BRITISH COLUMBIA
MINISTRY OF FORESTS

Tree Farm Licence 46

held by Teal Cedar Products Ltd.

Rationale for
Allowable Annual Cut (AAC)
Determination

Effective May 28, 2024

Shane Berg, 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
Guiding principles for AAC determinations 3
The role of the base case 7
Base case for TFL 46 8
Consideration of factors as required by Section 8(8) of the *Forest Act* 9
Land base contributing to timber harvesting 11
- general comments 11
- existing and future roads 11
- community watersheds 11
- fisheries sensitive watersheds 12
- riparian areas 13
- wildlife tree retention areas 13
- cultural heritage resources 14
- recreation areas 15
- minimum harvest criteria 15
Integrated resource management objectives 16
- higher level plans 16
- forest landscape plans 17
- maximum cutblock size and adjacency 18
- scenic areas and visual resources 18
- old growth management areas 19
- old growth deferrals 20
- species at risk and regionally important wildlife 22
- ungulate winter range 25
Other information 26
- First Nations 26
- cumulative effects 29
- climate change 30
- harvest performance 33
- *unharvested volume* 33

- dead potential volume....34
- public review....35
- alternative harvest projections....35
Reasons for Decision....36
Determination....37
Implementation....38
Appendix 1: Section 8 of the *Forest Act*....40
Appendix 2: Section 4 of the *Ministry of Forests and Range Act*....44
Appendix 3: Minister's letter of November 24, 2021....45
Appendix 4: Information sources used in the AAC determination....47

List of Tables

Table 1. List of factors accepted as modelled....10

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) 46. This document also identifies where new or better information is needed for incorporation in future determinations.

Acknowledgement

For the preparation of the information, I have considered in this determination, I am indebted to Teal Cedar Products Ltd., Ecora Engineering and Resource Group Ltd., and Ministry staff of the South Island District and Forest Analysis and Inventory Branch. I am also grateful to Pacheedaht First Nation who provided a thorough review of the TFL 46 Draft Management Plan, and the First Nations and many members of the public who have taken the time to provide feedback on related documents.

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

Tree Farm Licence 46, which is held by Teal Cedar Products Ltd. ("the licensee"), occupies a total area of 59 432 hectares, and is located mainly on the West Coast of Vancouver Island between the San Juan River in the south and Nitinat River and Cowichan Lake in the west and north.

Most of the TFL areas are in watersheds with rivers running westward toward the west coast of Vancouver Island. The terrain varies from flat, alluvial river valleys to steep, rugged, and rocky terrain. In contrast, areas of TFL 46 located in the Cowichan Valley drain eastward and the terrain is gentler. The maximum elevation within the TFL is approximately 1200 metres, with many of the mountain ridges attaining elevations of 800 metres.

The climate of most of the TFL is temperate and rainy. The average annual precipitation is about 380 centimetres. Snowfall ranges from minimal amounts at lower elevations to 100 centimetres at higher elevations. The average temperature ranges between -8°C and 27°C, with an annual average of 10°C.

The combination of topography, soils, and climate has resulted in a full range of growing sites for coniferous tree species, with most stands situated on medium quality sites.

The two biogeoclimatic ecosystem classification (BEC) zones that occur in TFL 46 are Coastal Western Hemlock (CWH) and Mountain Hemlock (MH). Most of the timber harvesting land base (THLB) (98 percent) falls within the CWH zone. Tree species on the TFL include western hemlock, western redcedar, balsam, Douglas-fir, yellow-cedar, and spruce, with minor volumes of pine, bigleaf maple and alder. Most of the THLB consists of stands dominated by Douglas-fir or hemlock. Cedar, balsam and deciduous-leading stands account for just under 20 percent of the productive forest land in the TFL.

TFL 46 has the distinction of encompassing the world renowned "Fairy Creek" Watershed. The entire Fairy Creek Watershed, which occupies a total area of 1184 hectares, is within the Fairy Creek Designated Area No. 1. All timber harvesting and road development within this designated area is currently suspended, through a Ministerial Order (MO), until February 1, 2025. Fairy Creek makes up just under two percent of the TFL area.

The South Island District ("the district") administers the TFL from Port Alberni within the West Coast Region.

History of the AAC

The Teal-Jones Group acquired the harvesting rights to the public land portion of TFL 46 in 2004. The TFL is currently held by Teal Cedar Products Ltd. On May 24, 2011, the chief forester set the AAC at 403 000 cubic metres. The AAC was subsequently reduced by 21 991 cubic metres on May 14, 2012, by Ministerial Order #3(4)(b)21/23-1 under the authority of the *Forestry Revitalization Act* to account for the removal of the Hill 60 block from the TFL. This resulted in an effective AAC of 381 009 cubic metres.

On June 9, 2021, the Minister of Forests, Lands, Natural Resource Operations and Rural Development issued two ministerial orders under Section 170(2) of the *Forest Act*. Ministerial Order (MO) M232 suspended old forest harvesting in the Central Walbran Valley portion of Old Growth Designated Area No. 1 and MO M233 suspended old forest harvesting in the Fairy Creek Watershed Designated Area No 1.

On June 16, 2022, in accordance with Part 13 of the *Forest Act*, I issued a Section 173(2) Order temporarily reducing the AAC of TFL 46 by 2910 cubic meters and 2657 cubic metres to account for the suspension of old forest harvesting in the Central Walbran Valley and Fairy Creek Watershed, respectively. This order remained in effect until the respective ministerial orders M233 and M232 expired or were replaced.

A more detailed discussion of the Part 13 orders is presented in this document under '*old growth deferrals*'.

New AAC determination

Effective May 28, 2024, the new AAC for TFL 46 will be 360 000 cubic metres.

In making this determination, I specify, under Section 8(5)(a) of the *Forest Act*, the following AAC partitions:

- A maximum of 180 000 cubic metres attributed to old forest (greater than 250 years in age); and
- a maximum harvest of 180 000 cubic metres attributed to not old forest (250 years of age or younger).

The new AAC is approximately 5.5 percent lower than the AAC in place prior to this determination. It 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 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.

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 substantial 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 ("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 the *Professional Governance 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 with respect to subsequent allocation of timber supply.

These guiding principles establish a framework for AAC decision-making with consideration to the following: advancing reconciliation with Indigenous people; responding to uncertainties; the incorporation of forest landscape planning information (including any legal orders associated with forest management), cumulative effects, and climate change.

Reconciliation with Indigenous people

The Government of BC has committed to true and lasting reconciliation with Indigenous people. The *Declaration on the Rights of Indigenous Peoples Act* of 2019 (the '*Declaration Act*') creates the path forward for aligning provincial laws with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Recognizing that reconciliation and changes to policies, programs, and legislation take time, any interim processes undertaken for AAC determinations should be responsive to the information and issues raised by Indigenous people to the extent possible within the existing legislative framework for AAC determinations. Interim collaborative engagement processes will seek to move beyond the legal duty to consult, align with relevant agreements between First Nations and the Province (including commitments regarding stewardship or resource management), promote capacity building within Indigenous communities, and provide a clear and transparent understanding of the decision-making process.

Where the nature, scope and geographic extent of Aboriginal rights and title have not been established, the Province has a constitutional obligation to consult with First Nations in a

manner proportional to the strength of any claimed Aboriginal rights (including title) and the degree to which they may be affected by the decision. The Province also has an obligation to consult with First Nations regarding their treaty rights. In this regard, when making an AAC determination I will give consideration to the following information:

(i) information provided to First Nations to explain the timber supply review process and analysis results;

(ii) information, including Indigenous Knowledge, brought forward through consultation or a collaborative engagement process with respect to Aboriginal Interests, and how these interests may be impacted by an AAC decision;

(iii) any strategic level plans, operational plans, or management information that describe how Aboriginal Interests are addressed through specific actions and forest practices;

(iv) existing relevant agreements and policies between First Nations and the Province; and,

(v) other information regarding the potential impact of an AAC decision on the ability of Indigenous communities to meaningful exercise of Section 35 rights as recognized in the *Constitution Act* (1982), such as information about cumulative effects.

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 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 provincial timber. Consequently, it does not contribute to the AAC of the management unit 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 timber supply, 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. However, where there is clear intent by government to recognize lands as title land that are yet to be finalized, I will consider information that is relevant to the decision in a manner that is appropriate to the circumstances. The requirement for regular AAC reviews will ensure that future determinations address ongoing changes to the land base.

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. The following are two ways of addressing they uncertainty of information available to support an AAC determination:

(i) undertaking analyses to evaluate the significance of uncertainties associated with available information and assessing the social, economic, and environmental risks associated with a range of possible decisions; 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 several 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 that (as closely as possible) 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 timber harvesting land base (THLB) and are not considered to contribute 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.

Where appropriate, the chief forester will consider information 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 an alternative strategy for dealing with information uncertainty is to generally reduce AACs in the interest of caution. On its own, this precautionary approach is not a complete framework for decision making to address uncertainty. It is one tool that could be used to address the risk of serious harms in situations of deep uncertainty or significant deficiencies in information. However, the precautionary approach does not consider the full spectrum of values or extensive range of research and information utilized by the chief forester. For these reasons, AAC determinations more appropriately follow a decision process utilizing analyses of current land and management practices and the exploration of the potential effects of uncertainties, rather than relying on an overriding precautionary approach.

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, can assist me in evaluating this uncertainty.

Forest landscape planning

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 a sustainable timber supply.

AAC determinations will be made in the context of new forest landscape plans and legal orders that establish forest management expectations. These plans and orders direct forestry activities and guide the stewardship of BC's public land and resources, have been established with an understanding of the relationships among the various components of forest management systems, and follow deliberative processes and laws designed to achieve a balance of natural resources values and benefits.

As is the case for land use and management planning in general, it is beyond my statutory authority to speculate on final outcomes where there are preliminary but not yet finalized and

formalized land use zones or management objectives. 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.

In some cases, even when government has made a formal land-use decision, it is not necessarily possible to fully analyze and immediately account for the consequent timber supply impacts in an AAC determination. Many of government's land-use decisions must be followed by detailed implementation decisions requiring, for instance, further planning or legislated designations such as those provided for under the *Land Act* and *Forest and Range Practices Act* (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 AAC 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.

Cumulative effects

Cumulative effects (CE) are changes to environmental, social and economic values caused by the combined effect of past, present and potential future human activities and natural processes. In the context of AAC determinations, I am aware of the mandate provided by the Minister of Forests (FOR) which tells me to ensure that my AAC determinations continue to incorporate the best available information on the CE of multiple activities on the land base. Where the CE of timber harvesting and other land-based activities indicate a risk to natural resource values, my determinations should identify those risks for consideration in land-use planning. I am also asked to consider ways in which my AAC determinations could encourage actions or practices to mitigate risks to natural resource values.

Section 8 of the *Forest Act* only authorizes the chief forester 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 refer to those responsible for such planning.

Where a cumulative effects assessment has suggested that an important value is at risk and that a reduced harvest level or implementation of an AAC partition could help to reduce that risk, I will appropriately factor these into my AAC determination. I may also identify actions or implementation instructions that would mitigate risk or accommodate potential impacts to Aboriginal Interests. In this case, I will include expectations that Ministry staff work with relevant interests to address the issues identified and encourage forest licensees to follow the recommendations of CE assessments.

As with all management issues, additional information and any changes can be incorporated into subsequent AAC determinations.

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. 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 substantiated predictions 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 are 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 and the use of partitions in my AAC decisions could provide buffers against uncertainty. The appropriate mix of timber supply management approaches is ultimately a social decision.

Due to the uncertainty surrounding impacts on the AAC from climate change, it is important to encourage dialogue to develop climate change mitigation and adaption strategies and remain open to new opportunities for forest management. 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. The timber supply analysis is a useful tool to determine the potential changes to the frequency, intensity, and scope of natural disturbances under climate change; and for exploring options and trade-offs. Any management decisions about the appropriate approach and associated practices will be incorporated into future AAC determinations. The requirement for regular AAC reviews will ensure continuous improvement of the information and knowledge on climate change and ensure the development of a responsive decision-making process to emerging natural resources issues.

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 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" 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 the base case represents only one in a number of theoretical projections, and because it incorporates information about which there may be some uncertainty, the base case 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 projections 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 46

The timber supply analysis was conducted by Ecora Engineering and Resource Group Ltd. on behalf of the licensee using Patchworks. Patchworks is a spatially-explicit optimization model approved for use in timber supply reviews by Forest Analysis and Inventory Branch (FAIB). Optimization models are designed to find the best computational solution under the rules imposed during the model set up.

Based on the review by FAIB staff, as well as my own experience reviewing results from this and similar models, I am satisfied that the Patchworks model can provide an appropriate projection of timber supply for this determination.

There have been no major changes in forest practices since the last timber supply analysis for TFL 46.

No predefined harvest target was set in the model for the base case. However, the model was required to maintain an even-harvest flow throughout the 250-year analysis horizon. The model was also required to achieve a stable average annual harvest area for the last 125 years of the projection and a stable THLB growing stock for the last 50 years of the projection. In addition, old growth harvesting in the model was not allowed to exceed 180 000 cubic metres per year and individual harvest openings were not allowed to exceed 40 hectares.

The inventory used in the timber supply analysis was updated for depletions until the end of 2019; growth has been projected to the same date. The base case begins in 2020.

The base case initial harvest level of 381 800 cubic metres per year is slightly higher than the current effective AAC of 381 009 cubic metres per year. After 10 years the projected harvest level decreases slightly to 379 500 cubic metres per year. This level is maintained for 15 years before decreasing to a long-term harvest level of 354 300 cubic metres per year. The base case is net of non-recoverable losses.

The Pacheedaht First Nation commented that the licensee's management plan is focused on maximizing volume subject to meeting minimum non-timber requirements and noted this was typical of most management plans in BC. They indicated that Pacheedaht will be

developing its own Integrated Resource Management Plan (IRMP) in the future that aligns with its goals for forest management and protection of certain values, (i.e., cultural, fisheries, water and other non-timber resource values) that may impact the AAC. However, at the present time Pacheedaht accepts the current base case of 381 800 cubic metres per year for the next 10 years.

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(8) of the *Forest Act*

I have reviewed the information for all the factors I am required to consider 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	*forest inventory* *non-forest and non-productive forest* *operability* *terrain stability* *non-commercial tree species* *low volume stands* *low productivity sites* *environmentally sensitive areas* *big tree registry* *volume estimates for natural stands* *volume estimates for managed stands* *site productivity estimates* *operational adjustment factors* *genetic gain*
8(8)(a)(ii) - the expected time that it will take the forest to become re-established on the area following denudation	*regeneration assumptions*
8(8)(a)(iii) - silviculture treatments to be applied to the area	*silvicultural 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	*timber utilization* *decay, waste, and breakage* *deciduous volume*
8(8)(a)(v) Constraints on the amount of timber produced by use of the area for purposes other than timber production	*none*
8(8)(a)(vi) Any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber	*none*
8(8)(d) the economic and social objectives of government, as expressed by the minister, for the area, for the general region and for British Columbia	*none*
8(8)(e) Abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area	*unsalvaged losses*

***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 (THLB) 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 TFL 46 is 59 432 hectares, including land and water. Of the total area, about 96 percent, or 57 239 hectares, is classified as productive forest (i.e., analysis forested land base or AFLB). Reductions to the AFLB to account for areas unsuitable or unavailable for timber harvesting result in a current THLB of 42 622 hectares, or about 72 percent of the total TFL area.

As part of the process used to define the THLB, a series of deductions were 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 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 to account for other factors.

- existing and future roads

Existing roads were correctly accounted for in the base case. In order to estimate the area required for future road development, the portion of the TFL that can be conventionally harvested from the existing road network was identified by applying a 200-metre-wide buffer to both sides of active roads. Using this approach, it was found that 42 596 hectares of the TFL is currently accessible for conventional timber harvesting. The road area required to access this area is 1893 hectares or about 4.4 percent of the roaded-land base.

To develop a similar level of access on the 2865 hectares without existing roads would require an additional 127 hectares of road or about 0.24 percent of the total THLB. Therefore, to account for future roads, a 0.24 percent reduction was applied to Era 2 managed stand yields (stands established after 2019). For this determination, I accept the approach used to account for existing and future roads.

- community watersheds

The Malachan Community Watershed (CW) is the only community watershed in TFL 46. Located to the east of Nitinat Lake and north of the Caycuse River, only a small portion of the CW overlaps TFL 46. In order to account for this area, which according to the licensee's

Forest Stewardship Plan (FSP) is exempt from timber harvesting, a total area of 1.6 hectares was excluded from the THLB.

I have considered the public comments received regarding water and watershed management. These comments included the need to: protect all watersheds, not just CWs, lower the AAC, and use timber harvesting methods that minimize the negative impacts on water supply and fisheries. In addition, respondents also commented: harvesting large tracts of forest is extremely detrimental to waterways, fish, and other aquatic species; the licensee is having to move further upslope to conduct timber harvesting; harvesting at higher elevations will impact water quality, increase flooding and amplify erosion; and the licensee's management plan does not include information regarding any plans to leave watersheds undisturbed.

Based on my review of this information and discussions with staff, I conclude community watersheds were properly accounted for in the base case. According to district staff, the licensee is currently conducting its forestry operations in watersheds in accordance with current requirements. As indicated in '**Implementation**', should forest management activities in the TFL move further upslope, I expect the licensee to ensure it undertakes the appropriate actions to minimize potential impacts on watersheds, including fish and other aquatic species, water quality, and hydrologic function.

- fisheries sensitive watersheds

A significant portion of TFL 46 is within designated Fisheries Sensitive Watersheds (FSW). The licensee's FSP lists the designated FSWs – Hatton Creek, Hemmingsen Creek and Gordon River – and the equivalent clearcut area (ECA) limits for each.

Equivalent clearcut area is assigned at the stand level based on tree height. A newly harvested stand has an ECA of 100 percent while a stand that is at least nine metres tall is assumed to have reached full hydrological recovery and the ECA is zero percent.

The Hatton Creek, Hemmingsen Creek and Gordon River FSWs have maximum allowable ECA values of 42 percent, 25 percent and 30 percent, respectively. In the base case, ECA requirements were modelled as forest cover constraints that limited the amount of forest in each FSW that could be less than nine metres in height. A review of the base case outputs showed ECA constraints are met throughout the forecast period and do not limit the harvest level in the model in any of the three FSWs to which they were applied.

Pacheedaht First Nation commented that the limits on cumulative disturbance were only modeled for the three FSWs and not any additional watersheds and questioned the use of a hydrological stand recovery height of nine metres. They commented that these assumptions could result in a slightly optimistic view of timber supply.

One member of the public asked how the ECA percentages were determined for each of the FSWs and why a nine-metre stand height was used for full hydrologic recovery when current coastal hydrological recovery curves indicate a 36-metre stand height is required for full hydrologic recovery.

Ministry staff indicated that FSWs are established through GAR orders issued under the *Forest and Range Practices Act*. The ECA values for the Hatton Creek, Hemmingsen Creek and Gordon River FSW are specified in the GAR orders, and the nine-metre hydrological recovery height value is consistent with the *Coastal Watershed Assessment Procedure Guidebook*. District staff indicate the licensee's FSP, and management practices reflect current legal requirements.

I agree with Pacheedaht that changes in watershed cumulative disturbance limits and/or changes in hydrologic recovery heights could limit timber availability in the TFL and note that changes in forest management objectives, including those for watershed management, that result from the Pacheedaht IRMP can be incorporated in subsequent timber supply reviews. For this determination, I accept fisheries sensitive watersheds areas were modelled correctly in the base case.

- riparian areas

Riparian areas are transition zones between aquatic areas, such as streams, wetlands and lakes, and drier upland areas. Riparian areas provide habitat for various plant and animal species and provide habitat connectivity.

The Forest Planning and Practices Regulation (FPPR) specifies stream riparian classes based on the presence or absence of fish. The FPPR also specifies the minimum widths for the riparian management area (RMA), riparian reserve zone (RRZ) and riparian management zone (RMZ) for each stream, lake and wetland class. District staff indicate that the licensee's approved FSP and current management are consistent with FPPR requirements.

Timber harvesting is not allowed in RRZs. Timber harvesting is allowed in RMZs, subject to minimum stand retention requirements. To determine the THLB area reduction for riparian areas, a "modelled" RRZ width was derived for each riparian class. The "modelled" RRZ is the sum of, the RRZ buffer width plus the product of the RMZ buffer width and RMZ retention percentage. The retention percentages used in the base case were the minimum values allowed in the FPPR (0 percent to 25 percent). Using this approach, a total of 1778 hectares were excluded from the THLB to account for riparian areas.

Pacheedaht First Nation commented that the retention requirements in the RMZs were modelled to the minimum values allowed under FPPR (0 to 25 percent) and noted that stand retention levels higher than 25 percent may be required to ensure habitat for key plants and wildlife species within riparian zones.

I agree with Pacheedaht that more conservative riparian management objectives could limit timber availability in the TFL and note that changes in forest management objectives, including those for riparian management, that result from the Pacheedaht IRMP can be incorporated in subsequent timber supply reviews. For this determination, I accept riparian areas were modelled correctly in the base case.

- wildlife tree retention areas

The legal requirements for wildlife tree retention are specified in the FPPR. Areas retained to meet retention targets are referred to as wildlife tree retention areas (WTRA).

Existing WTRAs in TFL 46 occupy a total area of 1034 hectares. After accounting for overlaps with areas removed from the THLB to account for other factors, a net area of 520 hectares was excluded from the THLB.

In order to estimate the effect of future WTRAs on timber supply, the wildlife tree retention targets were adjusted to account for the requirements already met by productive forest removed from the THLB to account for other values, such as old growth management areas (OGMAs), riparian reserve zones, ungulate winter ranges and wildlife habitat areas. Stands within unstable and inoperable areas outside the THLB also contribute to wildlife tree retention requirements.

Application of a 250-metre buffer to forested areas not included in the THLB indicates 35 611 hectares or 83.6 percent of the THLB already meets wildlife tree retention targets and no WTRAs are required for these areas. Application of the FPPR wildlife tree retention

targets to the remaining 16.4 percent of the THLB results in a WTRA area requirement of 694 hectares or 1.66 percent of the total THLB. In order to account for future WTRAs, a 1.66 percent reduction was applied to all natural and managed stand yields.

FAIB staff indicate the reductions applied in the base case to account for existing wildlife tree retention are correct. However, the 1.66 percent reduction applied to natural stand yields to account for future WTRA reductions incorrectly distributes the 694 hectares of WTRAs across the entire land base rather than to the mature natural stands, where future WTRAs will be required. The WTRA area requirement of 694 hectares represents approximately 7.7 percent of the mature natural stands which contribute to approximately 60 percent of timber supply over the next two decades for the TFL. Consequently, the base case short-term harvest levels have likely been overestimated by approximately 1.5 percent, and long-term harvest levels have been underestimated by a small, unquantified amount.

I have considered wildlife tree retention information and agree that the approach used by the licensee to account for future wildlife tree retention areas results in a 1.5 percent overestimation of the base case short-term timber supply. I will account for this in my determination as discussed in my '**Reasons for Decision**'. With respect to future timber supply reviews, it is my expectation that the licensee will account for future wildlife tree retention requirements by using area-based THLB adjustments. This instruction is included in '**Implementation**'. Pacheedaht First Nation comments regarding in-block retention are discussed in '*cultural heritage resources*'.

- cultural heritage resources

Archaeological sites, including culturally modified trees that pre-date 1846, are protected under the *Heritage Conservation Act*. Companies and individuals engaged in natural resource extraction or development must take steps to identify any protected archaeological sites that will be directly or indirectly disturbed by operational activities.

The *Forest Act* defines a cultural heritage resource (CHR) to mean "an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an Aboriginal people". Section 10 of the Forest Planning and Practices Regulation requires agreement holders to incorporate specific information with respect to CHRs within their FSPs. The objective of Section 10 is to conserve or protect CHRs that are the focus of a traditional use by an Aboriginal People that is of continuing importance to that people, and not regulated under the *Heritage Conservation Act*.

According to the licensee, CHRs, including culturally modified trees, are accommodated during the operational planning process. Consequently, no additional area was removed from the THLB specifically to account for CHRs.

The Pacheedaht FN indicates that an in-block retention value of 1.66 percent (see '*wildlife tree retention*') assumes CHR requirements are addressed by the THLB reductions used to account for other factors, such as riparian areas or other values. However, in order to account for the greater flexibility operators may need to manage unforeseen issues encountered in the field (e.g., culturally modified trees, burial/midden/spiritual sites), a higher in-block retention could have been considered. In addition, Pacheedaht FN specific objectives may need to be considered in order to design a more balanced management strategy that would continue to provide suitable forest ecosystem services for future generations.

Based on my review of the information provided by district and licensee staff, I conclude the CHR assumptions used in the base case reflect current management practices and I will not adjust the base case on this account.

However, there is a lack of information around how the protection of cultural resources are achieved through operational planning and I expect the licensee to work with Pacheedaht to review its current assumptions regarding in-block retention and to ensure the co-location of CHR sites with areas retained for other factors is sufficient to accommodate Pacheedaht interests. Any changes to in-block retention assumptions are to be incorporated in subsequent timber supply reviews. This instruction is included in '**Implementation**'.

- recreation areas

Several recreation sites, trails and points of interest exist in TFL 46. These include the Avatar Grove hiking trails; the Big Lonely Doug viewing platform; the Harris Creek Spruce; Knob Point; and Lizard Lake. After accounting for overlaps with areas excluded from the THLB to account for other factors, a net area of 135 hectares was removed from the THLB to account for recreation areas.

Big Lonely Doug (Tree #37) and Castle Giant (#51) are in the Big Tree Registry and a one-hectare circular area around each tree is designated areas under Section 169 of the *Forest Act*. In order to account for these designated areas, in which harvesting is not permitted, a total area of two hectares was removed from the THLB. Given the small areas involved, no Section 173 order was issued for these areas.

Public comments regarding recreation resources included: concern about the impact of timber harvesting on recreation resources; a loss of trust that the licensee will manage the remaining recreation resources; the need for an entirely new approach to forestry, which is informed by aesthetic values; and a comment that it is unacceptable that only half a percent of the TFL area is reserved for recreation. Concern was also expressed about the lack of discussion or analysis of special tree protection and the licensee's obligation to report special trees under the Special Tree Protection Regulation.

District staff indicate the licensee's management practices are consistent with legal requirements, including the Special Tree Protection Regulation, and agree with the assumptions used in the base case.

I have reviewed the information provided by the licensee and district staff and conclude recreation resources were correctly modelled in the base case. With respect to the public comments, district staff note the licensee's management of recreational areas is consistent with current legal requirements.

- minimum harvest criteria

Minimum harvest criteria refer to the minimum harvestable age (MHA) or minimum harvestable volume (MHV) a stand must reach before it is eligible for harvest in a timber supply model.

In the base case, MHAs were established for stands in each analysis unit. Stands were eligible for harvest when they achieved a MHV of 300 cubic metres per hectare and were within 90 percent of the culmination of mean annual increment (CMAI). The resultant MHAs ranged between 42 and 156 years.

The minimum harvest criteria of 90 percent CMAI is lower than the 95 percent CMAI value commonly used in timber supply reviews. However, application of the 90 percent CMAI in the base case resulted in an average mid-term harvest volume of 650 cubic metres per hectare or higher and an average harvest age of 80 years or older. These results are consistent with other similar management units.

Two sensitivity analyses were prepared to examine the effect of older MHAs. In the first, increasing the MHA by 10 years decreased the base case initial and long-term harvest levels by 5.2 percent and 4.5 percent, respectively. In the second, increasing the MHA by 20 years decreased the base case initial and long-term harvest levels by 25.5 percent and 13.4 percent, respectively.

Pacheedaht FN commented that the MHAs for most regenerating stands were between 40-62 years because the relatively fast-growing coastal stands met the minimum harvest criteria at relatively young ages. They noted that in a sensitivity analysis increasing the MHAs by 10 years reduced the base case initial harvest level by 25 percent. Consequently, if the TFL 46 management objectives shift from 'maximum volume' to some other objective requiring longer rotations, the AAC will need to be reduced.

FAIB staff note although the harvest criteria applied in the base case resulted in regenerated stands being available for harvest in the model between 40–62 years, most stands are not harvested when they first meet eligibility requirements because the management objectives for other values require the model to maintain older stands. A review of the base case outputs shows that for the first 15 years of the projection the average harvest age is 196 years. For the remainder of the harvest projection, the average age decreases to about 81 years.

Based on my review of the information and discussions with staff, I accept the minimum harvest criteria were correctly applied in the base case. I have considered the comments provided by the Pacheedaht FN and note that although the minimum harvest criteria resulted in analysis unit MHAs in the range of 40–62 years, the average ages harvested in the model were significantly higher. Consequently, management objectives that require longer rotations may have less of an impact on timber supply than in the sensitivity analyses. I am encouraged by Pacheedaht's plans to develop their own IRMP and look forward to its completion so that future TSRs can align with the practices identified in the IRMP.

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.

- higher level plans

The higher level plans that apply to TFL 46 are the Vancouver Island Summary Land Use Plan (VILUP) and the Renfrew Sustainable Resource Management Plan (SRMP).

The VILUP is a regional plan that was recommended by the Commission on Resources and Environment (CORE). CORE was formed in January 1992 to provide the provincial government with independent recommendations on land use and related resource and environmental issues, based on extensive consultation with stakeholders and the general public. The goals of the process were environmental, social and economic.

The VILUP was completed in February 2000 and brought into force by the Vancouver Island Land Use Plan Higher Level Plan Order (VILUP Order) on October 4, 2000. The objectives of the plan were to: establish protected areas; secure the forest land base, specifically the areas available for commercial timber use; recreation and tourism; mining and other sustainable resource-based activities; provide regional biodiversity direction; support food production activities; recognize settlement lands; maintain energy and mining opportunities; address integrated coastal management; and promote community stability.

The VILUP Order established planning zones across Vancouver Island that mandated broad land use designations, including Protected Area Zones and Resource Management Zones. Protected Area Zones were designated to protect viable representative examples of natural diversity, and unique or special recreational and cultural heritage features. Resource Management Zones were designated for natural resource management and are subdivided into three categories: Special Management Zones (SMZ), Enhanced Forestry Zones (EFZ) and General Management Zones (GMZ).

The Resource Management Zones overlapping TFL 46 are the Walbran Periphery (SMZ #21); and the E&N South (GMZ #34), Nitinat (GMZ #45) and Gordon-Caycuse-San Juan (GMZ #46) GMZs. SMZs are areas with management regimes defined for the critical primary resource value(s) found in the individual zone units. SMZs are intended to identify regionally significant values or combinations of values requiring more comprehensive management objectives and strategies to minimize impacts on these values. These areas are managed for a variety of extractive and non-extractive activities, including timber harvesting. GMZs are areas with management regimes based on the principles of integrated resource management and an ecosystem-based approach. GMZs are intended to manage areas with a wide range of resource values including fish, wildlife, recreation, water, tourism, aquaculture, cultural and scenic values.

In addition to Resource Management Zones, the VILUP Order also identified landscape units. Landscape units overlapping TFL 46 are the Caycuse, Gordon, Nitinat, San Juan, Walbran and Cowichan landscape units. Except for the Cowichan landscape unit, all landscape units are included in the Renfrew SRMP Order.

The licensee indicates that it incorporates the VILUP Order and Renfrew SRMP Order requirements in its strategic and operational planning, including its current Forest Stewardship Plan (FSP). District staff support this assertion.

- forest landscape plans

Forest Landscape Plans (FLPs) will replace current FSPs as part of changes to BC's forest management regime, including the *Forest and Range Practices Act*. These plans will identify where and how forest management activities can occur, provide clarity on overlapping direction from strategic plans and land use objectives, address changing conditions in a timely manner, address potential environment impacts from timber harvesting and consider cumulative effects to prepare for possible future forest conditions.

Forest Landscape Plans will be consistent with higher-level strategic planning direction, such as existing Land Use Plans (LUPs), and will include measurable outcomes to support the following objectives: the production and supply of timber; Indigenous interests and values; conservation and protection of the environment; local communities' values; and forest health. FLPs will not set new land use direction, but rather will help to align forest management direction from existing land use plans to the conditions and associated emerging issues specific to the plan area. FLPs may also include recommended planning guidelines to

achieve outcomes associated with each of the plan's objectives. FLPs are intended to be iterative with a term of approximately 10 years.

Forest Landscape Plans are intended to be completed in partnership with First Nations, in collaboration with forest licensees, and with input from stakeholders, local communities, and the public throughout the planning process. Once complete, forest landscape plans will be established by the chief forester in consultation and cooperation with Indigenous communities.

Government has initiated several pilot projects across the province in partnership with First Nations, communities, and the forestry sector. These projects will help inform the development of related regulations and policy for the development of future Forest Landscape Plans.

Public input received during this timber supply review included comments regarding the content of FSPs and the availability of the licensee's draft FSP. District staff reviewing the licensee's draft FSP indicate that it meets current legal requirements and is publicly available on the licensee's website.

- maximum cutblock size and adjacency

The VILUP Order specifies that outside of areas subject to visual quality objectives, no more than 25 percent of the THLB within a landscape unit is allowed to be less than green-up age (i.e., the age at which a stand attains green-up height). Cutblock green-up in SMZs and RMZs is achieved when stands reach three metres in height. In addition to green-up height, cutblocks in the Walbran Periphery SMZ are limited to five hectares in size. For the remainder of the TFL, the maximum cutblock size is 40 hectares. These requirements were applied as constraints in the analysis.

The Pacheedaht First Nation commented that coastal stands reach heights of up to three metres in less than five years and that the objectives used in the timber supply analysis would likely allow the entire THLB to be younger than 30-40 years at the same time. Thus, the green-up and adjacency objectives would be non-binding in the model for minimum harvest ages older than 40 years. Operational objectives such as minimum and maximum cutblock size (as detailed in the draft FSP) and financial indicators for stand value and costs were not considered in the draft MP. Such objectives are known to reduce harvest rates by 2 to 10 percent.

FAIB staff reviewing the timber supply analysis found the model is harvesting stands at 80 years of age throughout the base case projection. District staff indicate the licensee is meeting the legal requirements for cutblock adjacency and green-up requirements in the TFL.

Based on my review of the information provided by the licensee and Ministry staff, I conclude cutblock adjacency and green-up requirements are consistent with current management and were correctly modelled in the base case. Implementation of the new Forest Landscape Plans, currently being piloted in BC, should provide opportunities to review the proposed distribution of future harvesting to avoid the concerns highlighted by the Pacheedaht First Nation.

- scenic areas and visual resources

The visual quality objectives (VQO) modelled in the timber supply analysis are "retention", "partial retention" and "modification". The disturbance limits for retention VQOs range from three metres to five metres. The disturbance limits for partial retention VQOs range from 10 metres to 15 metres. The disturbance limits for modification VQOs range from

20 metres to 25 metres. Visual quality objectives were applied in the timber supply analysis as forest cover constraints that limited the rate of disturbance. The visually effective green-up height used in all cases was five metres.

Under the *Forest Practices Code Act*, district managers had the authority to establish scenic areas. The scenic areas originally established on November 13, 1998, were continued under the *Forest and Range Practices Act*. On December 15, 2011, the district manager issued a Government Actions Regulation (GAR) Order establishing visual quality objectives (VQO) for each scenic area in the district, including TFL 46.

In a sensitivity analysis, increasing or decreasing the green-up height by one metre had no effect on short- or long-term harvest levels. However, I note that the green-up height modelled did not consider slope, and the alternative green-up heights applied in the sensitivity analysis did not include the green-up heights necessary to meet visually effective green-up on the steeper slopes that I expect will be encountered when accessing the existing mature stands on the TFL that are important to short-term timber supply. Had these elements been incorporated, the sensitivity analysis would have been more informative.

Five members of the public shared concerns related to visual resources. Comments included: unsightly timber harvesting is negatively impacting tourism, strips of timber left along roadways to obstruct clearcut views are intended to hide poor forest management from the public, and there is a need for an entirely new approach to forestry that is informed by aesthetic values.

Pacheedaht First Nation commented that VQOs were modelled somewhat optimistically by generalizing a maximum five-metre green-up height to all visually sensitive polygons regardless of slope. Visual quality objectives would ideally be applied according to the *Timber Supply Review Bulletin* where visual green-up heights and maximum disturbance vary in each polygon according to average slope and plan-to-perspective ratios.

District staff indicate the licensee's approved FSP and current management practices are consistent with the legal requirements for scenic areas and visual resources.

In order to account for the VQO requirements that were not modelled in the base case, I am accounting for a small, unquantified overestimation of the base case harvest levels, as discussed in '**Reasons for Decision**'. I expect the licensee to adhere to the recommendations in the *Timber Supply Review Bulletin* entitled *Procedures for Factoring Visual Resources into Timber Supply Analyses* by using a range of green-up heights that take into consideration slope and perspective. This instruction is included in '**Implementation**'.

- old growth management areas

The 2004 Order Establishing Provincial Non-Spatial Old Growth Objectives (NSOGO) established the minimum old growth retention requirements by biodiversity emphasis option, natural disturbance type, and biogeoclimatic zone (BEC) variant. The Renfrew Sustainable Resource Management Plan Order (Renfrew SRMP Order) (February 2, 2012) repealed NSOGO objectives for the plan area, which includes the Caycuse, Gordon, Nitinat, San Juan and Walbran Landscape Units. The SRMP Order legally established OGMAs for the landscape units in the plan area, including TFL 46. The total OGMA area in TFL 46 for these landscape units is 5692 hectares. After accounting for overlaps with areas already excluded, a net area of 2670.9 hectares was removed from the THLB.

The Cowichan Landscape Unit is not included in the Renfrew SRMP Order. Consequently, the licensee is obliged to meet the requirements specified in the NSOGO. In order to meet the old-seral stage requirements for this landscape unit, the licensee has identified a total area

of 23.6 hectares as non-legal OGMAs (i.e., not established through a legal order). After accounting for overlaps with areas already removed from the THLB a net area of 19.8 hectares was excluded from the THLB. District staff indicate that although the Cowichan Landscape Unit OGMAs have not been legally established, the licensee has committed to retaining these areas in its FSP and continues to manage these areas as OGMAs.

FAIB staff note that although the legal and non-legal OGMAs were correctly excluded from the THLB, aspatial seral stage targets for the Cowichan Landscape Unit were not applied in the timber supply analysis. However, since only a very small portion of the Cowichan Landscape Unit falls within TFL 46, this omission would not affect the base case. From my review of the OGMA requirements for TFL 46 (specified in the VILUP and Renfrew SRMP Orders, NSOGO, and discussions with staff), I conclude the legal OGMAs were correctly accounted for in the base case. With respect to the non-legal OGMAs in the Cowichan Landscape Unit, district staff indicate the licensee has committed to managing these areas as OGMAs, as evidenced by their FSP commitments and demonstrated performance. On this basis, I conclude the non-legal OGMAs were also modelled correctly in the base case.

- old growth deferrals

In 2019, the Government of BC appointed an independent, two-person, panel as part of an Old Growth Strategic Review to engage the public in a conversation about old growth.

On September 11, 2020, government released the panel's report, *A New Future for Old Forests*, and announced it was embarking on a new, holistic approach to protecting old growth forests. The panel's report included 14 recommendations to inform a new approach to old growth management in British Columbia. An early action of government in response to the recommendations was the establishment of old growth designated areas throughout the province in which old growth harvesting was suspended.

Part 13 Orders – designated areas

Part 13 of the *Forest Act* (Sections 168 to 175) allows government to temporarily suspend forestry authorizations, obligations, and activities on Crown land within a 'designated area' for up to 10 years. The establishment of designated areas and suspension of timber harvesting allows time for government to complete land base decisions (e.g., establishment of protected areas). Section 173(2) of the *Forest Act* stipulates that the chief forester, by written order, may reduce the AAC of a timber supply area (TSA), or a TFL if all or part of the TSA or TFL includes a designated area. In doing so, the chief forester may specify portions of the reduction that are attributable to different types of timber and terrain in different parts of Crown land within the designated area. AAC reductions under Part 13 of the *Forest Act* serve two purposes. They minimize the risk of an over concentration of harvesting in stands outside of the suspended harvest area, which could happen if the full AAC were harvested from these areas, and they ensure the required temporary adjustments are made in a timely manner.

On September 11, 2020, the Lieutenant Governor In Council ("Cabinet") issued an order establishing Old Growth Designated Area No. 1 under Section 169 of the *Forest Act.* One of the ten parcels included in this designated area is the Central Walbran Valley which is located in TFL 46. On June 9, 2021, Cabinet issued an order establishing Fairy Creek Watershed Designated Area No. 1, which also overlaps TFL 46. Also on June 9, 2021, the Minister of Forests, Lands, Natural Resource Operations and Rural Development issued two ministerial orders under Section 170(2) of the *Forest Act.* Ministerial Order (MO) M232 suspended old forest harvesting in the Central Walbran Valley portion of Old Growth

Designated Area No. 1 and MO M233 suspended old forest harvesting in the Fairy Creek Watershed Designated Area No 1.

On June 16, 2022, in accordance with Part 13 of the *Forest Act*, I issued a Section 173(2) Order temporarily reducing the AAC of TFL 46 by 2910 cubic meters and 2657 cubic metres to account for the suspension of old forest harvesting in the Central Walbran Valley and Fairy Creek Watershed, respectively. This order remained in effect until the respective ministerial orders M232 and M233 expired or were replaced.

In July 2022, MO M232 suspending old forest harvesting in the Central Walbran Valley was replaced with a new order that extended the suspension to March 1, 2024. On March 1, 2024, the designated area was extended to September 30, 2026, and the MO was replaced with an order extending to September 30, 2026.

In June 2023, at the request of the elected leadership of the Pacheedaht First Nation, the Fairy Creek Watershed Designated Area No 1. was extended to February 1, 2025, and the MO suspending harvesting was also extended. These extensions provide more time for the Province and Pacheedaht First Nation to continue collaboration on long-term forest ecosystem management, including the management of old growth forests, in the Fairy Creek Watershed, all of which is located within Pacheedaht territory.

In accordance with Part 13, I will be issuing an order that reduces the AAC of TFL 46 to account for the suspension of harvesting in the Central Walbran portion of Old Growth Designated Area No.1 and Fairy Creek Watershed Designated Area No. 1.

It is important to note that although AACs are adjusted to account for the deferral of harvesting in designated areas, the land base used in the determination of the AAC includes designated areas.

Fairy Creek

The entire Fairy Creek Watershed, which occupies a total area of 1184 hectares, is within the Fairy Creek Designated Area No. 1, in which all timber harvesting and road development is suspended until February 1, 2025. There are currently no active cutting permits within the Fairy Creek Watershed.

Most of the Fairy Creek Watershed is in TFL 46 (1022 hectares). Of this area, 862 hectares (84.3 percent) are classified as old growth. Of the total area, 473 hectares (46.3 percent) contribute to the THLB. Within the THLB, 387 hectares is old growth (37.9 percent).

The remainder of the Fairy Creek Watershed, 158 hectares is part of the Community Forest Agreement K5U held by the Cowichan Lake Community Forest Co-operative and the Pacheedaht First Nation, and four hectares is within a road right of way.

Old growth forest within the Fairy Creek watershed represents approximately 1.1 percent of the THLB of TFL 46. I recognize this area is of paramount importance to First Nations and the public both within BC, and globally. Over the past two years, I am mindful of the events that have transpired regarding Fairy Creek and BC's coastal forests.

As discussed above, as the time of this determination I will issue a new Section 173(2) order reducing the AAC for TFL 46 until such time as the Fairy Creek Watershed is no longer a designated area under Part 13 of the *Forest Act*. I anticipate that that the management of old growth forests in Fairy Creek Watershed will be reviewed during the term of this AAC, and if required for the stewardship of forests in TFL 46, I am prepared to revisit this AAC determination earlier than the 10 years specified in Section 8.

old growth deferral areas

In June 2021, the government of BC convened an independent Old Growth Technical Advisory Panel (TAP) to identify at-risk old growth ecosystems and prioritize areas for temporary deferral from logging. The TAP identified 2.6 million hectares of BC's most at-risk old growth forests as priority deferral areas. The area identified included big-treed old growth (2.2 million hectares), ancient forest (400 000 hectares) and remnant old ecosystems (500 000 hectares). A forest stand identified as priority old growth forest may meet more than one of these criteria.

Currently, the provincial government and First Nations are working together in a collaborative process to determine the status of deferral areas. Support for these areas has been mixed. The extent and location of supported deferrals is confidential due to ongoing discussions with First Nations. It recognized that the voluntary avoidance of supported deferral areas can potentially impact timber supply by redirecting harvest activity to non-deferral areas.

As no harvesting is currently occurring within the supported deferral areas within TFL 46, my AAC determination must reflect this operational reality. The BC Government has indicated that supported deferrals will remain in place until a long-term forest management approach is implemented. This includes local discussions on long-term management for old growth values, which will be concluded through initiatives such as Land Use Plans, Forest Landscape Plans, and Integrated Resource Management Plans.

As discussed earlier, the base case limited old growth harvesting to a maximum of 180 000 cubic metres annually, approximately 47 percent of the initial harvest level. Sensitivity analysis demonstrated that if the contribution from old growth stands were significantly lower than this amount, there is an insufficient volume in managed stand to sustain the harvest at the base case level.

Until a long-term forest management approach regarding old growth is finalized, my AAC determination should guard against any increased pressure on old growth forest in the interim. For this reason, I am implementing two AAC partitions with a maximum limit on the harvest of old forest (greater than 250 years of age) and not old forest (250 years of age and younger) as indicated in my '**Reasons for Decision**'.

Public input – old growth

One hundred and thirty members of the public responded that they were concerned with the harvesting of old forests. Concerns related to old growth include: the definition of old growth stands, the amount of old growth removed from the THLB, the co-location of OGMAs with areas removed from the THLB to account for other values, the non-timber values associated with old forests, and the information provided in the licensee's draft MP.

As indicated in '*public input*' I have reviewed all the comments and concerns received during the public engagement process and any responses provided by the licensee or Ministry staff, including the concerns summarized above. For those factors where public input indicates contention regarding the information used, modelling, or some other aspect under consideration, I have provided an explanation of how I considered the essential issues raised and reasoning that led to my conclusions under the relevant sections of this document.

- species at risk and regionally important wildlife

Species at risk and regionally important wildlife are classified as Identified Wildlife under the Provincial Identified Wildlife Management Strategy (IWMS). The IWMS, administered through the Ministry of Environment, provides the direction, policy, procedures, and

guidelines for managing Identified Wildlife through the establishment of wildlife habitat areas (WHA) and the implementation of general wildlife measures (GWM) and wildlife habitat area objectives or through other management practices specified in strategic- or landscape-level plans. Wildlife habitat areas and GWMs are established by Ministerial Order under the Government Actions Regulation (GAR), *Forest and Range Practices Act.* The chief forester does not have the legal authority to establish WHAs and GWMs.

The most extensive WHAs on TFL 46 are for marbled murrelet (MAMU). In addition to marbled murrelet WHAs, two WHAs have been established; one for Scouler's corydalis (a provincially blue-listed perennial herb), and one for goshawk. In total, WHAs occupy 1888 hectares of productive forest land. After accounting for overlaps with areas already excluded from the THLB, a net area of 186 hectares was removed from the THLB to account for WHAs.

Marbled murrelet

Currently established MAMU WHAs in TFL 46 occupy 1631 hectares of productive forest land. Although the MAMU WHA total area is 1631 hectares, most of this area overlaps with areas already removed from the THLB to account for other factors, primarily old growth management areas. Consequently, after accounting for the overlap areas the net MAMU WHA removed from the THLB was 4.4 hectares.

In February 2018, the Province announced its intentions for further protection of MAMU, which will increase protected areas over the next several years. Although the distribution of these new protected areas has yet to be determined the expected impact on TFL 46 within the East Vancouver Island MAMU Conservation Region is a THLB reduction of 52.1 hectares or 0.012 percent.

In addition to this area, approximately 500 hectares of MAMU suitable nesting habitat area currently outside of protected areas will need to be maintained in TFL 46 in the West and North Vancouver Island MAMU Conservation Regions. Some of this requirement will be met by stands outside of the THLB.

On November 19, 2021, government issued the *Order for the Recovery of Marbled Murrelet (Brachyramphus marmoratus) in British Columbia*, under the *Land Act.* The purpose of the order is to ensure the availability of suitable MAMU habitat in the West and North Vancouver Island and Southern Mainland Coast Conservation Regions, and all remaining MAMU habitat in the East Vancouver Island Conservation Region. As a result of this order, the TFL 46 THLB has decreased by 153 hectares or 0.04 percent. This area was not accounted for in the timber supply analysis.

One hundred and fourteen members of the public expressed concerns for MAMU and MAMU habitat. Many of the comments surrounding Species at Risk and protection of wildlife habitat in general. Comments include:

- The forests of southwest Vancouver Island support one of the largest aggregations of nesting MAMU in BC and this is not being adequately considered in the TFL 46 Management Plan (MP).
- Disappointment that logging is planned for Granite and Fairy Creek which contain MAMU habitat.
- Timber harvesting continued in TFL 46 after biologists confirmed more than 100 MAMU in the Granite and Fairy Creek watersheds in July 2021.

- Only 4.4 hectares of THLB is removed for MAMU habitat, why was the remaining 1627 hectares of habitat left within the THLB. MAMU WHAs overlap almost entirely with OGMAs. The licensee is adding little or no additional nesting habitat beyond what is legally required for OGMAs.
- The licensee is destroying MAMU habitat.
- The MP does not address MAMU monitoring or investigation.
- The MP does not address the 2014 and 2021 MAMU Recovery Strategies which calls for the retention of at least 68 percent of the 2002 MAMU population on west and north Vancouver Island by retention of nesting habitat.
- The MP does not comply with the *Migratory Bird Convention Act*, *Species at Risk Act*, or the Recovery Strategies for the MAMU and the Canada-BC Agreement on Species at Risk.
- Concern that there are no references to published studies, evidence of local populations, or the goals of the MAMU Recovery Strategy.
- Concern that there is specific management offered for Northern Goshawk but not for MAMU.
- When will the public be given the opportunity to review a ground verified plan of critical MAMU habitat in TFL 46.
- Concern for species at risk that are old growth dependent such as Western Screech Owl, Old growth Specklebelly Lichen, Olive-sided Flycatcher, Common Nighthawk, Ban-tailed Pigeon, Peregrin Falcon, Roosevelt Elk, and Red-legged Frog.
- Concern for Provincial S2S3 species that are old growth dependent such as Lettuce Lichen and Largeflower Fairybells.

I have reviewed all the comments and concerns received during the public engagement process, as well as the responses provided by the licensee or Ministry staff. They include the concerns summarized above. For those factors where public input indicates contention regarding the information used, modelling, or some other aspect under consideration, I have provided an explanation of how I considered the essential issues raised and reasoning that led to my conclusions under the relevant sections of this document.

Scouler's cordydalis

No timber harvesting is permitted in the Scouler's Cordydalis WHA, which occupies a total area of 24.8 hectares. After accounting for overlaps with areas previously excluded areas, a net area of 19.6 hectares was excluded from the THLB.

Goshawk

Harvesting is prohibited in the 'nesting' and 'post-fledging' portions of the goshawk WHA, which occupies a total area of 232 hectares of productive forest. After accounting for overlaps with areas excluded from the THLB to account for other factors, a net area of 162 hectares was removed from THLB.

Forest cover constraints were applied in the base case to account for the 'foraging' portions of the goshawk WHA. Harvesting is permitted, provided no more than 20 percent of the area is less than 20 years of age; and at least 60 percent of the area is older than 50 years of age.

In addition to the established goshawk WHA, other possible goshawk breeding areas have been identified at Wolf Creek, Loup Creek and Gordon River. Goshawk WHAs in these areas are being drafted. District staff indicate the licensee is not harvesting in these areas.

A sensitivity analysis was conducted to examine the impact of excluding the proposed goshawk WHAs from the THLB. It decreased the harvest levels of the first and second decades by 1.3 percent and 3 percent below the base case levels, respectively. The long-term harvest level was 1.5 percent lower than in the base case. The licensee noted that if only two of the proposed goshawk WHAs are established, the sensitivity analysis would significantly overstate the effects on timber supply.

Based on my review of the information and discussions with staff, I conclude the existing WHAs for MAMU, Scouler's cordydalis and goshawk were modelled correctly in the base case. However, the new MAMU protected areas established under the 2021 MAMU Order were not accounted for, resulting in a 0.04 percent THLB overestimation, which would have little, if any, effect on the TFL 46 timber supply. Consequently, I will not adjust the base case on this account.

With respect to the proposed Wolf Creek, Loup Creek and Gordon River goshawk WHAs, I note the GAR orders establishing these areas as WHAs are yet to be finalized.

In keeping with my '*Guiding principles for AAC determinations*', I will not speculate on land use decisions that have yet to be made by government. Once government has established the Wolf Creek, Loup Creek and Gordon River goshawk WHAs, and the proposed new MAMU protected areas, through the issuance of legal orders they will be accounted for in subsequent AAC determinations under Section 8 of the *Forest Act*. If necessary to ensure forest stewardship, the AAC can redetermined sooner than the 10 years required by legislation. If areas are excluded from TFL 46 to establish new protected area, the TFL 46 AAC can be reduced under the AAC Administration Regulation. Once new goshawk and/or MAMU requirements are established for TFL 46, I expect FAIB, district and licensee staff to assess any potential timber supply impacts and report this information to me for consideration. This instruction is included '**Implementation**'.

- ungulate winter range

Ungulate winter ranges (UWR) are established through the issuance of Government Actions Regulation (GAR) orders to provide habitat for identified wildlife species that are at risk or regional importance. These orders include objectives that may limit or prevent timber harvesting.

Ungulate winter range areas were established on TFL 46 to provide winter habitat for black-tailed deer and Roosevelt elk. The total UWR area overlapping TFL 46 is 1214 hectares, of which 1211 hectares are productive forest. After accounting for overlaps with areas already excluded from the THLB, a net area of 287 hectares was removed from the THLB to account for UWRs.

I have considered the UWR information and conclude this factor was modelled correctly in the base case.

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. 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.

Nine First Nations have consultative areas that overlap with TFL 46: Cowichan Tribes, Ditidaht First Nation, Halalt First Nation, Lyackson First Nation, Pacheedaht First Nation, Penelakut Tribe, Stz'uminus First Nation, Ts'uubaa-asatx First Nation (Lake Cowichan First Nation), and Snuneymuxw First Nation.

Consultation with these First Nations is consistent with the signed agreements held by the affected First Nations and the *Updated Procedures for Meeting Legal Obligations When Consulting First Nations and Haida Principles*. All First Nations were consulted at level 5, except for the Snueymuxw First Nation who were consulted at the "Normal" level.

As per recent case law and current government direction, a review of available information for the First Nations was conducted 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. A general review of available information was conducted for each First Nation. The information reviewed included the available ethno-historic reports, traditional use studies, archaeological records, wildlife assessments and notes from related consultation processes. The initial level of consultation was derived by the Ministry based on this information, the degree of overlap with the TFL, or on the levels specified in the relevant agreements.

The review of information suggests that the First Nations associated with TFL 46 have exercised their Aboriginal Interests within their asserted traditional territory and could likely support an Aboriginal Rights claim in any portion of those areas regarding hunting, fishing, use of wood for both domestic and ceremonial purposes, and gathering. The practice of some of these activities is ongoing.

Cowichan Tribes, Halalt, Lyackson, Penelakut, Stz'uminus and Ts'ubaa-asatx First Nations

These six First Nations have adopted the Hul'quim'num Treaty Group boundary as their territorial boundary. As a result, they all overlap the same area of TFL 46. Although Stz'uminus First Nation is no longer a member of the Hul'quim'num Treaty Group they continue to adopt their boundary. The area of overlap with TFL 46 is 6358 hectares or 10.7 percent of the TFL area and 1.14 percent of Hul'quim'num Treaty Group Core Territory area.

Cowichan Tribes and Ts'uubaa-asatx First Nation are assessed to have a moderate to strong *prima facie* claim to Aboriginal rights over much of the overlap area and a weak *prima facie* claim to Aboriginal title over the entire overlap area. The other four First Nations are assessed to have weak *prima facie* claims to Aboriginal rights and title for the overlap area. All six First Nations have active FCRSAs with the Province.

Ditidaht First Nation

TFL 46 overlaps a large area of Ditidaht First Nation (Ditidaht) traditional territory. Ditidaht is assessed as having a *prima facie* claim to Aboriginal Rights and Title that ranges from weak to strong within the overlap area. Ditidaht has entered into an FCRSA with the Province. Consultation on the *Draft TFL 46 Management Plan and Timber Supply Review* was undertaken at level 5 with multiple 60-day consultation periods. Ditidaht requested and received capacity funding from FAIB for review of both the management plan and timber supply review. No comments were received on the management plan or timber supply review.

Ditidaht holds replaceable Forest Licences A94282 and A940005 within TFL 46, which have licence AACs of 6578 cubic metres and 7000 cubic metres, respectively.

Ditidaht and the Province are in Stage 5 Final Treaty Negotiations. Ditidaht, in conjunction with Pacheedaht, entered into an Agreement in Principle (AIP) with Canada and the Province in 2019. The AIP identifies areas of land that will be transferred to Ditidaht on the effective date. None of the AIP parcels are within TFL 46. Ditidaht and the Province are negotiating an Integrated Landscape Planning process, which includes a comprehensive land use plan and cumulative impacts assessment over 25 percent of Ditidaht's exclusive territory.

Pacheedaht First Nation

TFL 46 overlaps a large area within the Pacheedaht First Nation (Pacheedaht) territory. Pacheedaht is assessed as having a *prima facie* claim to Aboriginal Rights and Title that ranges from weak to strong within the TFL 46 overlap area. Pacheedaht has an FCRSA with the Province. Consultation on the *TFL 46 draft Management Plan and Timber Supply Review* was undertaken with Pacheedaht at Level 5 with multiple 60-day consultation periods, in accordance with the FCRSA.

Pacheedaht and the Province are in Stage 5 Final Treaty Negotiations. Pacheedaht, in conjunction with Ditidaht, entered into an Agreement in Principle (AIP) with Canada and the Province in 2019. The AIP identifies areas of land that will be transferred to Pacheedaht on an effective date that has yet to be determined. Of the area identified in the AIP, only the Lizard Lake Recreation Site, which has a total area of 181 hectares, overlaps with TFL 46. This area was removed from the THLB.

Pacheedaht and the Province are negotiating an Integrated Landscape Planning process that includes a comprehensive land use plan and cumulative effects assessment.

Pacheedaht requested, and received, capacity funding from FAIB for the review of the *Draft TFL 46 Management Plan and Timber Supply Review* and provided comments on both.

Snuneymuxw First Nation

Snuneymuxw First Nation is a Douglas Treaty First Nation that has entered into a renewed Reconciliation Agreement with the Province on September 20, 2020. The Reconciliation Agreement does not specifically provide a consultation protocol. Snuneymuxw consultation is conducted in accordance with *Haida* principles.

Snuneymuxw announced the expansion of their territory in August 2021 that includes a small area within TFL 46 at Tuck Lake on the northern side of Cowichan Lake. Given the date of the territorial expansion, Snuneymuxw was not consulted until the *TFL 46 Management Plan and Timber Supply Review Analysis Report* stage because TFL 46 was not within their territorial boundary at that time. No comments were received on the management plan or timber supply review.

Consultation process

District staff led the consultation process for the TFL 46 timber supply review process. Initial engagement letters providing an overview of the referral phases and estimated timelines were sent to all First Nations on December 17, 2019. No responses were received.

The licensee shared the *TFL 46 Information Package* with First Nations, the Ministry of Forests and the public. Formal consultation letters regarding the *Information Package* were sent by district staff to all First Nations on September 4, 2020, with a request for a response within 60 days. No responses were received.

The licensee shared the *TFL 46 draft Management Plan and Timber Supply Review Analysis Report*. A formal consultation letters regarding the *Management Plan* and *Timber Supply Analysis Report* were sent by district staff to all First Nations on December 20, 2021.

The district extended the consultation period for the Ditidaht and Pacheedaht First Nations on March 1, 2022, in recognition that they had just received review funding. The consultation period was extended from March 4, 2022, to May 31, 2022.

On May 27, 2022, FAIB contacted Pacheedaht offering to provide further information and an explanation of the TSR process.

At the request of the Pacheedaht First Nation, the district extended the consultation period to June 14, 2022.

June 23, 2022, the district contacted Pacheedaht inquiring whether they still intended to provide comments.

Forsite Consulting Limited (Forsite), working on behalf of Pacheedaht, completed a review of the *TFL 46 draft Management Plan and Timber Supply Review Analysis Report* on June 10, 2022. Pacheedaht submitted their comments, including the report prepared by Forsite on June 27, 2022.

Most of the comments received from the Pacheedaht First Nation have been addressed under the relevant factors in this rationale. I have also considered the following observations:

- The proposed AAC may be optimistic and may not provide forest structures consistent with maintaining historical rights activities – but is in line with past practices for setting AACs in BC.
- A site index study (J.S. Thrower, 2000) found higher site index values than those used in the base case and this provides a counterbalance to other assumptions that suggest the proposed AAC might be optimistic.

- The current MP/TSR process is not effective at designing forest management strategies that consider evolving information and management objectives in a way that creates desired future forest conditions.
- Pacheedaht will be conducting its own Integrated Resource Management Plan in the future that aligns its goals for forest management and protection of certain values, i.e., cultural, fisheries, water and other non-timber resource values that may impact the AAC. However, at the present time, Pacheedaht accepts the current base case AAC model of 381 000 cubic metres per year (base case initial harvest level) for the next 10 years.

In reviewing the First Nations consultation process with district staff, I conclude the First Nations whose territories overlap TFL 46 were consulted in accordance with current provincial guidance, applicable case law, and the signed agreements held by the affected First Nations. I am satisfied that these 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 also accept the district staff conclusion that any potentially adverse impacts on the Aboriginal Interests of the relevant First Nations stemming from forest development activities that occur after the AAC determination can be appropriately mitigated through existing legislation and regulation, planning documents, and meaningful engagement at the operational level.

- 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 BC supports the phased implementation of the Cumulative Effects Framework (CEF) that aims to provide relevant information and supporting policy. The provincial cumulative effects team is developing policies and procedures for assessing cumulative effects on high priority values and implementing cumulative effects assessments across the province.

No cumulative effects pilot has been established in the South Island Natural Resources District (DSI), including TFL 46, at this time. However, the Pacheedaht First Nation has indicated they will conduct a cumulative effects assessment in conjunction with the development of an Integrated Resource Management Plan for their territory.

Although there are no CEF projects currently underway in the DSI, management objectives established under provincial and federal legislation, as well as planning and monitoring programs, applicable to TFL 46 are well established. These objectives, which were reflected in the timber supply analysis include, but are not limited to: Vancouver Island Land Use Plan Higher Level Plan Order and Renfrew Sustainable Resource Management Orders; *Forest and Range Practices Act* (FRPA) and *Land Use Act*; Non-Spatial Old Growth Order; visual quality objectives (VQOs); cutblock adjacency; stand-level retention (e.g., wildlife tree retention); wildlife habitat areas (WHAs – including MAMU and goshawk); ungulate winter range (UWR); riparian reserve and management zones; reductions to the THLB to account for values such as cultural heritage resources or to reflect areas with unstable terrain.

I have considered the information on cumulative effects and have interpreted it within the limits of my statutory authority and in keeping with my '*Guiding principles for AAC determinations*'. I note that a cumulative effects pilot has not been established for the West Coast Natural Resource Region that includes TFL 46. However, the results of any CE assessment carried out by the Pacheedaht in conjunction with their IRMP and ongoing work elsewhere in the province will improve our understanding of cumulative effects.

Based on my review of the cumulative effects information and discussions with staff, I conclude that forest management practices to meet the legal objectives described above will help to mitigate many of the potential negative impacts associated with forest development activities in TFL 46.

Pacheedaht First Nation are planning to undertake a cumulative effects assessment in conjunction with the development of the Pacheedaht IRMP. The results of this assessment and changes in management practices resulting from implementation of the Pacheedaht IRMP will help to inform subsequent AAC determinations.

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

As discussed under my '*Guiding principles for AAC determinations*', climate change is a key area of uncertainty for the TFL 46 timber supply review. Climate change is predicted to impact forest ecosystems in several 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, their spatial and temporal distribution, and impacts to timber supply are uncertain.

Historical climate trends (1942 – 2012)

Utilizing the Pacific Climate Impact Consortium meteorology for northwest North America dataset, trends were evaluated for TFL 46 between the years of 1942 and 2012. The results show mean annual temperature has increased significantly by 1.0° C. For seasonal change in mean temperature, winter and summer have warmed the most (1.1° C), followed by spring (0.9° C). There was no significant increase in extreme maximum temperatures in this historical analysis. Extreme annual minimum temperatures have increased significantly by 3.0° C, with the largest seasonal change occurring in the winter (2.6° C), but also significantly in the spring (2.3° C). During the same time period, there was no significant change in mean annual precipitation, nor any significant precipitation trends in any season.

Future climate projections

A comparison of climate model projections for 2014 to 2070 and the baseline period of 1961 to 1990 for TFL 46 show mean annual temperatures may increase by 2.6° C, with summer increasing the most (3.2° C), followed by fall (2.8° C), then winter and spring (2.3° C). Seasonal mean minimum temperatures may also increase the most in summer (3.4° C) and the least in winter (2.2° C). Extreme annual maximum temperatures may increase by 2.9° C and extreme annual minimum temperatures by 4.7° C. Seasonal mean maximum temperatures may increase the most in summer (3.0° C) and the least in the spring (2.3° C). Overall, there were minor increases in precipitation; however, summers are projected to be approximately 25 percent drier than the baseline period.

The large increases in temperature change and declines in summer precipitation are concerning for increasing wildfire and drought risk in TFL 46. Growing degree days and frost-free periods may both increase. However, so will demand for moisture as indicated by the large increase in the climate moisture deficit of 62.4 mm.

Current climate trends of warmer winters are more conducive to forest pest overwinter survival. Warmer conditions overall can mean some insects can shorten their life cycles and therefore increase populations above endemic levels. Wet and warm conditions in the spring can be a risk for increasing pathogens.

Current potential declines in snow and a shortened snow season can increase the risk of frost damage for forests that need snow cover to protect roots from cold temperatures (e.g., cedar) and provide soil moisture storage available to trees during the growing season. The model projections indicate it is likely moisture demands from evaporation will increase, given the change particularly in the summer, and increase the risk of impact or mortality to a variety of tree species from drought. Increases in growing degree days and the frost-free period may mean some vegetation will see enhanced growth, again moisture availability may limit that potential. The potential for stressed trees due to hot dry conditions in the summer months will also limit natural defenses from other disturbances such as pests and wildfire, of which the climate projections are favourable for these to increase as well. Ecological drought may enhance warm season hydrological drought that may become more frequent under these climate change projections.

Thirty-seven members of the public submitted comments containing climate change concerns. Comments included:

- Forestry practices have exacerbated wildfires and flooding.
- Concern over the lack of a comprehensive climate change plan that acknowledges the existential crisis in which we live in.
- Fifty percent or more of TFL 46 must be protected for climate change mitigation and for promoting biodiversity.
- Clearcutting releases immense amounts of greenhouse gases.
- The need for intact ecosystems and carbon sequestration to offset carbon emissions.
- Approximately 70 percent of the total carbon stored in forests is within the soil. Timber harvesting results in stored carbon losses.
- There were also multiple comments that outlined the importance of old growth forests in mitigating climate change. Old growth forests are massive carbon sinks, they protect against soil erosion, mitigate landslides, and logging of these ecosystems contributes to the climate crisis.
- Preserving old growth forests is the best defense against impacts from climate change, such as wildfires, drought, mud slides, and flooding.

I have considered the comments received from the public and agree that climate change poses a significant threat to the functionality of forest ecosystems. As indicated in my '*Guiding principles for AAC Determinations*':

> "*There is substantial scientific agreement that climate is changing and that these 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. 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."*

Although it is not possible for me to directly account for climate change in my decision, I do consider the available information on climate trends, the potential impacts to forest ecosystems and implementation of management practices to help mitigate the effects of climate change.

As noted in government's *Climate Preparedness and Adaptation Strategy – Actions for 2022-2025*:

> "*The Ministry of Forests provides a good example of proactive action taking place in ministries. The Ministry considers and integrates climate change in their work, from day-to-day operations, changes to legislation and policy, to new approaches in foundational forest management systems for forest landscape planning and timber supply review. A climate adaptation policy framework will be developed to support this work. The Ministry is working together with regional offices and a network of researchers to increase the availability of climate science, adaptation tools and expertise to inform decision-making operations.*"

It further states:

> "*The Province is increasing climate change science and adaptation expertise to support integration of climate change in key forest management and decision making. This additional expertise will ensure that climate-relevant information is integrated and considered in foundational forest management systems such as planning and in timber supply review – the process by which the province's allowable annual cut is set – thereby strengthening the climate resilience of the forestry sector. Forest Landscape Plans, newly created by recent amendments to the Forest and Range Practices Act, provide a new mechanism for land managers to plan for future forest ecosystem conditions and to carry out practices and stand level investments that contribute to managing global carbon cycles and climate change risks."*

With respect to carbon emissions and sequestration, in 2017, the BC Government initiated the Forest Carbon Initiative (FCI). This initiative includes projects pertaining to various types of carbon activities, such as reforestation, stand fertilization, increased fibre utilization, road rehabilitation, and tree improvement.

The licensee indicates that it will continue to monitor government-led initiatives and incorporate emerging information and understanding into strategic and operational planning. However, the licensee noted that it is beyond the scope of the TFL 46 Management Plan process for it to comment on the provincial government's climate change strategy.

After reviewing the implications of the projected changes in temperature and precipitation, I acknowledge that long-term timber supply may be lower than projected in the base case. I note however, that modifications in forest management practices such as engagement in the provincial forest fertilization program, adoption of the Climate Based Seed Transfer protocols, management of forest fuels to reduce wildfire risks and employment of qualified forestry professionals, who will consider climate change impacts when developing regeneration strategies, will help to limit the negative impacts of climate change.

In conclusion, 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 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, which incorporate forest inventory information that is updated regularly to reflect the most recent disturbances and silvicultural practices, will allow for the incorporation of new information on climate change and its effects on forests and timber. Ongoing observations, data collection, analysis, and collaborative discussions will play a critical role in ensuring we are able to respond to predicted implications for timber supply.

- harvest performance

The current TFL 46 AAC is 381 009 cubic metres. Information from the Ministry's Harvest Billing System (HBS) shows that during the period from 2012 to 2021, the volume harvested within TFL 46 was about 87 percent of the AAC.

Teal Cedar Products Ltd.'s harvest performance is evaluated in the *Provincial Timber Management Goals, Objectives, and Targets for TFL 46 (PTMGOT).* The report indicates that timber harvesting is occurring in all slope categories but there is a slight preference towards harvesting on ground with slopes of less than 50 percent.

A comparison of the percent volume harvested by leading species type and the inventory species profile for stands older than 60 years of age shows that the full species profile is not being proportionately harvested. Harvest in Douglas-fir leading stands is overrepresented, while harvesting in balsam- and hemlock-leading stands is underrepresented. Harvesting in cedar-leading stands matches the inventory profile.

While I acknowledge the PGMGOT report does not attribute species profiles to specific portions of the land base, and a large portion of managed stands are comprised of Douglas-fir, the *Tree Farm Licence 46 – Management Plan #5 – Information Package* reports that Douglas-fir represents 5.3 percent of mature growing stock while data from the Harvest Billing System report indicates Douglas-fir represents more than 35 percent of scaled volume. It is important that the harvest of Douglas-fir is aligned with its proportion of the growing stock.

I am concerned that the licensee's harvest performance in stands on steeper slopes does not match the slope profile of the remaining mature stands on the TFL, and that Douglas-fir growing stock is being disproportionally depleted. Consequently, it is my expectation that the licensee will improve its harvest performance in stands on slopes greater than 50 percent, and align harvest species composition with growing stock, and report annually on their success as indicated under '**Implementation**'.

- *unharvested volume*

In January 2018 the Ministry of Forests introduced a *Policy Regarding the Administration of Unharvested Volumes, Uncommitted Volumes and Unused BCTS Volumes* (collectively referred to as 'accumulated volume'). One of the purposes of the policy is to provide guidance on the administration of accumulated volumes for forest licences, TFLs and woodlot licences in accordance with Section 75.8 of the *Forest Act*. The policy requires that prior to the AAC determination for a TFL, I must be provided with information regarding the total net volume of unharvested volume. As chief forester I must consider the amount of unharvested volume as one of the factors (e.g., a pressure on the standing inventory) when determining the AAC for TFL 46. The minister may, in accordance with Section 75.8 and the principles outlined in the policy, issue a tenure based on unharvested volume.

Regional Tenures staff indicate the licensee has not been harvesting the full TFL 46 AAC and this has resulted in the accrual of unharvested volume from two cut control periods. The unharvested volume accrued during the 2013 to 2017 cut control period is 50 836 cubic

metres. This volume has been fully committed to the Pacheedaht First Nation for a new tenure. Tenures staff indicate this volume will be issued within 10 years.

The unharvested volume accrued during the 2018 to 2022 cut control period is 137 660 cubic metres. The exact unused volume will be confirmed within the next two to three months. Tenures Branch staff indicate that in general, there are expectations that any accumulated volume will be issued in non-replaceable forest licences.

In a sensitivity analysis, depleting the 2013 to 2017 unharvested volume over the first 30 years of the base case, reduced the first decade harvest level by 0.4 percent and the second decade harvest level by 1.4 percent. FAIB staff reviewing the analysis indicate the impact of depleting the 2013 to 2017 unharvested volume over 15 years and 10 years reduced harvest levels by 0.89 percent and 1.33 percent, respectively. Depleting the 2018 to 2022 unharvested volume based on disposition periods of 15 years and 10 years reduced harvest levels by 1.8 percent and 2.5 percent, respectively.

Based on my review of unharvested volumes and discussions with staff, I conclude the 2013 to 2017 unharvested volume will likely be issued and harvested over the next 10 years. I expect the 2018 to 2022 unharvested volume will likely be issued and harvested over the next 15 years. On this basis, I conclude the base case short-term timber supply has been overestimated by a total of 3.13 percent – 1.33 percent to account for the 2013 to 2017 unharvested volume and 1.8 percent to account for the 2018 to 2022 unharvested volume, as discussed in my '**Reasons for Decision**'.

- dead potential volume

In 2006 the Ministry of Forests released a report titled *Summary of Dead Potential Volume Estimates for Management Units within the Coast Forest Region*. Data sources for the report came from inventory audit plots, VRI Phase II ground samples, permanent sample plots, and temporary sample plots. The base case for TFL 46 did not account for dead potential volume, as growth and yield projections do not account for the volume of dead trees that could potentially be used as sawlogs ("dead potential").

There is no sample data available for TFL 46. However, based on 59 plots within the Strathcona TSA, dead potential volume could be up to 6.3 percent of the green volume for the forested land base over 60 years of age within TFL 46. FAIB staff expect the sampling error around dead potential to be higher than 15 percent and indicate that the 6.3 percent estimate represents the maximum amount of volume from dead timber but does not consider the utilization of the volume.

Western redcedar (cedar) is generally rot resistant and remains a viable source of timber longer than other species. Consequently, I find it reasonable to assume that some portion of the dead cedar volume will be recovered. Cedar comprises about 22 percent of the total TFL 46 volume. Assuming cedar also represents 22 percent of the dead potential volume, and dead potential volume is 6.3 percent of the green volume, the base case short-term harvest level may be underestimated by up to 1.39 percent. However, given the lack of TFL 46 specific sample data, large sampling error, and uncertainty regarding the actual utilization of dead potential volume, it is difficult to arrive at a reliable estimate of the contribution of dead potential volume. Consequently, I will account for a small, unknown underestimation in the base case short-term harvest level, as indicated in my '**Reasons for Decision**'.

- public review

In accordance with the Tree Farm Licence Management Plan Regulation, Teal Cedar Products Ltd. obtained approval from the Regional Executive Director for their public review strategy. The draft timber supply *Information Package* (IP) was made available for review from May 22, 2020, to July 21, 2020. The draft *Management Plan* (MP), including the *Timber Supply Analysis Report*, was made available for review from November 24, 2020, to February 5, 2021.

The licensee advertised their IP and draft MP for two consecutive editions of the following newspapers: Alberni Valley News, Cowichan Valley News, Lake Cowichan Gazette and the Sooke News Mirror.

The licensee sent the IP and MP to stakeholders, including the adjacent forestry operators (including those operating on public and private lands), trapline licence holders, mineral claims holders and the Southwest Island Public Advisory Group. The latter includes a diverse group of local, interested parties (including First Nations) who represent tourism and recreation, local governments, communities, local businesses, wildlife and fisheries, environment and workforce interests. The licensee met with the group to discuss the management planning process and review the draft IP and MP.

Teal Cedar Products Ltd. reportedly received over 200 public responses and the district received 176 responses during the *Draft Management Plan* (MP) public review period. A large portion of responses could be characterized as form letters where numerous identical responses were submitted by different individuals. Many of these responses were from outside of the province, and some from outside of Canada. Forest Analysis and Inventory Branch (FAIB) also replied to several locally sourced, detailed responses that were directed to me, including letters submitted by lawyers, professional foresters and/or published in various media sources.

The public input received during the consultation process can be grouped into six categories: old growth deferrals, First Nations, marbled murrelet, climate change, forest stewardship plan availability and species at risk.

I have reviewed all the comments and concerns received during the public engagement process and any responses provided by the licensee or Ministry staff. For those factors where public input indicates contention regarding the information used, modelling, or some other aspect under consideration, I have provided an explanation of how I considered the essential issues raised and reasoning that led to my conclusions under the relevant sections of this document.

Based on my discussions with district staff, I am satisfied suitable opportunities were provided to the public to comment on the timber supply review for TFL 46.

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

- alternative harvest projections

In the base case, which focuses on maximizing the total volume harvested over the entire projection period, the initial harvest level is 381 800 cubic metres per year. After 10 years the harvest level decreases slightly to 379 500 cubic metres per year. This level is maintained for 15 years before decreasing to a long-term harvest level of 354 300 cubic metres per year. Base case harvest targets and limits include limiting harvest openings to 40 hectares in size and limiting harvesting in old growth to less than 180 000 cubic metres per year for the first 25 years. A review of the base case outputs shows that the

180 000 cubic metres per year of old growth is harvested in the model for the first 10 years, then declines rapidly in the subsequent 10 years.

In an alternative harvest projection, modelling a non-declining even-flow harvest resulted in an initial harvest level of 354 326 cubic metres per year. This level is 7.2 percent lower than the base case initial harvest level and one percent higher than the base case long-term harvest level.

At the request of FAIB staff an additional alternative harvest projection was completed where the harvesting of old growth was limited to a maximum of 180 000 cubic metres per year for the first five-year period, 90 000 cubic metres per year for the second five-year period, and 45 000 cubic metres per year is subsequent periods. Limiting old growth harvesting in this way results in harvest level 4.8 and 5.7 percent below the base case projection in the second decades, respectively.

I have considered these alternative harvest projections, as described 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

I am satisfied that this determination accords with the objectives of government articulated in the Minister's November 24, 2021, letter and have no additional comments in this regard.

Reasons for Decision

In reaching my AAC determination for TFL 46, 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 381 800 cubic metres per year can be maintained for 10 years before decreasing slightly to 379 500 cubic metres per year. This level is maintained for 15 years before decreasing to a long-term harvest level of 354 300 cubic metres per year for the remainder of the harvest projection.

The Pacheedaht First Nation has indicated it supports the base case initial harvest level of 381 800 pending development of a Pacheedaht IRMP which will include new or updated management objectives to better reflect their values and interests.

I am satisfied that the assumptions applied in the base case, for most of the factors applicable to TFL 46, 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:

- *wildlife tree retention* – the approach used to estimate the impact of future wildlife tree retention results in a 1.5 percent overestimation of the short-term timber supply.

- *visual quality objectives* – in the base case visually effective green-up heights were not adjusted for slope, this results in a small, unquantified overestimation of the timber supply.
- *unharvested volume* – disposition of the unharvested volumes for the 2013 – 2017 and 2018 – 2022 cut control periods, in combination, result in a 3.13 percent overestimation of the short-term timber supply.

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

- *dead potential volume* – the volume from dead trees that could potentially be used as sawlogs but not accounted for in the model results in the base case underestimating the short-term timber supply by a small, unquantified amount.

Of the above factors that can be quantified, the factors that affect the short-term period of the projection are most relevant to my AAC determination. The combined effect of the factors identified above results in a 4.6 percent overestimation of the base case short-term harvest level.

With regard to old growth deferrals and the importance of BC's coastal forests in Fairy Creek, I am mindful of the supported deferral areas that are currently unprotected. I reviewed and discussed the analyses and recommendations provided by Ministry staff and First Nations on this factor. While it is beyond the scope of my authority to prescribe the long-term conservation of unprotected old-growth, I conclude that the uncertainty associated with the management of these forests, and associated ecological values, does constitute a risk to the future timber supply from these areas. I will therefore adjust the base case initial harvest level to reflect this risk resulting in an initial harvest level of 360 000 cubic metres per year.

As discussed in 'Old growth deferral areas' I am concerned about the potential to concentrate harvesting in the old forest (stands older than 250 years of age) or not old forest (stands 250 years of age or younger). For this reason, I will implement two AAC partitions under Section 8(5) of the *Forest Act* as follows:

- a maximum of 180 000 cubic metres (50 percent) of the AAC to old forest stands that are older that 250 years of age; and
- a maximum of 180 000 cubic metres (50 percent) of the AAC to not old forest that are 250 years in age or younger.

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 46 by establishing an AAC of 360 000 cubic metres.

As permitted under Section 8(5) of the *Forest Act*, I specify a maximum harvest of 180 000 cubic metres attributed to old forest (over 250 years in age), and a maximum harvest of 180 000 cubic metres attributed to not old forest (250 years in age or younger).

This determination is effective May 28, 2024, 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.

Currently, there are two ministerial orders under Section 170(2) of the *Forest Act* in place that suspend old forest harvesting in the Central Walbran Valley portion of Old Growth

Designated Area No. 1 and the Fairy Creek Watershed Designated Area No 1. Following this AAC determination, I will be issuing a new Section 173(2) order that reflects the updated information provided for this AAC 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 Ministry staff and licensee staff to undertake or support the tasks and studies noted below, the benefits of which are described in relevant 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 46. Prior to the next AAC determination:

1. *Community watersheds* – should forest management activities in the TFL move further upslope, I expect the licensee to ensure it undertakes the appropriate actions to minimize potential impacts on watersheds, including fish and other aquatic species, water quality, and hydrologic function.
2. *Wildlife tree retention* – I expect the licensee to account for future wildlife tree retention requirements by using THLB reductions instead of yield curve reductions.
3. *Scenic areas and visual resources* – I expect the licensee to follow the recommendations in the *Timber Supply Review Bulletin* entitled *Procedures for Factoring Visual Resources into Timber Supply Analyses* by using a range of green-up heights that take into consideration slope and perspective.
4. *Cultural heritage resources* – I expect the licensee to work with Pacheedaht to review its current assumptions regarding in-block retention and to ensure the co-location of cultural heritage resource sites with areas retained for other factors is sufficient to accommodate Pacheedaht interests. Any changes to in-block retention assumptions are to be incorporated in subsequent timber supply reviews.
5. *Wildlife habitat areas* – I expect FAIB, district and licensee staff to assess any potential timber supply impacts associated with the establishment of new goshawk and/or MAMU protected areas and to report this information to me.
6. *Harvest performance* – I expect the licensee to report annually on their success of matching harvest performance slopes greater than 50 percent with the slope profile of the THLB and aligning harvest species composition with growing stock. I also expect the licensee to report annually on harvest performance in old forest.

7. *Fairy Creek* – I expect the licensee to work in partnership with the Pacheedaht First Nation to manage forests within the Fairy Creek watershed in a manner that both supports the local communities and applies the conservation measures required to ensure the resources of this globally significant forests are sustained for generations to come.

Shane Berg, RPF

Chief Forester

May 28, 2024

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 31, 2024), 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 licence areas of area-based licences, 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 this Act, 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 April 16, 2024) 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 November 24, 2021

Reference: 268022

November 24, 2021

Diane Nicholls, R.P.F.
Assistant Deputy Minister and Chief Forester

Dear Diane Nicholls:

The *Forest Act* gives you the authority to determine an allowable annual cut (AAC) for each timber supply area and tree farm licence in the province and specifies what you must consider when determining an AAC. Included in these considerations are the economic and social objectives of the government, which are provided below. These government objectives are to be considered as part of the comprehensive timber supply review process that your office has developed and implemented to ensure that your AAC determinations consider many forest management objectives and aligns with provincial statutes and regulations. They replace the objectives provided to you by the former minister, Doug Donaldson, on October 30, 2017.

British Columbians expect a government focused on building a strong sustainable economy that works for everyone, providing a path for lasting and meaningful reconciliation with Indigenous peoples, and developing strategies to address climate change. Government has committed to delivering on these priorities while recognizing that healthy, resilient forests are essential to the social, economic, and environmental interests of current and future generations. To advance these commitments, natural resource ministries, Indigenous partners, and stakeholders are collaborating to develop and implement forest management strategies and policies that will be relevant to your AAC determinations. I ask that you remain mindful of these commitments and as government approves related objectives, that you ensure they are fully considered within the timber supply review process.

The British Columbia (BC) government has committed to full and lasting reconciliation with Indigenous Peoples. As the provincial government implements the *Declaration on the Rights of Indigenous Peoples Act* and works toward aligning provincial laws with the United Nations Declaration on the Rights of Indigenous Peoples, I ask that your AAC determinations fully consider relevant outcomes of that work. For greater certainty, please continue to ensure that your AAC determinations are consistent with relevant agreements that are in effect between First Nations and the BC government, and court decisions that define Aboriginal title and rights. I expect you to continue to find ways to advance engagement and collaboration with Indigenous Peoples throughout the timber supply review process. In making your AAC determinations, I also ask that you continue to carefully consider Indigenous knowledge and other input that could have implications for your AAC determinations from First Nations and organizations whose traditional territories overlap the management unit under consideration.

Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Office of the Minister
Mailing Address: PO BOX 9049 Stn Prov Govt Victoria, BC V8W 9E2
Tel: 250 387-6240
Fax: 250 387-1040
Website: www.gov.bc.ca/for

Diane Nicholls, Assistant Deputy Minister and Chief Forester

BC's forests provide fibre for forest products, habitat for plants, fish and wildlife, and many other benefits essential to diverse and resilient communities. The capacity of these forests to support economic and environmental sustainability and reconciliation with Indigenous peoples is challenged by insect infestations, increasing levels of wildfire activity and other risks related to climate change. As healthy forests are essential for a healthy industry and province, I ask you consider how your determinations may encourage economic recovery and forest revitalization, improve forest health, and support approved strategies to reduce wildfire.

Since a sustainable and resilient timber supply supports BC's goals for a better, cleaner future and environmental sustainability, your AAC determinations should continue to incorporate, as appropriate, the best available information on climate change and forest health. When making your AAC determinations, please consider ways to encourage management practices that reduce greenhouse gas emissions and support forest resiliency. Practices that are consistent with established climate change strategies, adaptation, and mitigation practices, including practices that result in better fibre utilization and sector diversity, should be explored.

As new land use policies are developed and implemented to support BC's goals for economic activity, environmental sustainability, and reconciliation with Indigenous peoples, I ask that your determinations continue to incorporate, as appropriate, the best available information on the cumulative effects of multiple activities on the land base. Where the cumulative effects of timber harvesting and other land-based activities indicate a risk to natural resource values, your determinations should identify those risks for consideration in land-use planning. I also ask that you consider ways in which your AAC determinations could encourage actions or practices to mitigate the identified risks to natural resource values.

Forests are essential to build a strong, sustainable economy that supports people, communities and competitiveness and this government is focused on transitioning the forestry sector from high volume to high value production. As part of the timber supply review process, I ask that you consider ways to foster and encourage the value-added sector and increase the use of fibre. Please identify timber types that may not be reflected in harvest choice, and in your AAC determinations, examine opportunities for these timber types to sustain clean-energy jobs and value-added products or enhance ecosystem health and resiliency.

In making your AAC determinations, I ask that you consider the needs of local communities as expressed by the public during timber supply review process. This includes input that contribute to the economic recovery and sustainability of communities and is consistent with the government's broader objectives. To ensure a sustainable future for BC's forest-dependent communities, I also ask that when faced with necessary reductions in AAC's that wherever possible those reductions be no larger than necessary to avoid significant longer-term impacts.

Thank you, Diane, for your service and your care and attention to these important matters.

Sincerely,

Katrine Conroy
Minister

Appendix 4: Information sources used in the AAC determination

The information sources considered in determining the AAC for TFL 46 include the following:

Legislation

Province of British Columbia. 2003. *Forestry Revitalization Act*. Victoria, BC. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03017_01 Current to April 16, 2024.

Province of British Columbia. 2004. Cut Control Regulation. Victoria, BC. http://www.bclaws.ca/Recon/document/ID/freeside/17_578_2004. Current to March 26, 2024.

Province of British Columbia. 2004. *Forest Act*. Victoria, BC. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96157_00. Current to March 31, 2024.

Province of British Columbia. 2004. *Forest and Range Practices Act*. Victoria, BC. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/02069_01 Current to March 31, 2024.

Province of British Columbia. 2004. Forest Planning and Practices Regulation. Victoria, BC. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/14_2004. Current to March 5, 2024.

Province of British Columbia. 2004. Government Actions Regulation. Victoria, BC. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/582_2004. Current to April 16, 2024.

Province of British Columbia. RSBC 1996. *Heritage Conservation Act*. Victoria, BC. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96187_01. Current to April 16, 2024.

Province of British Columbia. RSBC 1996. *Land Act*. Victoria, BC. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96245_01. Current to April 16, 2024.

Province of British Columbia. RSBC 1996. *Ministry of Forests and Range Act*. Section 4 – Purposes and functions of Ministry. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96300_01#section4. Current to April 16, 2024.

TFL Holder Plans and Timber Supply Review Documents

AAC Determination Binder for TFL 46 - including input received from First Nations through the consultation process and comprehensive discussions with Ministry staff, including the AAC determination meeting held in Port Alberni online on May 23 and 24, 2023.

Teal Cedar Products Ltd. Tree Farm Licence 46 Proposed Management Plan No. 5. Referral and Public Review Strategy.

Teal Cedar Products Ltd. 2021. Tree Farm Licence 46 Management Plan No. 5. Information Package. Prepared with technical assistance from Ecora Engineering and Resource Group Ltd.

Teal Cedar Ltd. 2021. Tree Farm Licence 46 Proposed Management Plan No. 5. Timber Supply Analysis Report. Prepared Ecora Engineering and Resource Group Ltd.

Teal Cedar Ltd. 2021. Tree Farm Licence 46 Proposed Management Plan No. 5.

Teal Cedar Products Ltd. 2017. Tree Farm Licence #46 Forest Stewardship Plan.

Land Use, Forest Practices and other Documents

Vancouver Island Summary Land Use Plan. February 2000.

Vancouver Island Higher Level Plan Order issued October 4, 2000.

Renfrew Aggregate Landscape Unit Plan. March 2000.

Order for Establishing Visual Quality Objectives for the South Island Forest District. December 2005.

Ungulate Winter Range Orders – South Island Forest District. September and November 2003.

Summary of Public Input for TFL 46 Draft Management Plan. November 24, 2020 to February 5, 2021.

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 November 24, 2021.

Ministry of Sustainable Resource Management. 2004. Order Establishing Provincial Non-Spatial Old Growth Objectives. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/policies-guides/old_growth_order_may18th_final.pdf.

Ministry of Sustainable Resource Management. 2004. Order Establishing Provincial Non-Spatial Old Growth Objectives. Implementation Policy for the Order Establishing Provincial Non-Spatial Old Growth Objectives.

B.C. Ministry of Forests, Lands and Natural Resource Operations. Undated. Biogeoclimatic Ecosystem Classification Program. https://www.for.gov.bc.ca/hre/becweb/program/climate%20change/index.html.

B.C. Ministry of Forests, Lands and Natural Resource Operations and Rural Development. 2012 - 2021. Provincial Timber Management Goals, Objectives & Targets - Management Unit Targets - TFL 46.

B.C. Ministry of Forests, Lands and Natural Resource Operations and Rural Development. 2018. Policy Regarding the Administration of Unharvested Volumes, Uncommitted Volumes and Unused BCTS Volumes. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/timber-tenures/timber-tenure-bulletins-policies-procedure/policy_regarding_the_administration_of_unharvested_volumes_uncommitted_volumes_and_unused_bcts_volumes.pdf.

Foord, V. 2022. TFL 46 Climate Change Analysis.

Ministry of Forests. 2020. Chief Forester's Standards for Seed Use. https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use.

First Nations

Timber Supply Review Initiation Letter sent to First Nations on December 17, 2019.

TFL 46 Draft Information Package sent by email to First Nations on September 4, 2020.

TFL 46 Proposed Management Plan sent by email to First Nations on December 20, 2021.

Pacheedaht First Nation Review of the (TFL 46) Analysis Report and draft Management Plan prepared by Forsite Consulting Ltd. and comments provided by the Pacheedaht First Nation on June 27, 2022.

Haida Nation v. British Columbia (Minister of Forests), [2004] 3 S.C.R. 511, 2004 SCC 73.

Ministry of Forests, Lands, Natural Resource Operations and Rural Development. 2019 – ongoing. First Nations Consultation Report for TFL 46.

Province of British Columbia. 2010. Updated Procedures for Meeting Legal Obligations when Consulting First Nations. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations.

Tsilhqot'in Nation v. British Columbia, 2014 SCC 44, [2014] 2 S.C.R.

United Nations. 2007. United Nations Declaration on the Rights of Indigenous Peoples. https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html.