that are suitable for timber harvesting or road construction, the volume attributable to each terrain class is not fully excluded. In the base case, volume reductions of 80 percent, 30 percent, and 10 percent were applied to terrain classes V, IV, and IV-R, respectively. District staff indicate that the licensee is harvesting in areas initially classified as having unstable terrain using both helicopter logging and cable-harvesting systems; however, there are no data available to quantify the actual level of performance. Consequently, these volume reduction factors are based on operational experience and the advice of district staff.

For this determination, I accept that the terrain stability assumptions used in the base case are adequate for this timber supply review. However, in order to ensure that the terrain stability information use in subsequent decisions is supported by demonstrated performance, it is my expectation that licensee and district staff will work together to track harvesting by harvest system and terrain stability class, as described in '**Implementation**'.

- recreation resources

Recreation resources were modelled in the base case using both THLB reductions and forest cover constraints that restrict, but do not exclude timber harvesting.

Two areas within the TFL, Morgan and Sayres Lakes, are identified in provincial maps as areas for the Use, Recreation and Enjoyment of the Public (UREP) and, although not exempt from timber harvesting, they are managed for recreation values. The majority of the Morgan Lake UREP overlaps with areas previously excluded from the THLB and no additional reductions were made. The recreation reserve south of Rocky Point was excluded from the THLB. Two additional recreation areas; Sayres Lake and Devil's Lake, were modelled in the base case through the application of forest cover constraints that required at least 50 percent of stands be at least 80 years old.

The Mission Interpretive Forest (MIF) was established under Section 56 of the *Forest and Range Practices Act* (FRPA), on September 14, 2011. The MIF is located in the West Stave Lake area of TFL 26 and includes Stave, Devil's, Sayres, Morgan, and Florence Lakes. The MIF occupies about 5000 hectares or about 50 percent of the TFL area. Under FRPA, "Interpretive Forest" status allows for the planning and design of outdoor recreation, tourism and infrastructure development, while continuing the forest management activities of a working forest.

The Corporation of the District of Mission has established a Stave Lake West Leadership Team to formulate and implement development plans for the MIF. Even though significant recreation infrastructure improvements have already been completed, including the establishment of 200 new campsites and the development of new trails, work continues under the leadership team to guide further improvements to forest interpretation and trail-related infrastructure. This work includes continued efforts to create a Forest Guardians program, cultural and environmental monitoring, interpretation activities, planting of culturally significant plants, forest planning, and work with the Matsqui, Leq'á:mel and Kwantlen First Nations. It is unknown at this time what these changes in management practices and objectives will be, nor what impact they may have on forestry operations. The Corporation of the District of Mission believes that the AAC should not be increased to the full extent of the base case initial harvest level prior to completion of the planning work underway for the MIF, as this could affect recreational opportunities and user expectations.

With respect to the licensee's request that the AAC not be increased to the full level of the base case initial harvest level, I note that it is uncertain at this time to what extent further implementation of MIF development plans will affect timber supply. Consequently, it is my expectation that licensee and district staff will track the ongoing development of recreation resources in the TFL and provide this information for consideration in subsequent timber supply reviews, as described in '**Implementation**'. For this determination, I accept that the recreation resource assumptions are a reasonable reflection of current management and I will make no adjustments to the base case on this account.

- minimum harvestable criteria

Minimum harvestable criteria determine when a stand is available for harvest in a timber supply model. For the base case, stands had to achieve a minimum harvestable age (MHA) of 60 years; minimum harvestable volumes (MHV) of 225 cubic metres per hectare for conventionally harvested (ground- and cable-harvested) stands and 600 cubic metres per hectare for helicopter-logged stands; and, achieve 90 percent of culmination mean annual increment.

The Provincial Timber Management Goals, Objectives and Targets for TFL 26 (August 29, 2018) provides an assessment of the licensee's harvest performance for the period 2014 to 2018. According to this report, 95 percent of the harvested volume, as reported in the Ministry's

Harvest Billing System, originated in stands with more than 475 cubic metres per hectare. A comparison of harvest performance by inventory volume class indicates that, while 90 percent of the area harvested had volumes greater than 350 cubic metres per hectare, the licensee is harvesting in the lower volume classes, albeit at less than the proportion of their prevalence in the inventory.

A sensitivity analysis was provided that increases the MHV for conventionally harvested stands to 475 cubic metres per hectare – the level that accounts for 95 percent of harvested volume in TFL 26 – while maintaining the MHV of 600 cubic metres per hectare for helicopter-logged stands. This one change reduced the short-term harvest level by 5.8 percent, the mid-term harvest level by 5.9 percent, and the long-term harvest level by 6.4 percent below the base case levels.

Based on my consideration of the information summarized above and discussions with staff, I conclude that current harvest performance in TFL 26 does not support an MHV as low as 225 cubic metres per hectare for conventionally harvested stands. In considering appropriate minimum harvestable criteria, I note that 90 percent of the harvested area consists of stands with at least 350 cubic metres per hectare. This level is consistent with the MHV used in the most recent Fraser TSA timber supply review, where harvest performance is under similar pressures to those in TFL 26. The sensitivity analysis tested a higher MHV but I am able to interpolate from the results that an MHV of 350 cubic metres per hectare would reduce the short-term harvest level by an amount in the range of three percent. On this basis, I will account for a three percent overestimation in the base case short-term harvest level, as discussed in **‘Reasons for Decision’**. As described under **‘Implementation’**, it is my expectation that licensee and district staff will monitor harvest performance, particularly in the lower volume inventory classes, to ensure that harvest performance in these stands is proportionate to their occurrence in the THLB and will provide this information for subsequent timber supply reviews.

- cultural heritage resources

A cultural heritage resource (CHR) is defined under the *Forest Act* as “an object, site or location of a traditional societal practice that is of historical, cultural or archaeological significance to the Province, a community, or an aboriginal people”. CHRs include, but are not limited to, archaeological sites and traditional use sites.

Over the past five years, four areas either within or adjacent to cutblocks in TFL 26 were identified by archaeologists as having a high potential for the existence of archaeological resources. While this equates to about 0.25 hectares per year, the licensee decided to use an average annual THLB decrease of one hectare per year to account for the occurrence of undocumented CHRs.

The Stó:lō have developed the S’ólh Téméxw Use Plan (STUP). According to the STUP, the plan serves as “a high-level strategic planning tool that informs and balances the land use interests and needs of the Stó:lō and others ranging from economic development to cultural heritage and environmental conservation and protection”. The STUP is a “living” land use plan and, as such, “provides a stable basis for land use planning and decision-making processes while also evolving in response to new data sources, future research, and ongoing engagement with both Stó:lō and non-Stó:lō individuals and organizations”. As such, the changes in forest management that may be necessary to implement this plan are unknown at this time.

I agree that the one-hectare per year THLB reduction applied in the base case reasonably accounts for known CHRs (0.25 hectares per year) and, to some unknown extent, undocumented archaeological sites or contemporary cultural heritage features (0.75 hectares per year). However, it is unclear to me whether these reductions will be sufficient to fully account for the

management of all of the CHRs that may be identified during the ongoing evolution and implementation of the STUP.

For this determination, I accept that CHRs are adequately accounted for in the base case. However, it is my expectation that district and licensee staff will continue to work with First Nations to identify and to accommodate CHRs during forestry operations. I also expect the licensee and district to continue to track the areas excluded from timber harvesting on account of CHRs and to incorporate this information in the next timber supply review. This instruction is included under ‘**Implementation**’.

Section 8 (8) (a) (ii) the expected time that it will take the forest to become re-established on the area following denudation

No factors under this section required additional consideration and were accepted as modelled in the base case.

Section 8 (8) (a) (iii) silvicultural treatments to be applied to the area

- *silviculture systems*

While clearcut with reserves is the only silvicultural system utilized in the TFL, some cutblock openings include the dispersed retention of larger trees to address visual quality objectives. Other sources of stand-level retention include wildlife trees and riparian reserves. The average opening size in recent years is about four hectares. These small openings increase the amount of shading experienced by regenerating stands and the potential effects on growth have not been incorporated into the managed stand yields used in the base case.

During my field tour of the TFL, I had the opportunity to see young stands regenerating in small cutblocks, and I agree that the growth rate of these stands is likely reduced due to shading. Based on these observations and discussions with staff, I will account for a small, unquantified overestimation of the base case mid- and long-term harvest levels, as discussed in ‘**Reasons for Decision**’. Otherwise, I conclude that the silviculture system assumptions used in the base case reflect current practices and I will make no further adjustments to the base case on this account.

Section 8 (8) (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

- *fibre recovery*

Increasing the use of lower quality fibre during primary harvesting operations is a significant priority for the government and forest sector in British Columbia.

The provincial government is currently implementing various initiatives to enhance the utilization of residual fibre that is left behind on a site after primary harvesting operations have been completed. This fibre includes smaller and poorer quality logs, pieces of logs, branches, and other forms of woody biomass. It has historically been called “waste” or “residue” and is often burned to reduce the fire hazard that exists on a site post-harvest.

Over the past few years, the emergence of new industries (wood pellets, biochemicals) and the decrease in wood chips from sawmills which supplied existing industries (such as pulp and paper) led to the increased demand for residual fibre. Increasing the use of residual fibre supports new and existing forest industries that use lower quality timber, helps to mitigate future timber supply shortfalls and reduces carbon emissions and wood smoke through decreased slash burning of post-harvest waste.

The Fibre Recovery Zone initiative is intended to ensure secondary producers have access to residual fibre by promoting the establishment of voluntary business-to-business relationships between primary harvesters and secondary users. These relationships will facilitate the cost-

effective removal of residual fibre through integrated methods or through “one pass” harvesting. This will improve the use of lower-quality timber where there is a demand for the residual fibre.

The Coast Fibre Recovery Zone was established April 1, 2019 and updated December 23, 2019 through the *Provincial Logging Residue and Waste Measurements Procedure Manual - Coast, Woodlot Licences and Community Forest Agreements*. The Coast Fibre Recovery Zone includes three zones; the Mature, Immature, and Mature and Immature Timber Zones. Increased waste rates apply to eligible blocks in a zone provided they are not harvested using a helicopter harvest system. TFL 26 resides completely within the Mature and Immature Fibre Recovery Zones. Waste and residue reports will be used to assess actual fibre recovery from these zones following harvest.

To date, no notices or orders with respect to fibre recovery have been issued by the district manager to the Corporation of the District of Mission. In addition, no rights for using roadside and landing residual fibre from TFL 26 have been allocated to the holder of a fibre supply licence to cut, nor to a fibre forestry licence to cut. No waste and residue reports have been generated.

I have reviewed and discussed the Ministry’s new fibre recovery initiatives as they relate to TFL 26 with district staff. In the absence of information quantifying both the availability and utilization of secondary fibre in the TFL it is not possible for me to consider its potential contribution to timber supply in this determination. I encourage the licensee to work with other forestry stakeholders and Ministry staff to develop partnerships to enhance fibre recovery from harvested stands so that it can be made available to secondary manufacturers. Improving fibre recovery not only has the potential to increase licensee and manufacturing revenues, direct and indirect employment, and timber supply, it can also reduce carbon emissions and improve air quality.

Section 8 (8) (a) (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 is required, under the *Ministry of Forests and Range Act* (see Appendix 2), 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. The *Forest and Range Practices Act* (FRPA) and other legislation provide for, or enable, the legal protection and conservation of timber and non-timber values. Accordingly, the extent to which integrated resource management objectives for various forest resources and values affect timber supply must be considered in AAC determinations.

- cumulative effects

Cumulative effects are changes to social, economic and environmental conditions caused by the combined impact of past, present and potential human activities or natural events. The Government of British Columbia supports the phased implementation of the Cumulative Effects Framework (CEF) that aims to provide relevant information and supporting policy. The framework will ultimately provide information related to a number of environmental, social and economic factors including biodiversity, riparian conditions, water quality, air quality, fish and wildlife impacts, cultural and heritage concerns, community needs and economic development opportunities. The CEF provides resource managers with procedures and tools to inform decisions that support sustainable management and the needs of many different users.

The provincial cumulative effects team is focusing on implementing cumulative effects assessments within pilot areas across the province, building assessment procedures for values, and developing policies and procedures. A cumulative effects pilot has not been established for the South Coast Region, including TFL 26.

Many of the current objectives and management approaches applied in TFL 26 may be mitigating the negative effects of forest development activities. Such objectives that are reflected in the timber supply analysis include: land and resource management plans; *Forest and Range Practices Act* (FRPA) objectives; landscape-level biodiversity objectives; old growth objectives; wildlife tree and stand-level retention objectives; cutblock adjacency objectives; visual quality objectives (VQOs); riparian reserve and management zones; watershed objectives, the use of different harvest systems to address issues associated with unstable terrain; and, reductions to the THLB to account for values such as cultural heritage resources and recreation.

I have considered the information on cumulative effects and I must interpret related information according to my statutory authority and my '*Guiding principles for AAC determinations*'. I note that a cumulative effects pilot has not been established for the South Coast Natural Resource Region that includes TFL 26. However, work is ongoing elsewhere in the province that will improve our understanding on cumulative effects. Based on discussions with staff, I believe that at this time many of the management approaches in the TFL are thought to mitigate the negative impacts of forest development activities. A cumulative effects assessment that includes analysis of potential future condition and coordinated response across natural resource sectors is not warranted at this time. I conclude that the base case reflects current management, the current status of the effects of past and present industrial activity on the land base, and the legal objectives established by government for various non-timber resources. Based on this information, I will make no additional adjustments to the base case to account for cumulative effects. Changes in management as the implications of cumulative effects are more directly considered, can be addressed in future AAC determinations.

- *climate change*

Climate change is expected to impact forest ecosystems in a number of ways, including: a general increase in temperatures; change in precipitation patterns; an increase in the frequency and severity of wildfires, floods, landslides; and the occurrence of insects and disease above endemic levels.

Recent climate trends for TFL 26 were calculated using meteorological data collected for the Pacific Northwest for the period 1945 to 2012. The results show that although the increases in summer, fall and winter precipitation and mean annual precipitation were not statistically significant, spring precipitation increased by about 29 percent. Mean annual temperature increased by 1.2°C. Spring, summer, fall and winter mean temperatures increased by 1.1°C, 1.3°C, 0.9°C and 1.6°C, respectively. Wildfire experts suggest that a 10 – 15 percent increase in precipitation is required to offset the effect of a 1.5°C increase in temperature. Consequently, in the absence of a dramatic increase in summer precipitation, the increase in summer temperatures have contributed to the increasing drought conditions observed within TFL 26.

By mid-century (2041 to 2070) summer precipitation for TFL 26 is projected to decrease by 17 percent. Precipitation as snow is projected to decrease by 64 percent, while spring precipitation is projected to increase by an additional five percent (for a total increase of 34 percent above historic values). Temperatures in all seasons are expected to be higher, particularly in the summer when temperatures may increase by 3.3°C. The summer moisture deficit is expected to increase by 75 millimetres, which would further increase drought stress.

In combination, the projected changes in temperature, precipitation, and precipitation as snow will reduce winter snowpack, result in earlier snowpack melt, and increase spring peak water flow. These changes increase the risk of seasonal flooding and slope failures. The drier, warmer conditions will increase the risk and severity of forest fires, while the increased drought stress will reduce stand disease and pest resistance. The drier, warmer conditions will increase the risk and severity of forest fires.

Biogeoclimatic (BEC) zones reflect the combined effect of multiple factors, predominantly climatic conditions. For the South Coast Natural Resource Region, the distribution and extent of BEC zones will likely shift. TFL 26 lies primarily in the Coastal Western Hemlock (CWH) and Mountain Hemlock (MH) BEC zones. In general, the CWH is expected to expand 200 – 300 metres upward in elevation, with little loss of area at lower elevation. The MH may decrease by up to 70 percent by mid-century, as higher elevation ecosystems are more susceptible to changing conditions.

At the species level, Douglas-fir is expected to continue growing well under warmer temperatures even with increased summertime drought stress conditions. Western hemlock, western redcedar, and grand fir are likely to show increasing levels of drought stress, particularly on mesic to drier sites, resulting in slower growth with significant pulses of mortality when climate cycles generate a series of hot, dry years. Suitable trees at any given point in time may become maladapted by rotation age, creating additional uncertainty and complexity for management. For example, yellow-cedars from Alaska to Seymour Inlet are dying as snowpack declines due to the warmer winters allowing frost to damage roots.

Climatic factors also influence growing season length, streamflow, and water supply to trees. In general terms, a longer growing season may benefit many tree species. However, this benefit will likely be offset by increased summertime drought conditions, which appear as a result of generally lower summer precipitation and lower winter snowpack. The stand impacts of forest pests, such as Swiss needle cast within young Douglas-fir plantations, root rot, Douglas-fir beetle, western balsam bark beetle, and hemlock looper may increase as altered precipitation levels stress and weaken stands established under previously existing climatic conditions. The use of the Ministry's Drought Risk Assessment and Frost Hazard Assessment Tools can help licensees direct harvesting to stressed stands and select appropriate species for stand regeneration.

To assist forest managers to develop future forests that are better adapted to climate change, the Ministry has developed Climate Based Seed Transfer (CBST). CBST promotes healthy, resilient and productive forests and ecosystems through the matching of seed sources (seed lots) to climatically suitable planting sites. CBST is currently an option that can be used for seed use; it is expected to be the Chief Forester's Standard for Seed Use by 2021. The Ministry is also developing the Climate Change Informed Species Selection (CCISS) tool that will be linked to CBST.

There is a large amount of uncertainty surrounding the short-, mid-, and long-term impacts from climate change but it is important to encourage dialogue to develop climate change mitigation and adaptation strategies through stakeholder engagement forums (e.g., Coast Operational Issues Forum, Forest Management Leadership Teams).

While projected climate change will likely affect forest productivity and growth, the dynamics of natural disturbances, forest pests and hydrological balances (e.g., drought stress), the mean, magnitude, extent and timing of these impacts is uncertain. I accept that the best approach in the short term is to monitor for changes to enable timely adaptive responses and to undertake analysis to increase our understanding over time. In general, the requirement for regular AAC reviews will allow for the incorporation of new information on climate change and its effects on forests and timber. On-going observations, data collection, analysis and discussions through various

collaborative teams will play a critical role in ensuring we are able to respond to predicted implications for timber supply. The use of CBST and CCISS and the drought and frost assessment tools, will help forest managers develop future forests that are better adapted to a changing climate.

Section 8 (8) (a) (vi) any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber

Other information

- First Nations

The Crown maintains a duty to consult with and accommodate, as necessary, those First Nations for whom it has knowledge of claimed Aboriginal Interests that may be impacted by a proposed decision, including strategic-level decisions such as AAC determinations. The AAC determination is a strategic decision that sets the stage for other decisions such as AAC apportionment and disposition, leading to issuance of cutting authorities. AAC determinations do not determine particular harvesting areas or patterns, and as a result do not relate directly to the manner in which timber is utilized or managed on the ground. The relationship to claims of Aboriginal title is not a direct one. The AAC considers the sustainable harvest level from a geographic area which may include lands claimed as Aboriginal title lands but not yet declared by a court to be such. While under claim, such lands remain Crown lands and are part of the harvestable land base. Whether timber is ultimately harvested from those lands is an issue that is subject to allocation decisions, and the AAC determination does not determine that matter.

The AAC can affect various resource values and therefore the ability of Aboriginal Peoples to meaningfully exercise their Aboriginal rights. Information gained through consultation with potentially affected First Nations about Aboriginal Interests has been considered in the development of this determination.

Eleven First Nations and two tribal organizations have traditional territories that overlap with TFL 26: Katzie First Nation, Kwantlen First Nation, Leq'á:mel First Nation, Matsqui First Nation, Musqueam Indian Band, Peters Band, Seabird Island First Nation, Semiahmoo First Nation, Shxw'ow'hamel First Nation, Skawahlook First Nation, Stó:lō Nation, Stó:lō Tribal Council, and Sumas First Nation.

Several of the First Nations listed above are engaged in the BC Treaty Commission Process. The Katzie First Nation, Musqueam First Nation, and Tsleil-Waututh Nation are in Stage 4 (Negotiation of an Agreement-In-Principle). The Stó:lō Xwexwilmexw Treaty Association, which includes the Aitchelitz, Leq'á:mel, Popkum, Skawahlook, Skowkale, Tzeachten, and Yakweakwoose First Nations, is in Stage 5 (Negotiation to Finalize a Treaty).

Engagement with the Katzie First Nation, Kwantlen First Nation, Leq'á:mel First Nation, Matsqui First Nation, Peters Band, Seabird Island First Nation and Shxw'ow'hamel First Nation regarding the timber supply review for TFL 26 was conducted in accordance with the Forest Consultation and Revenue Sharing Agreement (FCRSA) signed by each First Nation. Engagement with the Skawahlook First Nation and Sumas First Nation was conducted in accordance with the S'ólh Téméxw Stewardship Alliance Strategic Engagement Agreement (SEA). For the Musqueam Indian Band, the Stó:lō Nation, and the Stó:lō Tribal Council, who have not established formal consultation processes through FCRSAs or SEAs, consultation was conducted in accordance with the consultation spectrum described in the *Haida v. British Columbia* decision.

As per recent case law and current government direction, a review of available information for the First Nations was conducted in order to assess the level of consultation given the strength of

claims made by First Nations and the degree of impact the AAC determination may have on those claims. Information reviewed as part of the preliminary assessment included: existing FCRSAs, ethno-historical reports as prepared by the Aboriginal Law Group of the Ministry of the Attorney General, available traditional use studies, past consultation processes, Remote Access to Archaeological Data (RAAD), the S'ólh Téméxw Stewardship Alliance SEA, and available wildlife studies.

The review of information also suggests that the First Nations associated with TFL 26 have exercised their Aboriginal Interests within their asserted traditional territory and could likely support an Aboriginal rights claim in any portion of those areas in regard to hunting, fishing, use of wood for both domestic and ceremonial purposes, and gathering. The practice of some of these activities is ongoing.

Based on the available information and potential impact the AAC decision may have on First Nations' Aboriginal Interests, the suggested level of consultation for all of the First Nations described above is "normal".

District staff led the consultation process for the TFL 26 Draft Management Plan and the timber supply review supporting this AAC determination. Consultations began on July 25, 2018 with an overview letter sent to all First Nations explaining the timber supply review process. Consultation on the Information Package was initiated by letter on September 13, 2018 with a request for a response within 60 days. Consultation on the draft Management Plan began by letter with all First Nations on June 25, 2019 with a request for a response within 60 days. In response to a request received from the Leq'á:mel First Nation, the management plan consultation period was extended by 30 days.

In the correspondence with First Nations, district staff: (i) provided a summary of the initial review of available information regarding First Nations interests, and an initial assessment of the potential impact the Management Plan and subsequent AAC determination for TFL 26 may have on the First Nations' interests; and, (ii) included the suggested level of consultation deemed appropriate for each First Nation given the initial review of available information and the consultation process specified in the FCRSAs and SEA.

Matsqui noted the difference between the base case initial harvest level and the licensee's proposed AAC and indicated they would like this volume to contribute to their future FNWL. I have considered this request and note that it is not within the scope of my authority under Section 8 of the *Forest Act* to make decisions regarding the eventual apportionment of the AAC. Following this determination, and in consultation with First Nations, the Minister of Forests, Range, Natural Resource Operations and Rural Development will apportion the new AAC.

Matsqui requested clarification and additional information regarding the projection of harvest levels higher than the current AAC and the maintenance of old growth over the long term. District and licensee staff reviewed the influence of factors that served to increase the projected harvest levels (e.g. LiDAR) with Matsqui representatives. In addition, the licensee shared the TFL 26 old growth analysis and copies of the Hatzic and Alouette Landscape Unit reports that were used to identify the existing old growth and old growth recruitment areas for the analysis.

Matsqui expressed interests in spiritual and forest bathing sites, as well as areas for cedar bark stripping, cedar for canoe building, firewood and medicinal and food plants. The licensee agreed to work with Matsqui to ensure that appropriate areas are identified and that their interests were met.

In reviewing the First Nations consultation process with district staff, I conclude that the First Nations whose territories overlap TFL 26 were consulted in accordance with current provincial guidance and applicable case law. I am satisfied that consultations have been carried

out in good faith and the Crown's process of seeking to understand potentially outstanding issues and impacts was reasonable. I accept the district staff's assessment that the proposed timber harvesting scenarios reflect current forest practices, management method, and the consideration of Aboriginal Interests at the operational level. District staff believe any adverse impacts on Aboriginal Interests stemming from forest development activities that occur subsequent to the AAC determination, can be appropriately mitigated or minimized through existing legislation, planning documents, and meaningful engagement at the operational level. I agree with this conclusion.

- harvest performance

The harvest performance of the licensee is evaluated in the *Provincial Timber Management Goals, Objectives and Targets – Management Unit Targets for TFL 26* (August 29, 2018). The evaluation examines the extent to which a licensee's harvest performance correlates with the AAC and the species composition, age, volumes and slope classes of stands in the VRI.

Based on information from the province's Harvest Billing System (HBS) for the seven-year period between 2011 and 2017 for TFL 26, the average annual scaled volume was 45 931 cubic metres, or 102 percent of the current AAC of 45 000 cubic metres.

A comparison of HBS harvest volume by species to the inventory profile by leading species for stands older than 60 years indicates that the licensee is proportionately harvesting the full species profile, without an undue concentration or avoidance of any particular species.

Harvest performance in stands between 40 and 80 years of age is generally higher than the inventory profile, while there is minimal harvest performance in stands older than 141 years. The latter is consistent with the licensee's old growth recruitment strategy.

Harvest performance by volume class is discussed in the context of the minimum harvestable criteria assumptions used in the base case (see '*minimum harvestable criteria*').

A comparison of harvest performance by slope class to the inventory slope class, shows that although harvesting is occurring in all slope classes, a disproportionate amount of the harvest is occurring in stands with slopes equal to or less than 40 percent.

Stands with slopes of 60 percent or less are harvested using ground-based harvesting systems. Stands on slopes greater than 60 percent are harvested using cable-based harvesting systems. Helicopter logging is also used on slopes greater than 60 percent in existing cedar and Douglas-fir leading stands where the western hemlock component is less than 30 percent.

District staff reviewing harvest performance in various slope classes commented to the licensee that ground-based harvesting seems to be limited to slopes less than 40 percent. They indicated that as 18 percent of the THLB has slopes between 40 to 60 percent this could have a significant effect on timber supply. The licensee responded that it has recently acquired new self-leveling ground-based equipment that will increase its ability to operate on slopes up to 60 percent, and that slopes steeper than 60 percent can also be harvested using tethered ground-based equipment.

I commend the licensee on harvesting the full species and age profile of the TFL and encourage them to continue these practices. With respect to harvest performance on steep slopes, I note the licensee must transition to proportionate harvesting of the slope profile of the THLB, as a continued focus on slopes less than 40 percent will require the licensee to focus future harvesting on steeper slopes with higher operating costs. I am hopeful that the licensee's recent acquisition of self-leveling equipment will aid them in this regard. It is my expectation that licensee and district staff will track harvest performance in all slope classes and provide this information for the next timber supply review. This instruction is described in '**Implementation**'.

- public comments

The public was provided an opportunity to comment on the draft Information Package, and the draft Management Plan including the timber supply analysis for TFL 26. No public comments were provided for my consideration in this determination. Based on my discussions with district staff, I am satisfied that suitable opportunities were provided to the public to comment on the timber supply review for TFL 26.

Section 8 (8) (b) the short and long-term implications to British Columbia of alternative rates of timber harvesting from the area

Alternative rates of harvesting

- alternative harvest forecast

In addition to the base case, I was provided with one alternative harvest forecast. In this forecast, the initial harvest level is set at 56 602 cubic metres per year, which is 8.8 percent lower than in the base case and 26 percent higher than the current AAC of 45 000 cubic metres. With the exception of the initial harvest level, the information and assumptions used in the alternative forecast are the same as in the base case. In the alternative forecast, the initial harvest level is maintained for 60 years before increasing to the base case long-term harvest level, which occurs 30 years earlier than the transition in the base case. The licensee recommends that the AAC be set at the initial level in this alternative harvest forecast.

I have considered this alternative harvest forecast and licensee AAC recommendation in my determination, as discussed in ‘**Reasons for Decision**’.

Section 8 (8) (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)]

Section 8 (8) (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, Natural Resource Operations and Rural Development (and the former Minister of Forests, Lands and Natural Resource Operations) have expressed the economic and social objectives of the Crown for the Province, in letters dated October 30, 2017, and April 12, 2013. The April 12, 2013 letter is focused on the Nanwakolas Reconciliation Protocol that does not apply to TFL 26.

In the letter dated October 30, 2017 (Appendix 3), the Minister emphasizes the BC government’s commitment to building a strong, sustainable innovative economy and creating well-paid jobs in the Province. The letter identifies government’s three objectives for the management of BC’s forests and Crown lands that are relevant to AAC determinations. These are:

- modernizing land-use planning to effectively and sustainably manage BC’s ecosystems, rivers, lakes, watersheds, forests and old growth forests;
- expanding investments in reforestation; and,
- collaborating to develop strategies to manage wildlife resources and habitat.

The October 30, 2017 letter also asks the chief forester to do the following when making an AAC determination:

- ensure that the Ministry's approved strategies for delivering its forestry objectives are integrated into the timber supply review process;
- ensure AAC determinations take into consideration relevant agreements between First Nations and the Government of BC, and court decisions that define Aboriginal title and rights; and in addition, support government's commitment to moving forward on reviewing policies, programs and legislation to determine how to bring the principles of the United Nations Declaration on the Rights of Indigenous Peoples into action for AAC determinations;
- consider traditional knowledge and other input from BC First Nation communities and organizations as they pertain to the AAC determination;
- consider how AAC determinations can support government's objective to focus on planning and sustainable resource management in a way that supports robust forest recovery and timely and effective responses to emerging threats from factors such as insect infestations and wildfire while promoting forest health and values;
- ensure the timber supply review process incorporates the best available information on climate change and the cumulative effects of multiple activities on the land base and explores management options that align with established climate change strategies, adaptation and mitigation practices;
- where the cumulative effects of timber harvesting and other land-based activities indicate a risk to natural resource values, ensure the timber supply review identifies those risks for consideration in land-use planning;
- consider the environmental, social and economic needs of local communities as expressed by the public during the timber supply review processes, including strategies that contribute to community economic stability, and the jobs that the forest sector creates in communities, where these are consistent with government's broader objectives; and,
- when faced with necessary reductions in AACs, that those reductions be no larger than necessary to avoid significant longer-term impacts.

During my consideration of the factors required under Section 8 of the *Forest Act*, I have been mindful of the Section 8 (8) (d) objectives articulated in the Minister's October 30, 2017 letter. I have reviewed the District's consultation process with First Nations, and the public review process and am satisfied that they were appropriately conducted. I have considered the feedback received in the applicable factors in this determination. I have addressed the considerations noted above that the Minister has asked to take into account such as climate change and cumulative effects. On this basis, I am satisfied that this determination accords with the objectives of government as expressed by the Minister.

Section 8 (8) (e) abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area

No factors required under this section required additional comment.

Reasons for Decision

In reaching my AAC determination for TFL 26, I have considered all the factors required under Section 8 of the *Forest Act* and I have reasoned as follows.

The base case shows that an initial harvest level of 62 058 cubic metres per year can be maintained for 90 years before increasing to 69 680 cubic metres per year for the remainder of the 300-year harvest forecast.

I am satisfied that the assumptions applied in the base case, for most of the factors applicable to TFL 26, were appropriate including those detailed in Table 1 or as described in my considerations previously discussed in this rationale. However, I have identified some factors, which, considered separately, indicate that the timber supply may be either greater or less than that projected in the base case. Some of these factors can be readily quantified and their impact on harvest projections 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.

I have identified the following factors that indicate a potential overestimation in the base case timber supply:

- *deciduous-leading stands* – inclusion of deciduous-leading stands in the THLB in the absence of harvest performance in these stands results in a small, unquantified overestimation of the short- and mid-term harvest levels and a seven percent overestimation in the long term;
- *minimum harvestable criteria* – accounting for an increased minimum harvestable volume for conventionally harvested stands that is more reflective of current performance and consistent with the criteria used in the adjacent Fraser TSA results in a three percent overestimation in the short term; and,
- *silvicultural systems* – accounting for the effects of shading on regenerating stands in small cutblocks results in a small, unquantified overestimation in the mid- and long-term.

I have identified no factors that indicate a potential underestimation in the base case timber supply.

When reviewing the factors that affect the base case, I conclude that the base case timber supply is overestimated by about 3.5 percent in the short- and mid-term and by about seven percent in the long term.

In making this determination, I have also considered the alternative harvest forecast provided by the licensee that indicates an initial harvest level of 56 602 cubic metres per year can be maintained for 60 years before increasing to 69 680 cubic metres per year for the remainder of the 300-year forecast.

The licensee has recommended the AAC be set at 56 602 cubic metres in order to avoid potential future AAC decreases that might be required following full implementation of the Mission Interpretative Forest initiatives and due to the increasing public interest in non-timber values. The licensee also maintains that limiting the magnitude of an AAC increase at this time provides for greater community economic stability by avoiding potential fluctuations in employment and infrastructure requirements.

In considering this recommendation, I note that the planning and development of new recreation resources and initiatives for the Mission Interpretative Forest have yet to be finalized or implemented. As indicated in my *‘Guiding principles’*, I will not speculate on land-use decisions that have yet to be implemented and any changes in this regard can be accounted for in subsequent AAC determinations.

I am also aware of the need to balance the licensee’s interests with those of other stakeholders, communities, First Nations and the province. As discussed under *‘fibre recovery’*, there is significant pressure in BC to improve the availability of wood fibre to support both existing and emerging processing facilities. These facilities, and the forestry operations associated with timber

harvesting, including the capture of residual wood fibre, provide significant employment and revenue to both local and provincial governments.

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 26 by establishing an AAC of 60 000 cubic metres. This is about 33 percent higher than the current AAC of 45 000 cubic metres.

This determination is effective July 7, 2020 and will remain in effect until a new AAC is determined, which must take place within 10 years of 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 this decision is predicated, 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 expect district and licensee staff to undertake or support the tasks and studies noted below, the particular benefits of which are described in appropriate sections of this rationale document. I recognize that the ability of all parties to undertake or support these projects is dependent on provincial priorities and 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 26.

1. *Terrain stability* – I expect licensee and district staff to track harvest performance by harvesting system and terrain stability class;
2. *Recreation resources* – I expect licensee and district staff to track the ongoing development of recreation resources;
3. *Minimum harvestable criteria* – I expect licensee and district staff to monitor harvest performance, particularly in the lower inventory volume classes to ensure that harvest performance in these stands is proportionate to their occurrence within the THLB;
4. *Cultural heritage resources* – I expect licensee and district staff to continue working with First Nations to identify and accommodate cultural heritage resources during forestry operations; and,
5. *Harvest profile* – I expect licensee and district staff to track harvest performance in all slope classes.



Diane Nicholls, RPF
Chief Forester

July 7, 2020



Appendix 1: Section 8 of the *Forest Act*

Section 8 of the *Forest Act*, Revised Statutes of British Columbia 1996, c. 157, (current to June 17, 2020), 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* (current to June 17, 2020) 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 sector

in 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 October 30, 2017



Reference: 230810

October 30, 2017

Diane Nicholls, Chief Forester and Assistant Deputy Minister
Ministry of Forests, Lands, Natural Resource Operations
and Rural Development
Victoria, British Columbia
V8W 2H1

Dear Diane

The British Columbia *Forest Act* conveys the responsibility to determine an Allowable Annual Cut (AAC) to the Chief Forester of the Province of BC for each timber supply area and tree farm licence in the province. It also specifies considerations that must be brought to bear during the course of such determinations including, among others, the economic and social objectives of the government.

This letter is intended to provide you with guidance regarding the objectives of the British Columbia (BC) government that require your consideration when determining an AAC.

Your office implements a rigorous Timber Supply Review Process to help ensure that each AAC you determine responds to a broad array of objectives and aligns with land use and management decisions established by provincial statutes and regulations. The objectives identified below are to be considered and as part of the review process to ensure that AAC determinations, and the timber harvest rates they enable, continue to support government goals.

This letter replaces two letters previously issued by the Minister of Forests and Range to the chief forester, dated July 4, 2006 and October 27, 2010. It is intended to be used in concert with direction provided by the Minister of Forests, Lands and Natural Resource Operations to the chief forester in a letter dated April 12, 2013, concerning objectives outlined in the Shared Decision Making Process pursuant to the Nanwakolas Reconciliation Protocol.

The BC government has committed to building a strong, sustainable, innovative economy and creating well paid jobs in the province. The health of the forest sector, and its ability to respond to an array of short and long term social, economic and environmental interests, is a key to delivering on this commitment. As such, Government has identified specific objectives for the management of BC's forests and Crown lands. Those relevant to AAC determinations include:

Page 1 of 3

Ministry of Forests, Lands,
Natural Resource Operations
and Rural Development

Office of the Minister

Mailing Address:
PO BOX 9049 Str Prov Govt
Victoria, BC V8W 9E2

Telephone: (250) 387-6240
Fax: (250) 387-1040
Website: www.gov.bc.ca/for

Diane Nicholls, Chief Forester and Assistant Deputy Minister

- modernizing land-use planning to effectively and sustainably manage BC's ecosystems, rivers, lakes, watersheds, forests and old growth forests
- expanding investments in reforestation; and
- collaborating to develop strategies to manage wildlife resources and habitat

Strategies for delivering on these objectives will be developed in collaboration with the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, relevant Natural Resource Ministries, indigenous partners and industry. Once approved by government, I ask that you ensure such strategies are integrated into the Timber Supply Review Process to support AAC determinations.

The BC government has committed to full and lasting reconciliation with Indigenous peoples. As chief forester, your responsibility includes continuing to ensure that AAC determinations take into consideration relevant agreements between First Nations and the Government of BC, court decisions that define Aboriginal title and rights as well as moving forward on reviewing policies, programs, and legislation to determine how to bring the principles of the United Nations Declaration on the Rights of Indigenous Peoples into action for AAC determinations. You also have a responsibility to continue to carefully consider traditional knowledge and other input from BC First Nation communities and organizations in the course of AAC determinations as they pertain to the AAC determination.

The *Forest Act* requires that the chief forester consider a range of forest health issues as part of AAC determinations, including the impacts of circumstances such as infestations, devastations and salvage programs. This is particularly relevant as BC's forest sector emerges from a period of significant, compounding challenges. The infestation of the Mountain Pine Beetle that peaked in the late 2000s has largely subsided but with continuing effects to the size and composition of the forest inventory. Currently, the north area is experiencing Spruce Beetle infestations which also pose impacts. Recently, the Province has experienced record levels of wildfires that have impacted timber supply, community stability and multiple forest values.

In response to these challenges, it is a government objective to focus on planning and sustainable resource management in a way that supports robust forest recovery and timely and effective responses to emerging threats. Please consider how your AAC determinations can support these objectives while promoting forest health and values. In some cases AAC determinations may encourage management practices that avert another infestation in the province's forests. In certain regions, they will need to reflect the reality of a lower timber supply. Some regions will require expanded investment in reforestation and/or an increased focus on timber utilization and recovery. In the wake of extensive natural disasters, the extent of damage in certain areas may also warrant re-determining AACs earlier than scheduled.

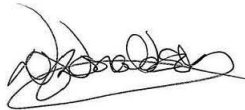
In order to ensure that AAC determinations align with government objectives to modernize land-use planning and sustainably manage B.C.'s ecosystems, rivers, lakes, watersheds, forests and old growth forests, the Timber Supply Review process should incorporate the best available information on climate change and the cumulative effects of multiple activities on the land base. Management options that align with established climate change strategies, adaptation and mitigation practices should be explored. Where the cumulative effects of timber harvesting and other land based activities indicate a risk to natural resource values, the process should identify those risks for consideration in land-use planning.

Diane Nicholls, Chief Forester and Assistant Deputy Minister

This government recognises that the forest sector is of critical importance to BC. The needs of rural communities and forest based industries are evolving in response to a number of the factors mentioned above. To support BC's forest-dependent communities, I ask that your AAC determinations consider the environmental, social and economic needs of local communities as expressed by the public during Timber Supply Review processes, including strategies that contribute to community economic stability, and the jobs that the forest sector creates in communities, where these are consistent with the government's broader objectives. I also ask that when faced with necessary reductions in AAC's, that those reductions be no larger than necessary to avoid significant longer term impacts.

Thank you Diane, for your continued service and considerable efforts in these regards.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Donaldson", with a horizontal line underneath.

Doug Donaldson
Minister

Appendix 4: Information sources used in the AAC determination

The information sources considered in determining the AAC for TFL 26 include the following:

Legislation

- *Forest Act* and regulations, BC Government, current to June 17, 2020;
- *Ministry of Forests and Range Act*, BC Government, current to June 17, 2020;
- *Forest and Range Practices Act* and regulations and amendments, BC Government, current to June 17, 2020;
- *Forest Practices Code of British Columbia Act*, BC Government, current to June 17, 2020, and regulations and amendments;
- *Land Act*, BC Government, current to June 17, 2020;
- *Environment and Land Use Act*, BC Government, current to June 17, 2020;
- *Parks and Protected Areas Statutes Amendment Act*, BC Government, current to October 23, 2019;
- *Protected Areas of British Columbia Act*, BC Government, current to June 17, 2020;
- *Species at Risk Act*, Government of Canada (S.C 2002, c29), current to July 29, 2019;
- *Forestry Revitalization Act*, BC Government, current to June 17, 2020;
- *Heritage Conservation Act*, BC Government, current to June 17, 2020;
- *Interpretation Act*, BC Government, current to June 17, 2020; and,
- *Wildlife Act*, BC Government, current to June 17, 2020.

Licensee Plans and Timber Supply Review Documents

- *Tree Farm Licence 26 Proposed Management Plan 10*, including Information Package and Timber Supply Analysis. The Corporation of the District of Mission. 2019;
- *Tree Farm Licence 26 Rationale for Allowable Annual Cut (AAC) Determination*, Ministry of Forests and Range. March 26, 2010;
- *Tree Farm Licence 61 Rationale for Allowable Annual Cut (AAC) Determination*, Ministry of Forests, Lands, Natural Resource Operations and Rural Development. October 31, 2019;
- *Fraser TSA Timber Supply Review Data Package*, Ministry of Forests, Lands and Natural Resource Operations. October 2013;
- Letter from the Minister of Forests, Lands, Natural Resource Operations and Rural Development to the chief forester stating the economic and social objectives of the Crown. October 30, 2017;
- AAC Determination Binder for TFL 26 - including input received from First Nations and others through the consultation process and comprehensive discussions with Ministry staff, including the AAC determination meeting held in Victoria, BC on March 10, 2020;

Land Use, Forest Practices and other Documents

- *Identified Wildlife Management Strategy—Accounts and Measures for Managing Identified Wildlife Coast Forest Region* Version 2004. Province of BC. 2004;
- *Procedures for Factoring Visual Resources into Timber Supply Analysis*; BC Ministry of Forests. March 1998;
- *Biodiversity Guidebook*, Ministry of Forests and BC Ministry of Environment, Lands and Parks, 1995. BC Ministry of Forests, Lands and Natural Resource Operations.

- Draft and established old growth management areas, BC Ministry of Forests, Lands and Natural Resource Operations, current to March 1, 2017;
- Order Establishing Provincial Non-Spatial Old Growth Objectives, Ministry of Sustainable Resource Management, June 30, 2004;
- Implementation Policy (Order Establishing Provincial Non-Spatial Old Growth Objectives), Ministry of Sustainable Resource Management, 2004;
- Summary of Dead Potential Volume Estimates for Management Units within the Coast Forest Region, Ministry of Forests and Range. March 2006;
- Adapting Natural Resource Management to Climate Change in the West and South Coast Regions: Considerations for Practitioners and Government Staff, Ministry of Forest Lands and Natural Resource Operations. February 22, 2016;
- Policy Regarding the Administration of Unharvested Volumes, Uncommitted Volumes and Unused BC Timber Sales Volumes, Ministry of Forests, Lands, Natural Resource Operations and Rural Development. January 10, 2018.

First Nations

- Updated Procedures for Meeting Legal Obligations when Consulting First Nations. May 7, 2010;
- Haida Nation v. British Columbia (Minister of Forests), [2004] 3 S.C.R. 511, 2004 SCC 73;
- Tsilhqot'in Nation v. British Columbia, 2014 SCC 44, [2014] 2 S.C.R.;
- R. v. Sparrow, [1990] 1 S.C.R. 1075; and,
- First Nations Consultation Report TFL 26 Draft Management Plan #10 and Allowable Annual Cut Determination, Ministry of Forests, Lands and Natural Resource Operations. February 25, 2020.