

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

Tree Farm Licence 43

**held by
Homalco Forestry Limited Partnership**

Rationale for Allowable Annual Cut (AAC) Determination

Effective March 31, 2021

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Chief Forester**

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Objective of this document

This document is intended to provide an accounting of the factors I have considered and the rationale I have employed as chief forester of British Columbia (BC) in making my determination, under Section 8 of the *Forest Act*, of the allowable annual cut (AAC) for Tree Farm Licence (TFL) 43. 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 am indebted to staff of the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (the ‘Ministry’) in the Sunshine Coast Natural Resource District, South Coast Natural Resource Region, and the Forest Analysis and Inventory Branch (FAIB). I am also grateful to the Indigenous Peoples, local residents, individuals and Homalco Forestry Limited Partnership (LP) staff who contributed to this process.

Statutory framework

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

Description of Tree Farm Licence 43

TFL 43 is held by Homalco Forestry Limited Partnership (the ‘licence holder’). The TFL is located on the southern mainland coast of British Columbia, along the alluvial floodplain of the lower Homathko River. It spans a narrow area down to the head of the Bute Inlet. The TFL is within the border of the Sunshine Coast Timber Supply Area and is managed by the Ministry from the Sunshine Coast Natural Resource District office in Powell River. The total area of the TFL is 5405 hectares and the forested area continually changes due to fluvial erosion and accretion along the river valley.

TFL 43 is located within the southern dry subarctic coastal western hemlock biogeoclimatic subzone (CWH ds) with a climate that is transitional between the coast and interior. The climate is characterized by warm, dry summers and moist, cool winters with moderate snowfall. Grizzly bears are an important wildlife species to both Indigenous and non-Indigenous community members. In TFL 43 grizzly bear habitat is managed through established wildlife habitat areas (WHA).

The nearest communities to the TFL are Powell River and Campbell River, with the corresponding 2019 population estimates (BC Stats) of 13,829 and 35,849 community members. Economic activities in the area include forestry, ecotourism and fisheries work such as that at the Taggares-Homalco Hatchery on Bute Inlet.

Three First Nations have asserted or established Aboriginal rights, title and Interests, and treaty rights (Aboriginal Interests) that overlap TFL 43: Xwemalkwu (Homalco) First Nation, Ulkatcho First Nation and Tla’amin Nation. The *Tla’amin Nation Final Agreement* (or Treaty) which came into effect on April 5, 2016 includes a shared timber harvest area with the Homalco First Nation. The Homalco First Nation is in Stage 4 Agreement in Principle negotiations in the BC Treaty Commission Process. The Ulkatcho First Nation communities are located primarily in the Cariboo and central interior of British Columbia, the southern most point of their territory extends to the Homathko River valley within TFL 43. Ulkatcho First Nation are a member of the Southern Dakeh Nation Alliance and are signatory to the *Hubulhssooninats’uhoot’alh Foundation Framework Agreement*.

History of the AAC

In January 1985, TFL 43 was awarded to Scott Paper Limited, the Canadian subsidiary of The Scott Paper Company for the management of cottonwood. In December 1995, Scott Paper Company was acquired by Kimberly-Clark Corporation. The Kimberly-Clark Corporation owned Canadian tissue operations, which meant the Bureau of Competition Policy required Kimberly-Clark to agree to undertakings that prevented Kimberly-Clark from exercising control over Scott Paper Limited. On June 3, 1997, Kruger Inc. of Montreal purchased Scott Paper Limited.

After transfer of the licence to Kruger Inc. the AAC was determined in 2000 to be 39 900 cubic metres. In 2003 the AAC determination was postponed for 10 years after the last determination, as provided for under Section 8(3.1) of the *Forest Act*. On March 26, 2010, the AAC for TFL 43 was set at 39 900 cubic metres, unchanged from the previous AAC. The AAC was attributed to the three blocks as:

- Fraser (290 cubic metres per hectare), 12 886.3 cubic metres per year;
- Homathko (332 cubic metres per hectare), 18 957.2 cubic metres per year;
- Kingcome (514 cubic metres per hectare), 8121.2 cubic metres per year.

The TFL was subdivided in 2016 after which the Homathko was the only block remaining within the TFL. The AAC was then set to the 18 957 cubic metres attributed to the Homathko block. The other blocks were established as TFL 63 which was subsequently surrendered and the blocks are now within the Fraser TSA.

In May of 2016 the TFL was transferred to Homalco Forestry Limited Partnership. The AAC was not adjusted at that time. Homalco Forestry Limited Partnership was established in 2011 to provide forest management and timber harvesting services within Homalco First Nation territory. Homalco Forestry Limited Partnership is wholly owned by the Homalco First Nation and is managed by a board of directors under the guidance of the elected chief.

New AAC determination

Effective March 31, 2021, the new AAC for TFL 43 will be 18 540 cubic metres. This AAC is about 2.2 percent lower than 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.

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 of the social, cultural and economic factors that are relevant when making forest management decisions. Technical information and analysis, therefore, do not necessarily provide the complete answers or solutions to forest management 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 BC'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, title 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, 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 ongoing 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). The *Declaration on the Rights of Indigenous Peoples Act* of 2019 (“DRIPA”) commits the provincial government to aligning provincial laws with 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 potential impacts to established and asserted Aboriginal rights, title and other interests (“Aboriginal Interests”) and treaty rights consistent with the Constitution, case law, and relevant agreements between First Nations and the government of BC. The UNDRIP is not legally binding in international law or in law in Canada or BC, and until laws and policies are formally amended as a result of the DRIPA process, as necessary, to align with the Declaration, I am bound by the existing laws of British Columbia.

Where First Nations and the Province are engaged in collaborative land and resource planning, the Province may make 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.

Where collaborative planning between First Nations and the Province is ongoing, there may be preliminary but not yet finalized and formalized land use zones or management objectives. As is the case for land use and management planning in general, 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 their Aboriginal Interests and the degree to which they may be affected by the decision. The Crown also has a constitutional obligation to consult with First Nations regarding their treaty rights. 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*, and with consultation obligations defined in court decisions. 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 treaty rights or 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.

The timber on established Aboriginal title lands (meaning Aboriginal title declared by a court or defined under an agreement with necessary federal and provincial implementation legislation), Treaty Settlement Lands or Indian Reserves, is no longer likely to be provincial Crown timber, depending on the particular circumstances. Consequently, if it is not provincial Crown timber, it does not contribute to the AAC of the timber supply area or tree farm licence overlapped by those lands. 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 could affect the AAC determination, given uncertainties about the scope, nature and geographic extent of title. Unless land has been established to be Aboriginal title land, Treaty Settlement Land or reserve 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 effect 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, amount, 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 forecasts provided to me through the work of the Timber Supply Review (TSR) 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 simulation model, a series of timber supply forecasts can be produced, reflecting 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 forecasts, one is chosen in which an attempt is made to avoid both excessive changes from decade to decade and significant timber shortages in the future, while ensuring the long-term productivity of forest lands. This is known as the base case forecast, and forms the basis for comparison when assessing the effects of uncertainty on timber supply. The base case is designed to reflect current management practices.

Because the base case 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 for a TSA is not an AAC recommendation. Rather, it is one possible forecast of timber supply, whose validity—as with all the other forecasts provided—depends on the validity of the data and assumptions incorporated into the computer simulation used to generate it.

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

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

Thus, in reviewing the considerations that lead to the AAC determination, it is important to remember that the AAC determination itself is not simply a calculation. Even though the timber supply analysis I am provided is integral to those considerations, the AAC determination is a synthesis of judgment and analysis in which numerous risks and uncertainties are weighed. Depending upon the outcome of these considerations, the AAC determined may or may not, coincide with the base case. 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 43

The timber supply analysis for TFL 43 was prepared for the licence holder by Forsite Consultants Ltd., as part of *Tree Farm Licence 43 Management Plan #6*.

For the purposes of this, and the previous timber supply analyses, an area-based (rather than volume-based) AAC calculation approach was used in the timber supply analysis for TFL 43. I accept this method as an appropriate approach, due to the small size of the TFL, and the uniformity and short-rotation of the hybrid poplar plantations being modelled.

Using an area-based AAC calculation approach, the area contributing to the timber supply is divided by the number of years required for stands to reach a merchantable criteria, referred to as the rotation length. In this case, the contributing timber harvesting land base (THLB) was assessed to be 1846 hectares and the selected rotation length was 45 years. Therefore, the sustainable harvest rate proposed in the analysis was calculated to be 41 hectares per year. The area-based harvest rate was converted to a volume equivalent for

consideration as the base case in this AAC determination. The average volume of stands greater than or equal to 45 years of age was estimated to be 452 cubic metres per hectare. Multiplying the area-based harvest rate by this average yield results in a non-declining base case of approximately 18 540 cubic metres per year.

The proposed area-based harvest rate of 41 hectares per year represents a reduction of approximately 28 percent relative to the harvest rate of 57 hectares per year attributed to the Homathko block in the timber supply analysis supporting the previous AAC determination. However, due to use of improved inventory information in this analysis, the average stand yield used in the conversion to the volume-based equivalent harvest has increased by 36 percent from the estimate of 332 cubic metres per hectare used in the previous analysis. This compensating change resulted in a base case that is only two percent lower than the previous AAC of 18 957.

I note that for a TFL of this size, if a volume-based timber supply analysis was applied, it would have allowed for a deeper level of investigation such as sensitivity analysis related to assumptions about the THLB, forest inventory, growth and yield, and management practices. As I will discuss further in several factors in this document, updated forest inventory and localized sampling data is paramount to improving the stewardship and sustainability of timber and non-timber resources within TFL 43. Improved data will decrease many sources of uncertainty that I have identified for this AAC determination and will also support a more robust timber supply analysis. As discussed in '**Implementation**' I expect that a volume-based analysis using improved data will be completed for the next timber supply review to support the chief forester in making the next AAC determination.

In my determination, I have considered several aspects of the area-based analysis that is used for the base case. This information has been helpful as I made specific considerations and reasoning in my AAC 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 document.

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

I have reviewed the information for all of 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 raises relevant concerns regarding the information used, modelling, or some other aspect under consideration, this rationale incorporates an explanation of how I considered and accounted for any such information in making my determination.

Table 1. List of accepted factors

Forest Act section and description	Factors accepted as modelled
8(8)(a)(i) the composition of the forest and its expected rate of growth on the area	<ul style="list-style-type: none"> • Ownership • Existing and Future Roads, Trails and Landings • Operability • Deciduous-leading stands • Wildlife Habitat Areas and Ungulate Winter Range • Riparian Reserves • Cultural Heritage Resources • Operational Adjustment Factors • Dead Potential Volume
8(8)(a)(ii) the expected time that it will take the forest to become re-established following denudation	
8(8)(a)(iii) Silvicultural treatments to be applied to the area	<ul style="list-style-type: none"> • Silviculture Systems
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	<ul style="list-style-type: none"> • Decay, Waste and Breakage for Unmanaged Stands • Timber Utilization
8(8)(a)(v) constraints on the amount of timber produced by use of the area for purposes other than timber production	<ul style="list-style-type: none"> • Higher Level Plans • Landscape-level Biodiversity • Stand-level Biodiversity • Adjacent Cutblocks and Green-up • Harvest Rules and Priority
8(8)(a)(vi) other information	<ul style="list-style-type: none"> • Harvest Performance • Unharvested Volume Carry Forward
8(8)(b) the short and long term implications to British Columbia of alternative rates of timber harvesting from the area	<ul style="list-style-type: none"> • Alternative Rates of Harvest
8(8)(d) Economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia	<ul style="list-style-type: none"> • Economic and Social Objectives of the Crown
8(8)(e) Abnormal Infestations and Salvage Programs	

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 the timber harvest

- 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 land area of TFL 43 is 5405 hectares of which approximately 1888 hectares can support economic harvest of timber. Additional reductions were made to the spatially identified THLB to account for factors in Table 1 as well as factors discussed below, resulting in an THLB of 1846 hectares. The THLB is approximately 34 percent of the total land base of TFL 43.

- environmentally sensitive areas

Environmentally sensitive areas (ESA) are zones which have been identified as requiring additional measures during harvesting to protect values including hydrology, soils, regeneration or wildlife.

Historically large portions of TFL 43 were designated as ESAs for a combination of values. District staff indicate that some of these ESAs have since been formally established as non-timber management objectives such as grizzly bear wildlife habitat areas (WHA). Staff express that ESA mapping is considered outdated and likely does not adequately address operability constraints such as terrain stability.

I am aware of the vintage of the ESA data and I understand that improved methodologies exist for identifying sensitive sites that could be incorporated into future analyses. I encourage the licence holder to work with District staff and FAIB to acquire improved information about environmentally sensitive areas within TFL 43 such as terrain stability and hydrologic risk mapping. I understand this type of information is becoming more easily accessible through advances in technology such as LiDAR. Improved data regarding the land base will support a more robust timber supply analysis for the next timber supply review. Based on my review of the information regarding ESAs, I conclude that the estimates used in the analysis reflect the best available information and are therefore, appropriate for use in this determination.

- forest inventory, non-forest and non-productive forest

The forest inventory for TFL 43 was largely developed based on aerial photography imagery flown in 1993. It has since been converted to the current Vegetation Resources Inventory (VRI) standard. For the purposes of this TSR, the VRI was updated with recent harvesting and regeneration information and key inventory attributes were projected for growth to January 2019.

The TFL is centered on Homathko River delta and the river has significantly altered course over time within the delta since 1993. Manual updates had to be applied to the inventory to account for land area lost to erosion (312 hectares) and gained through accretion (452 hectares). These changes were visually approximated using recent satellite imagery. No attempt was made to classify the regenerating tree species growing on the accretion areas. Areas that were previously reported as forested in the VRI but were now typed as eroded were modelled as non-forested.

Non-forested and non-productive forested areas were identified using the British Columbia Land Classification System attributes in the VRI. I note that the new accretion areas were classified as non-forest but likely will support future timber production. The degree to which this underestimates long-term timber supply is unknown until the VRI is updated and surveys confirm the accretion areas support developing forests of commercial species.

I acknowledge there is a degree of land base uncertainty that results from the natural dynamic of the river running through TFL 43. While I believe that a new inventory is needed for TFL 43, I do not believe it is necessary to delay my AAC determination in anticipation for new sources of information. I account for this factor in my determination as discussed in **‘Reasons for Decision’**.

Using the best available information and not delaying an AAC decision is consistent with my previously noted principles. A new inventory and annual monitoring of land base and inventory changes resulting from erosion, accretion and other disturbances would support improved management of timber and non-timber resources in the TFL. I encourage the licence holder to work with Ministry staff, including FAIB, to identify methods to annually update and monitor changes to the forest inventory and land base. As stated in **‘Implementation’**, once the inventory is updated, I expect FAIB to evaluate if any changes are substantial and the potential implications for the next TSR.

- site productivity assignments

Site productivity for TFL 43 was evaluated using the site index estimates provided in the VRI data set. The area-weighted average site index was calculated to be 29.2 metres. I accept that this method uses the best available information however there is significant uncertainty related to the growth potential of future managed stands which tends to be underestimated using the VRI site index. As I will discuss further in *‘natural and managed stand yields’* and *‘minimum merchantable criteria’*, improved information regarding growth and yield within TFL 43 is needed to reduce this uncertainty in the analyses that will support future AAC determinations.

- natural and managed stand yields

Growth and yield models are used to estimate the rate of growth of forested stands. The growth of natural and managed stands is modelled using tools that estimate stand volume over time and are based on long-term monitoring of stands across the province. In the base case, the projection of stand growth was used to assess stand rotation length which is key to identifying a sustainable timber supply.

For this timber supply review Variable Density Yield Projection (VDYP v.730d Build 167) was used to develop a single yield projection to represent the average rate of growth of all stands established through natural regeneration within the THLB. The model inputs were based on average VRI attributes and species composition. As discussed further in *‘minimum merchantable criteria’*, the VDYP yield projection indicates that, on average, natural stands in TFL 43 become merchantable at 59 years of age.

Historically, under the control of previous licence holders, TFL 43 was managed for deciduous species only which resulted in the establishment of hybrid poplar plantations. I am aware there is limited information available on the growth and yield of this species but hybrid poplar is closely related to black cottonwood and trembling aspen. The growth of managed stands in the analysis was modelled using Table Interpolation Program for Stand Yields (TIPSY v.4.4). Growth projections based on trembling aspen were produced to explore the effect of stand thinning on yields. As discussed further in *‘minimum merchantable criteria’*, TIPSY yield projections indicate that a typical managed deciduous stand in TFL 43 becomes merchantable at 62 years of age and a thinned stand at 32 years.

I accept that the analysis methods for growth and yield used the best available information and explored a range of scenarios for different stand types and management regimes. In the term of this AAC determination I understand that harvesting is likely to focus on mature natural stands, meaning the uncertainty related to growth and yield of hybrid poplar stands affects timber supply beyond the 10-year term of this AAC determination. I account for this factor in my determination, as discussed in **‘Reasons for Decision’**.

To reduce the uncertainty for the next AAC determination I encourage the licence holder to work with Ministry staff, including FAIB, to acquire improved, localized growth and yield data. As stated in **‘Implementation’**, I expect FAIB to follow-up in evaluating if any changes are substantial and assess the potential implications for the next TSR.

- *minimum merchantable criteria*

For this TSR the minimum merchantable criteria were used to define the rotation length which is a critical driver for the area-based analysis. The rotation length was estimated as the time required to achieve the merchantability criteria which was evaluated as a minimum diameter at breast height (DBH). For TFL 43, the licence holder indicates that a stand is considered merchantable when it achieves an average DBH of 30 centimetres.

The analysis supporting the 2010 AAC determination modelled a rotation length of 32 years based on data from an experimental trial in the Fraser Valley. As discussed in '*natural and managed stand yields*', for this TSR a range of both natural and managed stand growth projections were evaluated. The assessment contrasted the estimated number of years required to achieve culmination of mean annual increment and years to achieve merchantable DBH, for thinned and unthinned stands. Ministry staff indicate that the licence holder does not currently plan to apply spacing treatments, meaning that the 32-year rotation length associated with a thinning regime is not considered realistic. Based on the growth projection assessment, a rotation length of 45 years was selected by the licence holder as reasonably representing current management and was applied in the area-based analysis.

Ministry staff note that they are working with the licence holder to establish licence and planning updates that will shift the management focus for TFL 43 from deciduous pulp production towards timber for a wider range uses. For the next TSR, changes in management direction should be documented and modelled with better information regarding merchantability, species composition, as well as growth and yield estimates for current and future managed stands. This complements improvement discussed in '*forest inventory*' and '*natural and managed stand yields*' and is important data to support a sustainable timber supply for the TFL.

I have reviewed the assessment used to establish the rotation length for the base case. I have considered this information in my decision and am confident that the rotation length and minimum merchantable criteria used in the base case were appropriately modelled using an area-based approach. If management practices change, these will be reflected in the next TSR.

I note that there is significant uncertainty related to the current and future management practices in TFL 43, making it difficult to evaluate the analysis presented in *Tree Farm Licence 43 Timber Supply Analysis*.

A new inventory, localized growth and yield sampling and a harvest monitoring program would reduce the uncertainty and support improved management of timber and non-timber resources within TFL 43.

I encourage the licence holder to work with Ministry staff, including FAIB, to identify methods to annually update and monitor changes to the forest inventory and land base. As stated in '**Implementation**', once improved information is acquired, I expect FAIB to follow up in evaluating if any changes are substantial and assess the potential implications for the next TSR.

- *First Nations cultural heritage resources and archaeological 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, structural features, heritage landscape features and cultural use sites. In practice, most of these sites overlap with areas already excluded from the THLB to account for non-timber resources due to *Forest and Range Practices Act* (FRPA) constraints such as riparian area, ungulate winter range, wildlife habitat area, wildlife tree retention area, and old growth management area. Where there is no overlap, legal requirements for their protection are outlined below.

Archaeological sites, including culturally modified trees (CMT) that predate 1846, are protected under the *Heritage Conservation Act*. Archaeological overview assessments have been completed for the surrounding TSA, providing baseline information on archaeological resource potential, to guide field level archaeological impact assessments. Both are used to identify potential archaeological sites which include cultural and historic use sites. Once they have been field verified, archaeological sites, including buffer strips, are protected and recorded in the remote access to archaeological data (RAAD).

For this TSR a review of the RAAD indicated that no known culture heritage resources or archaeological resources occur within TFL 43. I accept this information and I believe it is reasonable to determine the AAC based on this assumption.

In keeping with my guiding principles, should new significant information become available regarding First Nations archaeological sites and cultural heritage resources, including any new findings or recommendations by government, I may revisit the AAC determination for TFL 43 prior to the 10-year limit provided for in legislation. For this decision, I note that the AAC I determine does not prescribe any particular plan of harvesting activity within the TFL by requiring any particular area to be harvested or to remain unharvested. Harvesting activities are guided by requirements such as those contained in the *Heritage Conservation Act*, *Forest Act*, *FRPA* and other resource management legislation.

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

Expected time to re-establish the forest following denudation

- stand establishment

In a timber supply analysis silviculture practices such as regeneration methods and species composition are key attributes to project the rate of forest growth and identify a sustainable harvest level. The licence holder indicates that hybrid poplar is no longer being planted on TFL 43. Current and future management practices will rely on natural regeneration from root suckering, coppice shoots and natural seedling establishment. As discussed in '*minimum merchantable criteria*' future management practices may start to include mixed wood and coniferous management to produce timber for a wider variety of products. Ministry staff indicate that over the last 10 years cutting permits have been mixed wood with a high deciduous component.

This uncertain transition in future stocking and silviculture practices could result in an unquantified effect on future timber supply. I encourage the licence holder to work with District staff to update the Management Plan and other planning documents to reflect changes to management practices within TFL 43. As stated in '**Implementation**', once the licence and planning documents are updated, I expect FAIB to evaluate if any changes are substantial and assess the potential implications for the next TSR.

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

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

Section 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 in the area

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

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 environment conditions caused by the combined impact of past, present and potential human activities or natural events. The Government of BC has supported 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 and air quality, fish and wildlife impacts, cultural and heritage concerns, community needs and economic development opportunities. The CEF gives resource managers the procedures and tools to inform decisions that support sustainable management and the needs of many different users.

The provincial CEF team is focusing on implementing cumulative effects assessments within pilot areas across the province, building assessment procedures for values, and developing policies and procedures. No cumulative effects pilot has been established in the South Coast Region or is applicable to TFL 43.

Many of the current objectives and management approaches applied in TFL 43 are thought to already mitigate the negative effects of development activities. Such mitigating management objectives reflected in the timber supply analysis include: *Forest and Range Practices Act* (FRPA) objectives; spatial old growth objectives; wildlife tree retention and stand level retention objectives; wildlife habitat areas and special reserves; recognition of sensitive soils, unstable terrain and avalanche areas; and riparian reserve and management zones.

The base case for TFL 43 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. Changes in management as the implications of cumulative effects are more directly considered will be considered in future AAC determinations.

A cumulative effects assessment that includes analysis of potential future condition and coordinated response across sectors is not warranted at this time, given the condition of the given values relative to their objectives, and that other than forestry there is a relatively low level of activity across the land base.

- climate change

Climate change is predicted to impact forest ecosystems in a number of ways including a general increase in temperatures, change in precipitation patterns, and an increase in the frequency and severity of disturbances including wildfires, floods, landslides, and occurrences of insects and disease. While the trends are generally consistent, the specific magnitude of these changes, and their spatial and temporal distribution, are uncertain.

Projections for the longer term – mid-century – project increased spring precipitation, reduced snowpack and earlier snowpack melt, affecting water supply to the trees and effecting streamflow. It is believed that fires will become more frequent and pests, such as Douglas-fir beetle, spruce beetle, and western balsam bark beetle may increase as changes in precipitation stresses and weakens stands that were established under previous climatic conditions.

In very general terms, longer growing seasons will be a benefit for many tree species. However, this will likely be offset where summer drought conditions increase, which appears likely for TFL 43, linked to generally lower summer precipitation and lower winter snowpack. It is projected that there will be a reduction in the amount of area with the current climate of Alpine and Mountain Hemlock biogeoclimatic zones and an increase in the area with a climate of the Coastal Western Hemlock biogeoclimatic zone.

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.

Climate change factors also influence growing season length, streamflow and water supply to trees. The predominantly deciduous forests of TFL 43 are also likely to experience drought stress as annual

inundation becomes less frequent. The frequency of land base changes due to erosion and accretion is also likely to increase.

There is a large amount of uncertainty with the short- 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).

It will be worthwhile to continue to consult and collaborate with federal and provincial government agencies, First Nations, universities, and forest licensees to better understand climate adaptation and mitigation challenges and opportunities in relation to forest management. Findings from research initiatives can be incorporated into coast area climate actions.

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, extend 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. I acknowledge that climate change is a source of uncertainty in the AAC determination. In general, the requirement for regular AAC reviews 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 in TFL 43.

On-going observations, data collection, analysis and discussion through various collaborative teams will play a critical role in ensuring we are able to respond to predicted implications for timber supply for TFL 43. As discussed in '*forest inventory*' and '*natural and managed stand yield*' a new inventory and localized growth and yield sampling are needed. This information would support monitoring of climate change effects in TFL 43. I encourage the licence holder to work with Ministry staff, including FAIB, to identify methods to annually update and monitor changes to the forest inventory and land base. Monitoring information will support the consideration of the effects of climate change in future AAC determinations.

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 consultation

The Crown maintains a duty to consult with and accommodate, as necessary, those First Nations for whom it has knowledge of asserted Aboriginal Interests or rights otherwise protected under Section 35 of the *Constitution Act* 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 determination 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 timber allocation and harvest authorization decisions, and the AAC determination does not determine that matter.

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

Three First Nations have asserted or established Aboriginal Interests that overlap TFL 43, including Homalco First Nation, Ulkatcho First Nation and Tla'amin Nation. The Tla'amin Nation Final Agreement (or Treaty) came into effect in April 5, 2016, crystalizing Treaty Rights throughout designated Treaty areas, including a shared harvest area with Homalco First Nation. The Homalco First Nation is in Stage 4 Agreement in Principle negotiations in the BC Treaty Commission Process.

I note that Homalco LP is wholly owned by the Homalco First Nation and is managed by a board of directors under the guidance of the elected chief.

Consultation with the Homalco and Ulkatcho First Nations regarding the Draft Management Plan # 6 and *Tree Farm Licence 43 Timber Supply Analysis Report* was conducted in accordance with the Forest Consultation and Revenue Sharing Agreement (FCRSA) signed by each First Nation. Engagement with Tla'amin Nation was guided by consideration of the Tla'amin Reasonable Opportunity Agreement, side agreement to the Treaty, which outlines processes and forums intended to support Tla'amin Citizens in maintaining their reasonable opportunity to exercise Treaty Rights in the context of Crown land management and decision making.

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 and the RAAD.

Prior to the formal consultation process the licence holder engaged in proponent-led information-sharing with each of the above noted First Nations. Formal consultation regarding *Tree Farm Licence 43 Management Plan #6* which includes the *Tree Farm Licence 43 Timber Supply Analysis Report* was coordinated by District staff and initiated by letter on October 9, 2019 with a request for a response within 60-days.

In the initial engagement letters District staff: (i) provided a summary of the initial review of available information regarding 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.

No responses were received from any of the three First Nations consulted. According to the FCRSAs if no response is received within the specified consultation period British Columbia may proceed to make a decision.

In reviewing the First Nations consultation process with First Nations relations advisory staff, I conclude that the First Nations whose territories overlap TFL 43 were consulted in accordance with current provincial guidance and applicable case law. Staff are 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. Staff express that the base case reflects current forest practices, management methods, and considerations of Aboriginal Interests at the operational level.

In summary, I am satisfied that all potentially impacted First Nations were consulted in accordance with current Provincial guidance and applicable case law. Any adverse impacts upon asserted Aboriginal Interests and treaty rights within TFL 43 stemming from forest development activities that occur subsequent to the AAC determination, can be appropriately mitigated or accommodated through existing legislation and regulation, planning documents and meaningful engagement at the operational level.

I discuss my considerations of all the information provided to me, including First Nations input in my '**Reasons for Decision**'.

- *public comments*

The public was provided with an opportunity to comment on the draft *Information Package*, and the draft *Management Plan* including the timber supply analysis for TFL 43. No public comments were received 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 43.

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

No factors required under this section require additional comment.

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 [2003-31-1 (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 letters*

The Minister of Forests, Range, Natural Resource Operations and Rural Development (and the former Ministers of Forests, Range and Natural Resource Operations) have expressed the economic and social objectives of the Crown for the province in a letter dated October 30, 2017.

In the letter dated October 30, 2017, 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 that I do the following when making an AAC determination:

- ensure that the Ministry's approved strategies for delivering its forestry objectives are integrated into the TSR 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 TSR 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 TSR 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 TSR 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; and,
- when faced with necessary reductions in AAC's, 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 Districts 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

Abnormal infestations, devastations, and salvage programs

- non-recoverable losses

Non-recoverable losses (NRL) are timber volumes destroyed or damaged on the THLB by natural causes such as fire, wind, and disease that are not recovered through salvage operations and remain unutilized. TFL 43 is almost completely accessible through an established road network and the licence holder states that any losses due to biotic factors such as insects and disease or due to abiotic factors such as fire, landslides, flooding or windthrow, will be salvaged. I am aware that no reduction for NRLs was applied in the base case. I believe that this results in an overestimation in timber supply, as it may not be practicable to recover all losses caused by biotic and abiotic factors. I accept there is an unquantified overestimation of timber supply as a result of this assumption and I have considered this in my AAC determination, as discussed in '**Reasons for Decision**'.

- abnormal infestations

I am aware that many hybrid poplar plantations in the South Coast Region are significantly impacted by hybrid poplar blight. Hybrid poplar blight is caused by the fungal pathogen, *Venturia populina*. This disease is particularly common along river valleys and when a stand is infected there is usually damage to the entire stand. The most damage done by this disease is to seedlings and saplings which may die-back severely, creating restocking problems.

With regards to abnormal infestations I encourage the licence holder to monitor for hybrid poplar blight, in the late spring as well as in the summer and fall following wet periods. As discussed in '*natural and managed stand yields*' District staff note that the licence holder intends to discontinue the planting and propagation of susceptible species in the future. In the period until stands of hybrid poplar no longer contribute to timber supply, monitoring, management and control measures for this pathogen are important to protect the long-term sustainability of timber supply for TFL 43. I am aware of the uncertainty that results from a lack of information regarding the frequency and intensity of hybrid poplar blight within TFL 43. I have considered this in my AAC determination, as discussed in '**Reasons for Decision**'. I encourage the licence holder to work with District staff, as well as Ministry research pathologists in South Coast Region and at Forest Practices Branch to design and implement a hybrid poplar blight management program for TFL 43.

Reasons for Decision

I am satisfied that the assumptions applied in the base case for the majority of the factors applicable to TFL 43 were appropriate, as detailed in Table 1 or elsewhere in this rationale. Following is my consideration of those factors for which I consider it necessary in this determination to further account for implications to the timber supply estimated in the base case.

I note that the base case presented in *Tree Farm Licence 43 Timber Supply Analysis* (February 24, 2020) showed a harvest level of 18 540 cubic metres per year using an area-based analysis approach. As discussed in factors in this document, I am aware of the uncertainty in the analysis related to ‘*forest inventory*’, ‘*non-forest and non-productive forest*’, ‘*site productivity assignments*’, ‘*natural and managed stand yields*’, ‘*minimum merchantable criteria*’, ‘*stand establishment*’, ‘*climate change*’ and ‘*abnormal infestations*’. I am aware that the uncertainty is most significant in the mid- and long-term periods, beyond the 10-year term of this AAC determination.

I am also aware of the potential unquantified overestimation of timber supply related to ‘*non-recoverable losses*’. I have considered this potential overestimation and have decided not to adjust the base case to account for this factor. I have identified no factors that indicate a potential underestimation of timber supply.

I expect that actions I recommend, as discussed in ‘**Implementation**’ will support improved certainty related to the identified factors for future AAC determinations.

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 43 by establishing an AAC of 18 540 cubic metres. This is about two percent lower than the previous AAC of 18 957 cubic metres.

This determination becomes effective on March 31, 2021, 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 I have predicated this decision, then I am prepared to revisit this determination sooner than the 10 years required by legislation.

Implementation

In the period following this decision and leading to the subsequent determination, I encourage Ministry staff, other agencies and the TFL 43 licence holder, Homalco Forestry Limited Partnership, to undertake or support the tasks noted below, the particular benefits of which are described in greater detail in appropriate sections of the rationale document.

I recognize that the ability of staff and the licence holder to undertake projects is dependent on available resources, including funding. However, the following projects are important to help reduce the risk and uncertainty associated with key factors that affect the timber supply in TFL 43.

1. *Timber supply analysis* – I expect that a volume-based analysis will be completed for the next timber supply review, and this analysis and improved data will be provided to the chief forester for the next AAC determination.
2. *Forest inventory* – I encourage the licence holder to work with Ministry staff, including FAIB, to identify methods to annually update and monitor changes to the forest inventory and land base. Once the inventory is updated, I expect FAIB to evaluate if any changes are substantial and assess the potential implications for the next TSR.
3. *Growth and yield* - I encourage the licence holder to work with Ministry staff, including FAIB, to acquire improved, localized growth and yield data. Once localized information is acquired, I expect FAIB to evaluate if any changes are substantial and assess the potential implications for the next TSR.

4. *Timber management planning* - I encourage the licence holder to work with District staff to update the Management Plan and Forest Stewardship Plan to reflect changes to management within TFL 43. Once the Management Plan and Forest Stewardship Plan are updated, I expect FAIB to evaluate if any changes are substantial and assess the potential implications for the next TSR.
5. *Abnormal infestations* - I encourage the licence holder to work with District staff, and Ministry Forest Pathologists to design and implement a hybrid poplar blight management program for TFL 43.



Diane Nicholls, RPF
Chief Forester



March 31, 2021

Appendix 1: Section 8 of the *Forest Act*

Section 8 of the *Forest Act*, Revised Statutes of British Columbia 1996, c. 157, (current to March 17, 2021), 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 the Crown land in the following areas:
 - (i) tree farm licence areas;
 - (ii) community forest agreement areas;
 - (iii) first nations woodland licence areas;
 - (iv) 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 respect of an allowable annual cut determined under subsection (1), the chief forester may, at any time, 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.]
- (5.1) The chief forester may, at any time, amend or cancel a specification made under subsection (5).
- (6) The minister must determine an allowable annual cut for each woodlot licence area in accordance with the woodlot licence for that area.
- (7) The minister must determine an allowable annual cut for

- (a) each community forest agreement area in accordance with the community forest agreement for that area, and
- (b) each first nations woodland licence area in accordance with the first nations woodland licence for that area.

(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 March 17, 2021) reads as follows:

Purposes and functions of Ministry

4 The purposes and functions of the Ministry are, under the direction of the minister, to do the following:

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

Appendix 3: Minister's letter of 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:

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

Office of the Minister

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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.

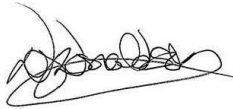
In order to ensure that AAC determinations align with government objectives to modernize land-use planning and sustainably manage B.C.'s ecosystems, rivers, lakes, watersheds, forests and old growth forests, the Timber Supply Review process should incorporate the best available information on climate 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 stylized flourish at the end.

Doug Donaldson
Minister

Appendix 4: Information sources used in the AAC Determination

The information sources considered in determining this AAC include but are not limited to, the following:

Legislation

- *Forest Act* and regulations, BC Government, current to March 17, 2021;
- *Ministry of Forests and Range Act*, BC Government, current to March 17, 2021;
- *Forest and Range Practices Act* (FRPA) and regulations and amendments, BC Government, current to March 17, 2021;
- *Forest Practices Code of British Columbia Act*, BC Government, current to March 17, 2021, and regulations and amendments;
- *Land Act*, BC Government current to March 17, 2021;
- *Environment and Land Use Act*, BC Government current to March 17, 2021;
- *Parks and Protected Areas Statutes Amendment Act*, BC Government current to March 17, 2021;
- *Species at Risk Act*, Government of Canada (S.C 2002, c29) current to March 10, 2021;
- *Forestry Revitalization Act*, BC Government current to March 17, 2021;
- *Heritage Conservation Act*, BC Government current to March 17, 2021;
- *Interpretation Act*, BC Government current to March 17, 2021;
- *Wildlife Act*, BC Government, current to March 17, 2021.

Licence Holder Plans and Timber Supply Review Documents

- Tree Farm Licence 43 Management Plan #6, including Information Package and Timber Supply Analysis, Homalco Forestry LP. July 7, 2020;
- 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, BC Government October 30, 2017;
- Letter from the Minister of Forests and Range to the chief forester stating the economic and social objectives of the Crown. July 4, 2006;
- Supporting Documentation for Consultation Report Draft Management Plan #10 and Annual Allowable Cut Determination for TFL 43, BC Government March, 2018;
- Procedures for Factoring Visual Resources into Timber Supply Analysis; Ministry of Forests, March 1998;
- Updated Procedures for Meeting Legal Obligations When Consulting First Nations – Interim; Province of British Columbia; May 7, 2010.