

**BRITISH COLUMBIA  
MINISTRY OF FORESTS**

# **Tree Farm Licence 49**

**held by  
Tolko Industries Ltd.**

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

**Effective November 21, 2025**

**Shane Berg, RPF  
Chief Forester**

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## **Objective of this document**

This document provides an accounting of the factors I have considered and the rationale I have employed in making my determination, under Section 8 of the *Forest Act*, of the allowable annual cut (AAC) for Tree Farm Licence (TFL) 49. This document also identifies where new or better information is needed for incorporation in future determinations.

## **Acknowledgement**

I would like to acknowledge and thank the staff of the BC Ministry of Forests (the ‘ministry’) in the Okanagan Shuswap Natural Resource District (DOS) and the Forest Analysis and Inventory Branch (FAIB) for the preparation of the information I have considered in this determination. I am also grateful to the First Nations whose territories were recognized in this timber supply review, local residents, individuals, and Tolko Industries who contributed to this process.

## **Statutory framework**

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

## **Description of the TFL**

TFL 49, held by Tolko Industries Ltd., is located west of Okanagan Lake, near the communities of Kelowna, Vernon, and Falkland. The TFL has three distinct blocks: Block A is located northwest of the City of Kelowna; Block B is located south of Highway 97 between Falkland and Monte Lake; and Block C is located north and east of Falkland. The TFL occupies a gross area of 110 426 hectares, of which 109 742 hectares are crown land and 684 hectares are Schedule A private land.

Biogeoclimatic zones within the TFL include the Ponderosa Pine, Interior Douglas-fir, Interior Cedar Hemlock, Montane Spruce, and Engelmann Spruce Subalpine Fir zones. The main trees species are predominately Douglas-fir and ponderosa pine at lower elevations, Douglas-fir and lodgepole pine at mid-elevations, and spruce/subalpine fir types at higher elevations.

The TFL administrative boundary overlaps the traditional territories of the Adams Lake Indian Band, Ashcroft Indian Band, Boothroyd Indian Band, Coldwater Indian Band, Cook’s Ferry Indian Band, Lower Nicola Indian Band, Lower Similkameen Indian Band, Lytton First Nation, Neskonlith Indian Band, Secw’emx Tribal Council, Nicomen Indian Band, Nlaka’pamux Nation Tribal Council, Nooaitch Indian Band, Okanagan Indian Band, Okanagan Nation Alliance, Oregon Jack Creek Band, Shackan Indian Band, Shuswap Nation Tribal Council, Siska First Nation, Skeetchestn Indian Band, Skwlāx te Secwepemcūlecw, snpink’tn Indian Band, Splotsin, Spuzzum First Nation, Skuppah Indian Band, Stk’emlupsemc te Secwepemc Nation, Tk’emlupsemc te Secwepemc, Upper Nicola Band, and the Westbank First Nation. Tolko has worked collaboratively with the Okanagan Nation Alliance (ONA), to model the Syilx Forest Management scenario or ‘*Syilx scenario*’ which will be described subsequently in this rationale.

The Okanagan Shuswap Natural Resource District (“the district”) administers the TFL from Vernon in the Thompson-Okanagan Region.

## History of the AAC

In 1988 TFL 9, TFL 16, and TFL 32 were consolidated into a single new licence, TFL 49, held by Crown Forest Industries Ltd. The AAC at that time was 380 000 cubic metres.

The TFL was acquired by Tolko Industries Ltd. in 2004, as part of their acquisition of Riverside Forest Products Ltd. Between 2005 and 2010, TFL 49 had an AAC of 580 000 cubic metres, which included an uplift of 200 000 cubic metres to allow for the salvage of mountain pine beetle affected stands.

The most recent AAC determination for TFL 49, made on February 24, 2012, set the AAC at 330 000 cubic metres. Of this total, 204 000 cubic metres were allocated to the portion of the TFL outside the Brown's Creek litigation area. On November 30, 2012, an administrative amendment removed approximately 31 500 hectares in the Brown's Creek area from the TFL, reducing the AAC to 204 000 cubic metres. Currently, British Columbia Timber Sales (BCTS) is assigned 36 905 cubic metres of the AAC.

## New AAC determination

Effective November 21, 2025, the new AAC for the TFL 49 will be 150 500 cubic metres.

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

1. Old forest: A maximum of 67 500 cubic metres per year or 45 percent of the AAC may be harvested from old forest. "Old forest" is defined as stands older than 250 years in less frequently disturbed ecosystems (Natural Disturbance Types (NDT) 1, 2, and 4) and stands older than 140 years in more frequently disturbed ecosystems (NDT 3).
2. Not old forest: A maximum of 83 000 cubic metres per year or 55 percent of the AAC may be harvested from stands that are not old. "Not old forest" is defined as stands younger than or equal to 250 years in less frequently disturbed ecosystems (NDT 1, 2, and 4) and stands younger than or equal to 140 years in more frequently disturbed ecosystems (NDT 3).
3. Slopes less than 40 percent: A maximum of 128 000 cubic metres per year or 85 percent of the AAC can be harvested from stands on slopes less than 40 percent.

This AAC is approximately 26.2 percent lower than the AAC in place prior to this determination and 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 timeline 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. The AAC determination is a strategic-level decision for which the Crown maintains a duty to consult and accommodate, as necessary, those First Nations for whom it has knowledge of claimed Aboriginal Interests that may be impacted by a proposed

decision. The chief forester must consider the information provided by First Nations through engagement and the consultation process.

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 B.C.'s many forest management units, administrative fairness requires a reasonable degree of consistency of approach in addressing relevant factors associated with AAC determinations. 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 B.C.'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 B.C. 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 consider 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.

Should timber be established on 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, will no longer be considered provincial timber. Consequently, these clearly established forest areas will 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 land base supporting timber harvesting 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 under uncertainty. It is one alternative decision-making process 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 B.C.'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 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 may not be 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 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 reminds 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 acknowledge 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 changing climate will affect forest ecosystems. Forest management practices will need to be adapted to mitigate these impacts and promote carbon uptake and storage. The potential rate, amount, and specific characteristics of climate change in various 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 latest 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, there is no definitive conclusion as to how best to modify current harvest levels to mitigate potential future increases in natural disturbance due to climate change, which are likely to occur in some areas of the management unit. 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 on-going dialogue and focused research, to develop climate change mitigation and adaptation 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 formalized strategies and associated treatments, that become common practice in managing the forests within the management unit, 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 projections 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 projections 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 of several theoretical projections, coupled with the inherent uncertainty associated with future looking predictive modeling, the base case is not an AAC recommendation. Rather, it is one possible projection of timber supply, whose validity – as with all the other projections provided – depends on the reliability 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 projection 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 based on informed judgment using currently available information about forest management; information that 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 mathematical 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 against potential conclusions. 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, AACs are determined frequently to incorporate new information and reflect changing management practice to minimize uncertainty over time.

### **Base case for TFL 49**

The timber supply analysis for TFL 49 was conducted by Forsite Consultants Ltd., using the PATCHWORKS model, which is approved by Forest Analysis and Inventory Branch (FAIB) for use in timber supply review. PATCHWORKS is a fully spatial forest estate model used to project timber harvest activities by modelling current forest management practices including objectives for timber values, biodiversity, wildlife habitat, cultural heritage resources, recreation, and visual quality, to understand the impact to timber supply for different desired management outcomes. Based on the review by ministry staff, as well as my own experience reviewing results from similar models, I am satisfied that PATCHWORKS can provide an appropriate projection of timber supply.

Major changes from the 2012 TSR include: a new LiDAR based forest inventory, removal of the Brown's Creek area from the TFL in November 2012, adjustment of stand ages for areas affected by the 2021 White Rock Lake fire, changes to stand merchantability criteria, newer versions of Ministry of Forests growth and yield models for both natural and managed stands, and revised silviculture regimes for managed stands.

The current amount of productive forest land base (PFLB) is 105 993 hectares, or 96 percent of the total TFL area. After reductions necessary to account for other resource values, the long-term timber harvesting land base (THLB) is estimated at 85 454 hectares, 77.4 percent of the total area. This THLB is 30 711 hectares smaller, representing a 26.4 percent reduction in area compared to the THLB used in the 2012 TSR.

The inventory used for analysis was updated for forest depletions and disturbances to January 1, 2022. The base case starts in 2022, and harvest was projected for 300 years. The base case indicates an initial harvest level of 176 960 cubic metres, which is maintained for 45 years before transitioning over a 50-year period to the long-term harvest level of 293 980 cubic metres per year. The base case also includes a projection to harvest 250 000 cubic metres of unburned, primarily Douglas-fir leading stands within the first five-year period from the White Rock Lake Fire perimeter to salvage and mitigate fir beetle infestations.

The base case does not include the impact of the 2023 McDougall Creek Wildfire on TFL 49. An alternative harvest projection incorporated the impact on timber supply from this recent wildfire is discussed under '*high impact fires*'.

There are limited opportunities on TFL 49 for alternative harvest flows due to past wildfire impacts and the historical mountain pine beetle infestation, which have significantly reduced the mature growing stock.

In my determination, I have also considered several sensitivity analyses. A sensitivity analysis examines how changes in assumptions affect the projected timber supply. These analyses have been helpful as I made specific considerations and reasoning in my determination as documented in the following sections.

### Syilx scenario

The Syilx Forest Management scenario referred to as the *Syilx scenario*, developed in collaboration with the Okanagan Nation Alliance (ONA) was presented as an alternative to the base case timber supply analysis for TFL 49, reflecting the ONA vision for forest management within its territories.

The previous chief forester, Diane Nicholls, met with representatives of Tolko and the Syilx Forestry Working group on June 8, 2021, for an overview of a Collaborative Management Plan process for TFL 49. At that meeting she expressed some concern with using the *Syilx scenario* as a base case, as it did not model past performance or reflect current land-use governance requirements. She requested that Tolko provide both a conventional (*Forest and Range Practices Act* based) harvest model, which is presented as the base case, in addition to the *Syilx scenario* as an alternative view of the TFL management plan expressed by the ONA.

As part of their management plan submission Tolko presented the base case as the starting point for the AAC determination as they began to develop a different forest management approach, in collaboration with the ONA. Tolko has started incorporating the objectives of this different forest management direction into future harvest planning for TFL 49. Key differences from the base case in the *Syilx scenario* include an alternate approach to old growth management using zonation, increased riparian retention, increased in-block retention, and increased protection for all watersheds. It also assumes that implementation of the above forest management alternatives will meet the requirements for non-timber values such as visual quality, wildlife and recreation. As such the *Syilx scenario* did not model all current, legally established *Forest and Range Practices Act* (FRPA) objectives as constraints in the analysis.

The THLB used in the *Syilx scenario* is 14 279 hectares or 16.7 percent smaller than the current TSR base case and 44 990 hectares or 52.6 percent smaller than the 2012 TSR. The result of the *Syilx scenario* indicated a harvest level of 141 370 cubic metres per year in the short- and mid-term, and 231 390 cubic metres per year in the long term. This is a decrease from the base case of 20.1 percent in the short-term harvest level and 21.3 percent in the long-term harvest level.

During engagement with other First Nations exclusive of the ONA, that expressed interests around TFL 49, general support was indicated for many of the different assumptions presented in the *Syilx scenario*.

In review of the material presented to me, the base case submitted by Tolko, in alignment with their TFL management plan, provides the most appropriate representation of current harvesting practices within TFL 49. I am satisfied that the recommended management strategy, and the other analyses as noted and described represent the best information available, respecting various aspects of the current timber supply in this TFL, and as such they are satisfactory for reference in my considerations in this determination. I note that the *Syilx scenario* represents a new and evolving future vision, developed collaboratively with the ONA, for forest management in this unit. While it is beyond the scope of my authority to consider the results of this alternative analysis as the base case for this timber supply review, I expect that as new practices are

implemented, future AAC determinations may be able to incorporate some of these innovative strategies. Where specific factors of the *Syilx scenario* reflect current management practice, I have incorporated those into my decision.

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

I have reviewed the information for all the factors required to be considered under Section 8 of the *Forest Act*. Where I have concluded that the modelling of a factor in the base case is a reasonable reflection of current legal requirements, demonstrated forest management and the best available information, and uncertainties about the factor have little influence on the timber supply projected in the base case, no discussion is included in this rationale. These factors are listed in Table 1.

Table 1. List of factors accepted as modelled in the base case

<i>Forest Act</i> section and description	Factors accepted as modelled and not discussed further in the rationale
8(8)(a)(i) the composition of the forest and its expected rate of growth on the area	<ul style="list-style-type: none"> <li>Roads current and future</li> <li>Terrain stability</li> <li>Non-merchantable stands</li> <li>Experimental and permanent sample plots</li> <li>Site productivity estimates</li> </ul>
8(8)(a)(ii) the expected time that it will take the forest to become re-established following denudation	<ul style="list-style-type: none"> <li>Regeneration delay and impediments to regeneration</li> <li>Non-satisfactory restocked / backlog (reforestation)</li> </ul>
8(8)(a)(iii) silviculture treatments to be applied to the area	
8(8)(a)(iv) the standard of timber utilization and the allowance for decay, waste, and breakage expected to be applied with respect to timber harvesting on the area	<ul style="list-style-type: none"> <li>Utilization levels</li> <li>Decay, waste and breakage for natural stands</li> <li>Natural disturbances and non-recoverable losses</li> <li>Dead potential</li> </ul>
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	<ul style="list-style-type: none"> <li>Cutblock adjacency and green-up</li> <li>Ungulate winter range</li> <li>Wildlife habitat areas</li> <li>Enhanced riparian reserves</li> <li>Old growth management areas</li> <li>Recreation sites and reserves</li> <li>Stand-level biodiversity</li> </ul>
8(8)(a)(vi) any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber	<ul style="list-style-type: none"> <li>Harvest performance</li> </ul>
8(8)(b) the short and long term implications to British Columbia of alternative rates of timber harvesting from the area	<ul style="list-style-type: none"> <li>Alternative harvest flows</li> </ul>

<i>Forest Act</i> section and description	Factors accepted as modelled and not discussed further in the rationale
8(8)(d) Economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia	<ul style="list-style-type: none"> <li>• Reference to Minister's letters</li> <li>• Summary of public input</li> <li>• Summary of First Nations consultation</li> </ul>
Section 8(8)(e) Abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area	<ul style="list-style-type: none"> <li>• Abnormal infestation and salvage programs</li> </ul>

For other factors, where more uncertainty exists or where public or First Nations' input indicates contention regarding the information used, modelling, or some other aspect under consideration, this rationale incorporates an explanation of how I considered the essential issues raised and the reasoning that led to my conclusions.

### ***Forest Act* Section 8 (8)**

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

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

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

#### Land base contributing to the timber harvest

##### *- general comments*

The timber harvesting land base (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 49 is 110 426 hectares of which 105 993 hectares is classified as productive forest land base (PFLB). After reductions for areas unsuitable for harvest or reserved for other land management objectives, the THLB is calculated to be 85 454 hectares. After accounting for future permanent roads, the future THLB is 85 215 hectares or 80.4 percent of the PFLB and was used to model the base case. This THLB is 27 674 hectares smaller, representing a 24.5 percent reduction in area compared to the THLB used in the 2012 TSR.

I have reviewed the information regarding the total area, the productive forest land base, and the assumed THLB of TFL 49 for this determination. I accept the information provided, except where noted, and discussed in the factors below.

#### Forest composition and growth

##### *- non-forest and non-productive forest*

A forest inventory, based on LiDAR imagery collected in 2016 and 2017, was completed on TFL 49 in 2021, and updated to forest depletions and disturbance current to January 1, 2022. A total of 2859 hectares of areas classified non-forest and non-productive forest were removed from the PFLB.

The base case for TFL 49 modelled very dry sites from the Bunchgrass, Interior Douglas-fir and Ponderosa Pine biogeoclimatic (BEC) zones as part of the THLB which contribute to long-term timber supply. Very dry sites in TFL 49 represent 3.9 percent of the total THLB.

In the most recent TSR for the adjacent Okanagan TSA, very dry sites in the Bunchgrass, Interior Douglas-fir and Ponderosa Pine Biogeoclimatic Ecosystem Classification (BEC) zones were excluded from the THLB due to concerns with the ability to reforest these sites. The exclusion of these sites reflects the concern expressed in the 2020 Forest Practices Board (FPB) report *Reforestation in the Interior Douglas-fir Subzone: Are Reforestation Choices Meeting Objectives?* which suggested that more than 60 percent of reforested cutblocks in dry-belt Douglas-fir stands in the Southern Interior were in poor or marginal stand condition because licensees did not follow best management practices. The board stated that partial cutting systems can help reduce the uncertainties added by climate change, drought, fires, and forest health to regenerating stands. I note that since the release of the FPB report the ministry has released extension notes, outlining best practices where reforestation of dry sites is a concern.

Removing all BEC zones classified as very dry sites from the THLB reduces the short- and long-term timber supply by 3.6 percent. No information was provided on the amount of past harvesting, the degree of regeneration success, nor any future harvest plans in the areas classified as very dry sites, in the base case analysis.

I have reviewed the reductions for areas classified as non-forest or non-productive forest, and considered the concerns expressed by both staff and the FPB, regarding reforestation success and harvest performance on very dry sites. While the licence holder may be able to achieve some level of harvesting and successful regeneration on very dry sites occurring on the TFL, I do not expect these sites to contribute substantially to timber supply. Consequently, I conclude the base case timber supply has been overestimated by two percent and I will account for this in my determination as discussed in '**Reasons for Decision**'.

*- steep slope and inoperable terrain*

On TFL 49, slopes greater than 80 percent are generally not harvested, stands on these slopes were removed from the THLB unless there is evidence of previous harvesting, or under an active cutting permit. Within the TFL, slopes greater than 80 percent total 728 hectares of which 679 hectares is productive forest. After accounting for previous land base reductions, a total of 38 hectares, was removed from the THLB due to slopes greater than 80 percent. Slopes less than 80 percent were included in the analysis for the TFL and are considered part of the THLB.

Tolko supplied steep slope harvesting information indicating 97 percent of past harvest (1983 – 2023) occurred on slopes less than 40 percent, and 99.7 percent of past harvest occurred on slopes less than 61 percent. Slopes greater than 40 percent account for 7.6 percent of the THLB in TFL 49. Between 2013 and 2023, 4.2 percent of the total harvest occurred on slopes greater than 40 percent. Tolko indicated they do have extensive experience with steep slope harvesting using tethered systems and/or cable harvest systems, in their other southern interior operations. I note that harvest systems used to harvest on steeper terrain require a higher average merchantable volume per hectare to be economically feasible.

In the base case analysis, slopes over 40 percent account for 15 percent of the harvest in the first five years and 12 percent of the harvest in the first 15 years. However, this forecast is eight percent higher than recent actual harvest levels on slopes greater than 40 percent.

I am concerned that if harvest performance on steep slopes does not match the slope profile of the THLB, areas less than 40 percent slope will be harvested at an unsustainable rate. Consequently, I am instituting a partition in the AAC to limit the amount that may be harvested from slopes less than 40 percent. This partition is defined in '**Reasons for Decision**'. I will not

make any adjustments to the base case harvest projection at this time, to account for harvest on steep slopes.

*- riparian reserves and management 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. These unique environments are also of significant cultural importance to Indigenous peoples.

Riparian reserve zones (RRZ) prohibit harvesting, while riparian management zones (RMZ) restrict harvesting to specified limits. The widths of these areas are specified by the Forest Planning and Practices Regulation (FPPR). These requirements are also reflected in Tolko's Forest Stewardship Plan (FSP), along with minimum basal area retention commitments for riparian management areas (RMA), which are a combination of the RRZ and RMZ. Tolko's FSP also classifies S6 streams into large (S6-L) and small (S6) categories beyond the FPPR requirements.

For this analysis, Tolko created a LiDAR based stream layer, current to March 2021. From this dataset an equivalent RMA width was calculated for each riparian class by considering the widths of the RRZ and RMZ, along with the percentage basal area retention within the management zone. From this analysis, 4048 hectares are within a riparian buffer, and after accounting for overlapping THLB reductions for other values, 2109 hectares was excluded from the THLB for riparian buffers, in the base case timber supply analysis.

A ministry review of the *Sylx scenario* showed that 11 537 hectares fell within riparian buffers, of which 4130 hectares had no other overlapping management values, and were excluded from the THLB.

Water quality was identified as an extremely important consideration for ONA member communities. District staff indicated that Tolko's riparian retention practices often reflect the expectations of the ONA and other First Nations communities, received through information sharing and consultation on operational plans. In consultation with many other First Nations, with overlapping areas of interest on TFL 49, they expressed support for the additional riparian buffer widths outlined in the '*Sylx scenario*'.

Increasing the riparian reserve and management areas of the base case to reflect those modelled in the *Sylx scenario* results in a reduction in harvest level by 2.5 percent.

I recognize that the riparian area retention assumptions used in the base case meet minimum FPPR and FSP requirements. However, based on my discussion with ministry staff and the information provided by Tolko on the *Sylx scenario*, the riparian management practices on TFL 49 exceed the standard set in the FPPR and Tolko's FSP. Based on this I have concluded that the base case overestimates timber supply by 2.5 percent, which I will account in my determination, as described in '**Reasons for Decision**'.

*- First Nations cultural heritage resources and archeological sites*

Archaeological sites are defined in the *BC Archaeological Resource Management Handbook* as sites that "consist of the physical remains of past human activity". Archaeological sites which include culturally modified trees, pictographs, petroglyphs, and burial sites that pre-date 1846, are protected under the *Heritage Conservation Act*. Archaeological overview assessments (AOA) and Archaeological Impact Assessments (AIA) are used to identify potential archaeological sites. AOAs are not a reliable predictor of potential archaeological sites, therefore detailed preliminary field reconnaissance and in some cases AIAs are required to determine the full extent of

archaeological sites. As a result, areas of high archaeological potential are often incorporated into the retention associated with the cutblock.

The province keeps track of registered archaeological sites in their Remote Access to Archaeological Data (RAAD) application. Archaeological sites in RAAD were mapped and excluded from the THLB in this analysis. In the base case, a gross area of 1.5 hectares was removed from the THLB.

A cultural heritage resource is defined in the *Forest Act* as, "an object, site, or location of a traditional societal practice that is of historical, cultural or archaeological significance to the province, a community, or an Aboriginal people". Cultural heritage resources are resources post-date 1846 and not covered under the *Heritage Conservation Act*, and include structural features, heritage landscape features, and traditional use sites.

Indigenous cultural heritage, however, is broader in its definition. Indigenous cultural heritage encompasses land, resources, creation stories, histories, knowledge, practices, relations, and language. It includes all the places, spiritual areas, and objects that are linked to Indigenous history and traditions: transformer places, archaeological sites, trails, hunting grounds, gathering areas, burial grounds, artifacts, and cultural objects and materials.

First Nations have indicated that TFL 49 contains culturally important plants, animals, lands, waters, and other areas. Tolko has been working with First Nations to identify these areas on a site-specific basis during field reviews of proposed cutblocks. Often, these areas are incorporated into the retention of unaltered areas within cutblocks. In the base case analysis, there was no specific accounting for the protection of cultural heritage resources.

Although it is beyond the scope of my authority to make land use decisions attributable to the amount of area to be reserved for First Nations cultural heritage and archaeological resources, I expect that the emerging forest landscape planning (FLP) process will resolve these land use issues, which will be considered in future determinations. I am aware that the current practice is for licence holders to avoid harvesting in areas that are important to protect First Nations values and interests. These defacto "no go" zones may result in overharvesting elsewhere in the TFL, should their commensurate AAC continue to be part of the TFL. I am also aware of government's desire for reconciliation with First Nations and the government's intention to change the way forests are managed in this province.

I conclude that there are areas of First Nation cultural heritage and archaeological resources, overlapping the THLB and recognize that it is current practice to avoid harvest of these areas. Under '**Reasons for Decision**', I will account for an unquantified overestimation of the base case timber supply.

*- forest and related inventories*

In response to an implementation instruction in the *2012 AAC Rationale*, Tolko initiated a new LiDAR based inventory for TFL 49, completed in 2021. For this timber supply analysis, the inventory was updated to account for depletions and growth, current to January 1, 2022. Ministry inventory staff reviewed the LiDAR based inventory and recommended its use in TSR.

TFL 49 was severely impacted by the White Rock Lake catastrophic fire in 2021, with 33 270 hectares of the TFL contained within the fire perimeter. The fire occurred after the LiDAR data was collected requiring an update to the inventory used in the base case. Specific blocks that were identified for salvage harvesting and regeneration were incorporated into the timber supply model with a fixed harvest schedule for the first five-year period. Tolko also expects to harvest Douglas-fir within the White Rock Lake fire boundary as part of a Douglas-fir beetle mitigation program. In the base case, within the first five years a total of 250 000 cubic

metres of salvage harvesting from green stands, infested or at risk of fir beetle infestation, is modelled within the fire perimeter area.

The TSR model classified stands within the burn perimeter not targeted for salvage harvesting as either burned or unburned, and assigned burn damage percentages based on burn severity and stand height. Forested areas classified as unburned retained their original inventory ages and other attributes and no further adjustment were made. Stands classified as burned non-free-growing stands, were modelled with a two-year regeneration delay. Remaining burned stands, not planned for silviculture intervention or salvage, were assigned a regeneration delay based on the ecosystem burn severity rating ranging from 2 to 70 years. Additional discussion on the impact of wildfire on TFL 49, will be discussed under '*high impact fires*'.

I accept the use of the LiDAR based inventory, and the methodology used to update the inventory to account for timber harvesting depletions and fire disturbance is appropriate. For this determination, I conclude that the best currently available information was used in the timber supply analysis and forms a reasonable basis for this determination.

With respect to salvage, it is uncertain at this time to what extent the volume within fire-impacted stands will remain economically viable. Given this volume contributes to the base case harvest levels, this uncertainty could affect timber supply sustainability within TFL 49. Consequently, I expect Tolko and BC Timber Sales to focus future harvest on the most heavily fire-impacted timber profile and to avoid the harvest of green stands. Harvest priority should be on burned or insect infested stands that are economically available for harvest. Additionally, I ask that district staff monitor the contribution of burned stands to the overall timber profile of the TFL, as indicated in '**Implementation**'. I will not make any adjustments to the base case harvest due to uncertainty in the amount of fire salvage.

*- volume estimates for natural stands*

Natural stands have no recorded history of forest management (e.g. harvesting, planting, or spacing). In the base case analysis, all stands without harvesting history or stands older than 52 years of age were considered to be naturally regenerated. To model the changes in natural stands over time, yield tables for natural stands were derived using the Variable Density Yield Table Projection (VDYP 7) model.

To reflect existing stand volume and projected future growth for stands, an initial VDYP input record for each inventory polygon was created using data from the forest inventory. These projections also included adjustments for both the live and dead volumes in stands and how they changed over the timeline of the base case. For existing stands with more than 10 percent dead volume, it is anticipated that the forest gaps will be occupied with understory trees and contribute to future harvest volumes. The inventory reflects the current stand characteristics for stands that were not harvested but affected by historic fires. Any salvage harvest in the first five years of the projection were considered dead stems, regardless of any live component, and modelled with no further growth occurring, until regenerated.

To understand the results of the base case, modelling sensitivity analyses were conducted to explore how changes to natural stand yields affect timber supply. Increasing natural stand yields by 10 percent resulted in an 8.9 percent increase in harvest volume in the short- to mid-term harvest level. Decreasing the natural stand yields by 10 percent resulted in a 0.2 percent decrease in the short- to mid-term harvest level. During the first 45-years the volume contribution from natural stands is reduced by 9.3 percent. In this sensitivity analysis sufficient growing stock from managed stands make up for the reduction in existing natural stand growing to avoid a decrease in short- and mid-term harvest levels.

The VDYP modelling approach for the contribution of new live understory volume is a novel approach that was reviewed by FAIB inventory staff, who concluded the methodology applied to natural stands was acceptable for use in timber supply analysis, although its accuracy is unknown and introduces some uncertainty.

Based on my review of the information summarized above, I conclude the best available information, and accepted methods were used to produce the managed stand yields for this analysis. Although there is currently no accurate way to compare how understory volumes contribute to future stand volumes in areas where dead timber is not salvaged, I believe this risk to be small and consequently make no adjustments to the base case. I commend the licence holder on the innovative use of the LiDAR to better reflect current stand volumes, in stands affected by historic fires and encourage them to work with Forest Analysis and Inventory Branch staff to refine this in future modeling and analysis.

*- volume estimates for managed stands*

Managed stands receive forest management treatments (e.g., planting, spacing, use of improved planting stock, etc.) to improve the tree regeneration and growth. For TFL 49, stands currently 52 years of age and younger are considered managed. To reflect changes in regeneration practices over time, the period between 1971 – 2021 was divided into six silviculture eras. Two additional eras were also used, one for non-free-growing stands affected by the 2021 White Rock Lake fire that are expected to be reforested under Section 108 of FPRA funding, and a second for future managed stands. The ministry's Table Interpolation Program for Stand Yields (TIPSY) model, version 4.4 was used to project the growth and yield of each managed stand in each era.

Yield tables for the 1971-1986 era were generated with TIPSY, using the natural regeneration function. This is a departure from current standards which use the ministry's Variable Density Yield Projection model (VDYP) for stands established prior to 1987 that do not have a silvicultural history record (i.e., it does not have an opening identification) in the RESULTS database. Consequently, there was some concern the use of TIPSY represents an uncertainty in the volume estimate for the stands from this silviculture era. Further discussion on the use of TIPSY to project managed stand yields will be discussed in '*operational adjustment factors*'.

Two sensitivity analyses were run to evaluate the impact of changes and uncertainty in managed stand yields. Increasing the managed stand yields by 10 percent resulted in an 8.3 percent increase in short- to mid-term harvest level and a 10.0 percent increase in long-term harvest level. Decreasing the managed stand yield by 10 percent resulted in a 6.8 percent decrease in short- to mid-term and a 9.9 percent decrease in long-term timber supply.

Based on my review of the information summarized above, I conclude the best available information, and accepted methodologies were used to generate the managed stand yields used in the analysis. I note the concern that the growth and yield of stands established in the 1971-1986 era may be overestimated but believe the risk to be small. I recognize that increasing adoption of incremental silviculture practices has resulted in benefits to managed stand yield on this licence and in other areas of the province, corroborated by the data obtained from the province's young stand monitoring program, in the adjacent Okanagan TSA. Consequently, I will make no adjustments to the base case on this account.

*- genetic gain*

The *Chief Forester's Standards for Seed Use* requires licensees reforesting provincial lands, to use the best genetic quality seed (also known as select seed), where available. Several classes of tree seed are recognized in the standard. These include orchard-sourced seed from selective tree breeding programs, which source seed from wild stands but select a subset of superior provenance trees for seedling production. This seed has desirable traits such as increased growth, wood

quality and pest or disease resistance. This type of seed is referred to as “A Class” Seed or Class A seed. Seed that is collected from wild stand sources is called “B Class” Seed and seed from wild stands displaying superior provenance characteristics is termed “B+ Class” Seed. In keeping with the province’s broad stewardship responsibilities for Crown land, the Ministry’s Forest Improvement and Research Management Branch ensures that no genetically modified tree seed has been registered for use in operational forest planting on Crown land in British Columbia.

ONA communities have expressed concern that the use of Class A seed may reduce the resilience of future stands to the effects of climate change. In the *Sylix scenario* a sensitivity analysis was undertaken to measure the impact of removing the use of Class A seed in future managed stands. By removing the increase in stand yield attributed to Class A seed, a 0.2 percent short-term decrease in timber supply, and a 9.2 percent long-term decrease in timber supply resulted, compared to the *Sylix scenario*.

Representatives of the Splatins and Tolko also discussed their concern with the use of Class A seedlings. District staff indicated that Splatins have concerns about the use of Class A seed in their territory.

For this determination, I accept the approach used to model the use of the best available genetic quality seed, in the TFL 49 base case was appropriate. I note that the use of Class A seed, where available, is a legal requirement for forest licensees to utilize in reforestation of sites on Crown land. I recognize that the Ministry’s tree improvement program was originally focused on increasing timber volume but has since evolved to include objectives for enhanced disease resistance and drought tolerance. I also note the recent efforts to select progeny with greater resistance to drought conditions. Under ‘**Implementation**’ I request that Ministry staff take steps to further understand Splatins’ and any other First Nation’s concern with the use of Class A seed and provide outreach materials and information on the benefits to timber supply and stand resilience from the work of the Ministry’s tree improvement program.

*- operational adjustment factors*

Operational Adjustment Factors (OAF) are used to adjust the output of growth and yield models for managed stands. As described in ‘*volume estimates for managed stands*’ the TISPY 4.4 model was used to project the growth and yield of each individual managed stand in TFL 49.

All TISPY projections of volume yields for managed stands are initially based on ideal conditions, assuming full site occupancy and the absence of pests, diseases, and significant brush competition. However, certain operational conditions, such as a less-than-ideal distribution of trees, the presence of small non-productive areas, endemic pests and diseases, or age-dependent factors such as decay, waste and breakage, may cause yields to be reduced over time. Two OAFs are therefore applied to yields generated using TISPY, to account for losses of timber volume resulting from these operational conditions. OAF 1 is designed to account for factors affecting the yield curve across all ages, including small stand openings, uneven tree distribution, endemic pests, and other factors. OAF 2 accounts for factors whose impacts tend to increase over time such as decay, waste, and breakage.

In the 2012 TFL 49 AAC determination chief forester Jim Snetsinger recommended that the licensee “... consider developing a monitoring strategy that will, over time, confirm the yields that can be expected from managed stands on TFL 49.” Tolko has utilized a LiDAR based inventory to undertake an analysis quantifying gaps in crown cover and non-productive areas within stands. The base case for TFL 49 utilized 15 percent for OAF 1 and five percent for OAF 2, the provincial standard.

Tolko believes the standard OAF 1 overestimates the reduction to managed stand growth and undertook a sensitivity analysis with a reduced OAF 1 of 10 percent. Using the revised OAF 1 value, the timber supply increased by 6.4 percent in the short-term and 6.7 percent in the long-term. Tolko's view is that an OAF 1 of 15 percent is more suitable for forest cover inventories where non-productive forest polygons smaller than two hectares in size are not typically identified. They also asserted that the LiDAR based VRI mapping for TFL 49 can identify non-productive polygons to a minimum size of 0.5 hectares or less thus a reduced OAF 1 is more appropriate. Ministry staff reviewed the recent vegetation inventory for the TFL and agree that it provides better resolution and mapping of non-productive areas but to what extent this affects timber supply cannot be quantified at this time.

After reviewing the summarized information above, I conclude that the operational adjustment factors used in the analysis were based on the best available data and accepted methodologies. I note that LiDAR and improved VRI mapping can provide a detailed understanding of site occupancy and that validation over time will help improve OAF values. However, I recognize the need to better quantify the impact of active forest health issues on OAFs, particularly around balsam bark beetle in TFL 49, as noted in *'forest health'*. Accounting for the uncertainty in the information presented by the licensee and considering the ministry defaults for OAFs, I find there is a two percent underestimation in timber supply, and I will discuss this further in **'Reasons for Decision'**. I encourage Tolko to undertake additional field verification of managed stands on TFL 49, to provide more accurate information on OAFs in the future.

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

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

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

*- silviculture systems*

A silviculture system is a planned program of silvicultural treatments (harvesting, regeneration and stand tending) intended to achieve a predictable yield of benefits from a forest stand over time. Virtually all harvesting on TFL 49 uses a clearcut with reserve silvicultural system.

The Interior Douglas-fir (IDF) biogeoclimatic ecosystem classification (BEC) zone encompasses 32 percent of the THLB in the base case. The IDF can be particularly difficult to regenerate after clearcut harvesting and District staff recommend that a partial cutting silviculture system with assisted reforestation should be encouraged in Douglas-fir dry-belt stands to protect and maintain other resource values. In 2020 the Forest Practices Board released a report: *Reforestation in the Douglas-fir Subzone: Are Reforestation Choices Meeting Objectives?* which indicated an over-reliance on clearcutting as a silviculture system and concluded that clearcutting is not appropriate for dry belt-fir stands, as young trees do not regenerate well without the shade and shelter of overstory trees.

During the TFL 49 field tour with representatives of the ONA, Tolko, and Ministry staff in the fall of 2024, Tolko highlighted the recent partial harvest treatments applied in lower elevation Douglas-fir stands. I also note that working groups have been established to improve guidance and practices for dry-site reforestation in the Southern Interior.

I concur with District staff that there is an overreliance on clearcut harvesting in the IDF and encourage Tolko to continue incorporating partial harvest treatments in their operations where appropriate.

I conclude that stands within the IDF zone will contribute to timber supply less than modelled in the base case and have made an adjustment to account for this in my consideration of ‘*non-forest and non-productive forest*’. I note the increased in-block retention, particularly in the dry to very dry IDF, proposed in the *Sylix scenario*. For this determination, I will not make any additional adjustments to the base case to account for silvicultural systems.

**Section 8(8)(a)(iv) the standard of timber utilization and the allowance for decay, waste and breakage expected to be applied with respect to timber harvesting on the area**

*- minimum harvestable criteria*

Minimum harvestable criteria are used to define the condition at which existing and future managed stands become merchantable and available for harvest. Most stands will not be harvested until well past the minimum criteria as the timber supply model selects stands to harvest based on harvest flow or to meet other objectives, such as old forest retention for biodiversity.

In the TFL 49 base case, minimum harvest criteria included a minimum volume of 75 cubic metres per hectare, a minimum height of 15 metres. In addition, a minimum harvest age of 60 for existing natural regeneration and natural regeneration after the 2021 fire, and a minimum harvest age of 50 for managed stands was used. In the first five years of the base case, five percent of the harvest volume comes from stands less than 100 cubic metres per hectare, with lower contributions from low volume stands harvested in subsequent years. Records from the province’s Electronic Commerce Appraisal System (ECAS) from 2013 to 2021 show that harvest of stands between 75 and 100 cubic metres per hectare contributed 0.14 percent of the total volume harvested, substantially less than the five percent projected in the base case.

Two sensitivity analyses were completed to evaluate how sensitive the base case was to change in minimum harvest age, while maintaining the minimum harvest volume threshold of 75 cubic metres per hectare. When the minimum harvest age was raised by 10 years, short- and mid-term timber supply decreased by 12.1 percent but increased by 2.4 percent in the long-term. When the minimum harvest age was reduced by 10 years, short- and mid-term timber supply increased by 0.5 percent and 0.6 percent in the long term, indicating that short- and mid-term timber supply is not constrained by minimum harvest criteria.

ONA representatives indicated that increasing the minimum harvest age for managed stands may increase the occurrence of favorable stand attributes on the land base. Three sensitivity analyses that tested the impact of increasing the minimum harvest age were completed on the *Sylix scenario* as requested by ONA. The first increased the minimum harvest age to 20 years greater than the age at which the maximum mean annual increment is achieved. This resulted in a 22 percent decrease in harvest volume for the first five years of the forecast, a 49.5 percent decrease for the remainder of the short- to mid-term, and a 4.9 percent decrease in long-term timber supply. An additional two sensitivity analyses applied the increased minimum harvest age (20 years) as well as delays to the transition to the long-term harvest level by 20 and 30 years. In delaying the transition to the long-term harvest level by 20 years, the timber supply in the first five years decreased by 22 percent, 44.5 percent for the remainder of the short- to mid-term, and 4.3 percent in the long-term. Changing the transition to 30 years, the timber supply in the first five years decreased by 22 percent, 42 percent for the remainder of the short- to mid-term, and 4.2 percent in the long term.

I have considered the information used to set the minimum harvestable criteria used in the analysis. I accept the information used in the based case as being modelled appropriately and best represents the current practice on TFL 49. I do note that timber supply is highly sensitive to adjustments in minimum harvest age and minimum harvest volume. I recognize that increasing

the minimum age at which stands are harvested may improve conditions for other forest values over time, as expressed by the ONA. Given that interest in increasing the minimum harvest age, I do ask that future analysis, for this management unit, monitor the transition in harvest profile from natural stands to managed stands. I will not make any adjustments to the base case harvest projection to account for changes in minimum harvestable criteria, in this determination.

**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

*- landscape-level biodiversity*

Conserving landscape-level biodiversity involves maintaining forests with a variety of patch sizes, seral stages, and forest stand attributes and structures, across a variety of ecosystems and landscapes. In the delineation and formal designation of landscape units for establishing biodiversity management objectives, three biodiversity emphasis options (BEO) are identified, 'lower', 'intermediate', and 'higher'. Each option is designed to provide a different level of biodiversity, when finding an appropriate balance between biodiversity and timber supply.

The 2004 *Order Establishing Provincial Non-Spatial Old Growth Objectives* (NSOGO) specifies the minimum old growth retention requirements by biodiversity emphasis option, natural disturbance type, and BEC variant. For landscape units assigned a low BEO, the NSOGO allows for a temporary reduction ("drawdown") of the old forest minimum retention requirements by up to two-thirds to address timber supply impacts. The Order specifies that the full targets must be met by the end of the third rotation, or 240 years from the date of the Order.

TFL 49 contains parts of three landscape units (Okanagan West Side, Trepanier and Upper Salmon). These landscape units are all classified as low BEO. In the base case Old Growth Management Areas (OGMAs) were removed from the THLB, and a target was set for meeting landscape-level biodiversity requirements. The old-seral target reflected a two-thirds reduction at the start of the modelling timeline, a one-third reduction in the target by the end of the second rotation (160 years from the date of the order), and full implementation of the target by the end of the third rotation (240 years from the date of the order).

While the NSOGO drawdown allows for reduced retention levels in low BEO landscape units, its application should not further reduce the area of old forest within the units. In the base case analysis, the target retention in some low BEO landscape units were below existing levels of old forest which caused further reductions in projected old forest retention levels.

In a sensitivity analysis, applying the full old-seral requirements immediately (no "drawdown" scenario) resulted in a short- and mid-term harvest level 5.5 percent lower and a long-term harvest level 0.7 percent lower than in the base case.

In November 2021, government announced its intention to work in partnership with First Nations to defer harvest of ancient, rare and priority large stands of old growth within 2.6 million hectares of B.C.'s most at-risk old-growth forests. It is not yet known how many of these deferrals may become permanent reserves in the future.

Currently there are about 8475 hectares of old growth deferral areas on TFL 49, of which about 4274 hectares are within the THLB. A sensitivity analysis for restricting harvest, within old growth deferral areas was undertaken. If these areas were permanently deferred, short- to mid-term timber supply would decrease by 6.1 percent and by 2.5 percent in the long-term.

It is my expectation that there will be changes to the way that old forest is managed throughout the province and ultimately, within the TFL. The implementation of long-term measures for old growth deferral areas and other old forest, is expected to occur through land use planning processes, in collaboration with First Nations and input from the public. During that transition I expect that some of the old forest contributing to the timber supply in the base case may be deferred from harvest.

Land use decisions regarding the amount of area protected for old growth management in the province fall outside of my statutory authority. I do recognize that First Nations and public support for managing Old Growth forests in the province differs from the strategies within the proposed *Sylix scenario*. My goal is to ensure there is flexibility for the implementation of appropriate long-term measures for old forest management by reflecting the current practice of avoiding deferred stands which will meet evolving management expectations around old growth. Therefore, my decision will specify short-term measures to ensure that existing old growth harvest deferral areas do not unintentionally result in the overharvest of young or old forests over the remainder of the TFL. I will account for a 2.5 percent overestimation of the base case timber supply, as described in ‘**Reasons for Decision**’.

For the reasons described above, I am also instituting two partitions in the AAC, as described in ‘**Reasons for Decision**’. These partitions are based on the sensitivity analysis described above and the NSOGO definitions of “old forest”. (The NSOGO defines “old forest” as stands older than 140 years in more frequently disturbed ecosystems (NDT 3) and 250 years or older in less frequently disturbed ecosystems (NDT 1, 2, and 4)). Recognizing the concerns over the “drawdown” of old growth in the base case, I expect Tolko to manage to the intent of the NSOGO as described in the ‘**Implementation**’ section of my determination.

*- community watersheds*

The FPPR establishes objectives for water management within community watersheds and requires forest tenure holders to protect water for human consumption. Tolko specifies results or strategies for activities within community watersheds in their FSP, which includes the requirement to conduct a watershed assessment, and assurance that activities will be consistent with the recommendations of that assessment. Equivalent clearcut area (ECA) is a coarse level indicator of the level of forest disturbance and hydrological recovery in a watershed. ECA is often further refined to the area of a watershed above the snowline, where the boundary of the Montane Spruce (MS) and Engleman Spruce-Subalpine Fir (ESSF) BEC zones are considered an appropriate boundary for the snowline on TFL 49.

Portions of three community watersheds (Lambly, Powers and Silver) overlap TFL 49. The proportion of the THLB within these community watersheds and above the snowline is 33 percent or 17 900 hectares. I note that Tolko has engaged a hydrologist to complete watershed assessments and make recommendations on the specific site conditions present in each community watershed.

The base case modelled a constraint for each community watershed where no more than 40 percent of the forested area above the snowline could have an average stand height less than six metres at any time in the planning horizon. At the start of the analysis stands less than six metres in height covered less than 35 percent of the area above the snowline in community watersheds.

Regional hydrologists for the Thompson Okanagan and Kootenay Boundary Regions reviewed the information in the analysis and provided me with their assessment. They noted that the watershed assessment procedure is most suited for watersheds between 500 and 50 000 hectares, designed for assessing entire watersheds and the portion of the Silver watershed within TFL 49 is

less than 500 hectares. Other relevant research conducted by UBC Okanagan assessed eight large watersheds in BC found that at ECAs as low as 12 percent significant hydrological change can occur. Although the 40 percent ECA threshold applied in the base case is consistent with Tolko's Forest Stewardship Plan, and current planning guidelines in consideration of the UBC research, the regional hydrologists did express concerns that the community watersheds are being managed to the high end of moderate risk.

The *Sylix scenario* modelled a maximum ECA of 40 percent above the snowline for the three community watersheds, and an additional 12 watersheds. In addition, at the request of ONA representatives, an additional sensitivity analysis restricted the maximum ECA to 30 percent, applied to all watersheds. Decreasing the ECA threshold to 30 percent across all watersheds resulted in a decrease to the harvest flow in the short- to mid-term of 2.3 percent 0.9 percent in the long-term, compared to the *Sylix scenario*.

Splatsin expressed concerns about water availability for the Salmon River, and the susceptibility of watersheds to impacts from wildfire and climate change. The Lower Nicola Indian Band indicated support for reducing the ECA threshold for all watersheds to 40 percent.

Public comment indicated concern about watershed security and noted that unlike wildfire there was a lack of information on the catastrophic drought levels on the Salmon River and Okanagan Basin. A second member of the public recommended that the chief forester deliberate on the connection of forestry to the hydrologic cycle, when setting the AAC. Tolko responded that issues such as drought are beyond the scope of TFL management plans. They added that a detailed watershed assessment was completed, conducted by a professional hydrologist, specific to the White Rock Lake fire of 2021, which affected the Salmon Lake watershed. Also, this assessment, along with collaboration with First Nations, was used in forestry planning including the *Sylix scenario* which incorporates concerns of the ONA about the rate of harvest in watersheds.

I understand that water is a primary and significant resource within and in areas adjacent to the TFL. I note the concern expressed by members of the public around the effects of ongoing drought in the region and the importance of water resources to First Nations. I also recognize that hydrologic impacts associated with forest management activities are not limited to administrative boundaries for forest tenure or community watersheds. I do have concern with the level of risk for managing community watersheds by assuming a 40 percent ECA threshold, above the snowline, in the base case. As a result, I will account for an unquantified overestimation in base case timber supply, as described under '**Reasons for Decision**'.

Recognizing the concern with the level of risk assumed in managing community watersheds to a moderate to high risk, I expect Tolko to implement a more comprehensive approach in future watershed assessments described in '**Implementation**'.

*- fisheries sensitive and other watersheds*

The FPPR establishes objectives for fisheries sensitive watersheds (FSW) and Tolko's FSP has defined results or strategies in relation to the objectives for the FSW overlapping TFL 49. The FSP specifies that a watershed assessment must be completed, and that harvesting must be consistent with the recommendations of that assessment. There are no results or strategies for management of watersheds without community or FSW designation in Tolko's FSP.

A portion of the Short's Creek FSW overlaps TFL 49. The total area within the TFL and above the snowline in Short's Creek is 13 346 hectares of which 10 135 hectares is within the THLB. Only the watershed area above the snowline and within the boundary of TFL 49 were assessed and limited to a maximum ECA target of 40 percent. In the base case analysis Short's Creek had

projected ECAs between 35 and 40 percent during the first 10 years of the analysis, with ECAs below 35 percent for most of the remainder of the modelling horizon.

In response to the Joint Professional Guidelines *Watershed Assessment and Management of Hydrologic and Geomorphic Risk in the Forest Industry* published jointly in January 2020 by the Forest Professionals and the Engineers and Geoscientists of BC, Tolko has committed to a Watershed Risk Management Framework (WRMF) for all other watersheds on TFL 49. The WRMF considered an ECA over 50 percent in a watershed to be a higher than acceptable likelihood of changes to peak flows. Tolko prepares a yearly ECA calculation report for each of the 12 defined watershed units on TFL 49.

In the base case, for non-community and non-FSW, in the first 35 years some watersheds exceeded the 50 percent ECA threshold. By year 45, all watersheds have an ECA of less than 45 percent. In the *Syilx scenario* the maximum ECA above the snowline threshold was set at 40 percent for all watershed units. The ONA requested a sensitivity analysis where the ECA threshold was set at 30 percent. This resulted in a decrease in short- and mid-term timber supply of 2.3 percent and a decrease in long-term timber supply of 0.9 percent when compared to the *Syilx scenario*.

As noted in ‘*community watersheds*’ the regional hydrologists for the Thompson Okanagan and Kootenay Boundary Regions reviewed and provided comment on the watershed assessment procedures in the base case analysis. Specific to fisheries sensitive and other watersheds they expressed to me their concern with the level of hydrologic risk assumed to be acceptable and that the assessment considered only the portion of the watershed above the snowline and the watershed area within the TFL boundary.

In my review of the information on fisheries sensitive and other watersheds, I do note the concern with the methodology of only assessing ECA above the snowline and assumption of a higher level of hydrological risk, particularly in watersheds without established legal objectives. I am encouraged that Tolko has responded to concerns and professional practice requirements by preparing a WRMF assessment of all watersheds on TFL 49 and updating this information yearly. I also note both the *Syilx scenario* and comments from other First Nations have indicated a preference for more conservative ECA thresholds across all watersheds. It is my expectation that discussions will happen under future FLP processes to determine an appropriate level of watershed risk. In the interim I will request that the licence holder consider a different approach to watershed assessment described in ‘**Implementation**’. Consequently, I will also account for an unquantified overestimation in the base case timber supply, in my ‘**Reasons for Decision**’.

- *scenic resources*

Scenic resources on TFL 49 are managed through visual quality objectives (VQO). These VQOs prescribe the extent of forest alteration that can result from the size, shape, and location of cutblocks and roads. VQOs have been established on TFL 49, since October 2002 and cover an area of 10 707 hectares of THLB.

In the base case, Plan to Perspective (P2P) ratios and Visually Effective Green-up (VEG) heights were determined for five percent slope class increments for each individual scenic area polygon. The P2P ratios were then applied to adjust the percent allowable alteration by three visual quality objectives (Retention, Partial Retention and Modification). The timber supply model was then configured to not allow any further harvest in VQOs that exceeded the percent alteration threshold until there is sufficient stand height growth that the disturbance threshold has been met. Cutblocks already identified as salvage for wildfire or fir beetle were a modelling exception to this requirement.

I note that due to catastrophic fires and other previous natural disturbance, there is significant area of THLB on TFL 49 where the current disturbance in established VQOs exceeds the maximum disturbance thresholds.

Reducing or directing the location of harvesting in areas subject to a VQO are land-use decisions beyond the scope of the chief forester. I am aware that forest landscape planning in partnership with First Nations, will enable table participants to collaborate on new ways to meet land-use objectives related to visual quality. The results of those decisions will be reflected in future AAC decisions. For this determination, I will not make any adjustments to the base case harvest projection to account for scenic resources.

**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

*- climate change*

As discussed under my ‘*Guiding principles for AAC determinations*’, climate change is a key area of uncertainty for the timber supply review process. 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, and 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.

In November 2024, ministry staff prepared a report, *TFL 49 Climate Change Analysis Report*, for consideration. Using data from the Pacific Climate Impact Consortium for northwest North America for the period 1942 to 2012, current climate trends were calculated for TFL 49. The data showed that during this period mean annual temperature increased by 1.6 degrees Celsius (°C), with winter warming the most (2.6°C). During this same period mean annual precipitation increased by 13 percent. Precipitation increased by 60.5 percent in the spring, and by 12.3 percent in the summer. In contrast, winter precipitation decreased by 14.9 percent.

Estimates of future temperature and precipitation were projected using the Climate BC v7.21 climate model. It is projected that during the period 2041 to 2070 mean annual temperature may increase by 3.1°C. Annual precipitation is projected to increase by 5.0 percent. The largest increase in precipitation is expected in spring (12.4 percent), and summer is expected to be drier (-12.2 percent). Annual precipitation in the form of snow is expected to decrease by 30.5 percent.

Future climate projections indicate a higher drought risk in the summer period. Although there may be more frost-free days and growing-degree days, moisture availability may limit the potential for increased tree growth. It is also likely that the projected hot dry conditions will limit the natural defences of trees from disturbances such as insects, forest pathogens and wildfire.

I was able to view some examples of climate change adaptation strategies that Tolko is adopting to establish more resilient forests during a field trip with their foresters, First Nations, and Ministry staff in the fall of 2024. These included partial harvesting, regenerating a mix of site appropriate tree species, prompt reforestation following harvesting, increased retention around riparian features, and increased in-block retention in dry IDF subzones.

During consultation for the TFL 49 management plan, Splatsin discussed their concern about water availability for the Salmon River, related to the impacts of wildfire and climate change. Specific response to this concern is discussed in ‘*community watersheds*’.

I encourage Tolko to consider the impact climate change is having on forest productivity, on TFL 49, by employing practices such as prompt reforestation of at-risk sites. I will discuss further related risks and mitigation recommendations, in *'forest health'* and *'high impact fires'*.

While I do not have the authority to prescribe forest management actions, I expect actions to respond to the effects related to climate change will be mandated as forest landscape planning occurs in management units such as TFL 49. The requirement for regular AAC determinations provides the ability to incorporate actions taken in response to climate change in future AAC determinations. Considering the changes in climate already experienced and projected changes described here, I expect that future timber supply will be reduced as the effects of climate change unfold. For this determination, as described under **'Reasons for Decision'**, I will account for an unquantified long-term overestimation of timber supply in the base case harvest projection due to climate change.

*- forest health*

Forest health agents include insects, forest pathogens and other environmental factors such as drought and wildfire. Within TFL 49, based on data from Aerial Overview Surveys (AOS), the largest 10-year impacts based on average unsalvaged losses were from drought, beetle (balsam bark beetle, Douglas-fir bark beetle) and wildfire. The impact of the 2021 and 2023 wildfires will be addressed in *'high impact fires'*.

In the base case the ongoing endemic level of pests and non-catastrophic wildfire was modelled through volume table adjustments (e.g., empirical basis of growth and yield in VDYP and operational adjustments in TIPSY) and the identification of non-recoverable losses. Based on the results of forest health aerial overview surveys (AOS), 3139 cubic metres per year were removed from the harvest flow to account for unsalvaged losses of which 961 cubic metres was attributed to balsam bark beetle. The losses attributable to balsam bark beetle represents 0.5 percent of short-term timber supply in the base case projection.

In addition to modelling ongoing endemic losses, the base case modelled the impact of recent catastrophic fire losses through adjustments to the forest inventory as discussed in *'forest and related inventories'* and *'high impact fires'*. In the base case Tolko included the salvage harvest of 250 000 cubic metres as part of a Douglas-fir beetle mitigation program.

Based on research plots located in the adjacent Okanagan TSA, the south area regional entomologist advised me that the AOS have significantly underestimated the recent volume losses attributed to balsam bark beetle. Using the lowest range volume estimate from the research plots indicates that annual volume losses may be underestimated by 15 127 cubic metres annually. This represents an 8.5 percent overestimation in the short term and 5.1 percent overestimation in the long-term base case timber supply. Non-recoverable losses estimated in the AOS and the Okanagan TSA research plots represent a range of potential losses and level of uncertainty around the impacts of balsam bark beetle.

Considering the potentially wide-ranging effects of climate change, as illustrated by increases in insect related mortality due to factors such as balsam bark beetle, I conclude the level of unrecoverable losses will continue to increase. I encourage Tolko to continue to exercise due diligence in forest health monitoring, and to consider additional focus on balsam bark beetle monitoring. I also recommend Tolko focus additional salvage efforts on balsam stands impacted by bark beetle, reducing unsalvaged losses, and regenerating productive and resilient future stands. Accordingly, I will account for an unquantified overestimation in base case timber supply due to the uncertainty in the estimates of losses due to forest health agents, in my **'Reasons for Decision'**.

- *high impact fires*

White Rock Lake wildfire

The 2021 White Rock Lake wildfire severely impacted TFL 49. In the area between Monte Lake and Okanagan Lake includes 33 270 hectares of the TFL that were impacted by the fire. Working in conjunction with First Nations, Tolko developed a retention plan and identified salvage opportunities in the area affected by the fire. Beyond planned salvage operations Tolko estimates that approximately 725 000 cubic metres of merchantable timber will not be salvaged from the White Rock Lake wildfire.

To accurately model wildfire affected areas in the base case, inventory polygons within mapped fire perimeters were assigned a burned or unburned classification and then refined based on burn severity and age class. Burned areas were assumed to regenerate and assigned a regeneration delay based on inventory characteristics and severity, while salvage areas were scheduled for harvest within the first five-year planning period of the timber supply projection. Non-free-growing stands were assigned a two-year regeneration delay. Natural and free-growing managed stands impacted by fire were treated as a natural regenerating stand with a regeneration delay linked to a BEC subzone/burn severity rating calculation. Unburned stands retained their inventory age and other attributes with no further adjustment. Three-hundred and eighty hectares or 0.44 percent of the THLB was assigned a 70-year regeneration delay due to site productivity limitations.

As indicated in '*forests and related inventories*' Tolko is planning to salvage 250 000 cubic metres of Douglas-fir beetle affected stands in areas adjacent to or within the fire perimeter. Ministry staff raised concern that this may not be operationally feasible due to the requirements for smaller blocks and timely harvest of active beetle populations. A sensitivity analysis was completed where the requirement to conduct fir beetle salvage in unburned stands was removed. This resulted in a 1.5 percent increase in short- to mid-term harvest and a 0.8 percent increase in long-term harvest. While this increase may appear counterintuitive, it reflects the removal of the strict scheduling requirement to salvage harvest, thereby allowing the timber supply model to adjust harvest priorities to stands which have higher productivity or are closer to their optimum harvest age.

McDougall Creek wildfire

A second major wildfire, the McDougall Creek wildfire, affected 4001 hectares (1947 hectares of THLB) on the south-eastern boundary of TFL 49 in 2023. Of note, 78 percent of the THLB within the area impacted by this fire is within the High and Medium burn severity categories. Due to the timing of this wildfire relative to completion of the TFL 49 Management Plan, the base case, *Sylix scenario* and associated sensitivity analyses were modelled on the land base conditions prior to this wildfire. It is estimated that 211 995 cubic metres of merchantable timber volume is available for salvage harvest. Tolko has proposed salvage harvest for some of this volume but estimates that 154 600 cubic metres of merchantable timber within the wildfire perimeter will not be recovered.

In addition to the loss of existing merchantable timber, extended natural regeneration delays due to the intensity of the fire were considered. Tolko assumed that the loss of future growth due to regeneration delays resulting from the high intensity burn are approximately equivalent to the incremental volume gain of burned sites over a 45-year period had the area not been burned. The additional merchantable volume produced over this period is estimated to be 147 000 cubic metres. The impact of the McDougall Creek wildfire on other resource values, such as visual quality, wildlife habitat or old-seral forest retention, was not assessed.

I accept the modelling of the White Rock Lake wildfire impact is reasonable and the methodology used to update the inventory to account for timber harvesting and wildfire disturbance in high intensity fire areas is appropriate. However, with respect to burn severity and regeneration delay, it is uncertain as to how long it will take to regenerate some areas with low productivity, or areas without existing reforestation obligations. With respect to Douglas-fir beetle salvage I find it reasonable to direct some harvest toward management of insect infestations, and that the impact to timber supply will be minimal.

In consideration of the McDougall Creek wildfire, the estimated amount of volume to be salvaged is uncertain and it is likely that a large amount of volume will remain unharvested. Given that this volume was included in the forest inventory when the base case was modelled, and that a high percentage of the burn was of medium and high intensity, and there may be difficulty in regenerating these areas, this uncertainty could affect timber supply sustainability within the TFL. I am also mindful that the McDougall Creek fire may impact other resource objectives which were not captured in the base case analysis and could further impact timber supply within TFL 49. Consequently, I will consider a two percent overestimation in the base case timber supply, and I will account for this in my determination in '**Reasons for Decision**'. To mitigate some of these concerns I encourage Tolko and ministry staff to monitor post-wildfire regeneration performance on both the White Rock Lake and McDougall Creek wildfires and make this information available in future AAC determinations.

*- grade 4 credit*

AACs reflect the merchantable volume understood to be available using the information contained in the forest inventory, research plots and projected by growth and yield models. Operationally, the harvest level within a TFL is monitored through various tenure decisions, forest revenue audits and billing of harvest.

Grade 4 cut control credit is an administrative tool intended to provide an incentive for licensees to utilize low quality logs. Licensees can apply to have Grade 4 volume exempt from cut control calculations when delivered to a non-sawlog and non-veneer facility (e.g., pulp, bioenergy, etc.), in accordance with Section 17(6) of the Cut Control Regulation. Grade 4 credits are not charged against cut control allowing this unaccounted harvest volume to be reapportioned to other parts of the TFL and may lead to an unsustainable timber supply in units where the AAC is fully utilized.

Live grade 4 volume is included in natural and managed stand yield projections, which was used in the base case. However, no additional consideration of the use of grade 4 credits and their impact on the AAC, was examined in the base case harvest projection.

From 2012 to 2023, a total volume of 328 300 cubic metres from TFL 49 was eligible for a grade 4 credit. Twenty-three percent of the total grade 4 volume was applied as a credit against the licensee's cut control, representing 3.7 percent of the total harvest volume.

With regards to grade 4 credit, I am mindful of balancing better fibre utilization that encourages forest sector diversity, while ensuring that the future use of grade 4 credit does not negatively impact timber supply sustainability. It is my expectation that the total annual live harvest (including grade 4 credit) should not exceed the AAC set by this determination. I will make no adjustment to the base case to account for grade 4 credit. As I will discuss further under '**Implementation**', I expect Ministry staff to monitor the use of grade 4 credit and report any concerns to the chief forester.

- *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 and disposition of accumulated volumes for forest licences, TFLs and woodlot licences in accordance with Section 75.8 of the *Forest Act*. The minister may, in accordance with Section 75.8 and the principles outlined in the policy, issue a tenure based on unharvested volume. As chief forester I must consider the implications of these additional harvest tenures as one of the factors (e.g., a pressure on the standing inventory) when determining the AAC for TFL 49.

The 2018 policy requires that prior to the AAC determination, I must be provided with information regarding the total net volume of unharvested volume. Regional Tenures staff indicate that for TFL 49, over the two cut control periods since the last determination (2012-2015 and 2016 to 2020) Tolko accumulated 38 967 cubic metres of unharvested volume. I have not been made aware of any disposition plans for this unharvested volume, at this time.

In addition to volume allocated to Tolko on TFL 49, BCTS is allocated an annual reserve volume of 36 905 cubic metres per year. As of March 2025, BCTS’ unused volume in TFL 49 is 111 214 cubic metres. BCTS staff have indicated they intend to offer this unused volume over the remainder of their current business cycle ending in 2029, in addition to their annual reserve volume.

The base case represents the maximum amount of volume projected to be sustainable to harvest annually over time. The inventory supporting the base case includes all the standing volume present in the TFL, including any accumulated unharvested volume.

It is necessary for me to account for the planned volume disposition for 111 214 cubic metres by BCTS and the associated reduction in growing stock over a 25-year period, resulting in a short-term harvest level 2.5 percent lower than the base case, which I will account for in my ‘**Reasons for Decision**’.

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

- *alternative harvest flows*

I was provided with one alternative harvest projection that applied the timber supply transition strategy applied in the 2011 TSR, with an adjustment for the Brown’s Creek area removal, as described under ‘*Base case for TFL 49*’.

The alternative harvest projection applied an initial annual harvest level of 150 143 cubic metres, that is 26 817 cubic metres below the base case initial harvest level, with a series of increases beginning in the 20 years, reaching the long-term harvest level of 325 000 in 80 years, that is 15 years earlier than the base case projection.

**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**

As noted in Table 1, I have considered the economic and social objectives of government as they relate to the factors that I am required to consider under Section 8 of the *Forest Act* and have no further comments.

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

As noted in Table 1, I have considered a factor related to natural disturbances and non-recoverable losses, and abnormal infestation and salvage programs and I find it to have been appropriately accounted for in the base case, with no further comment required.

**Reasons for Decision**

In reaching my AAC determination for TFL 49, 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 176 960 cubic metres per year can be maintained for 45 years before transitioning over a 50-year period to a long-term harvest level of 293 980 cubic metres per year. The base case initial harvest level is 13.2 percent lower than the current AAC of 204 000 cubic metres.

I am satisfied that the assumptions applied in the base case, for most of the factors applicable to TFL 49, were appropriate including those detailed in Table 1 or as previously discussed in this rationale. 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 the base case 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 in my considerations as indicating that the timber supply projected in the base case may have been underestimated, to a degree that can be quantified:

- *operational adjustment factors* - A sensitivity analysis indicated that decreasing OAF 1 from 15 percent to 10 percent, could increase short-term timber supply by 6.4 percent and long-term timber supply by 6.7 percent. Accounting for the use of LiDAR and improved VRI mapping to better quantify site occupancy and non-productive areas in managed stands results in a two percent underestimation in timber supply.

I have identified the following factors in my considerations as indicating that the timber supply projected in the base case may have been overestimated, to a degree that can be quantified:

- *non-forest and non-productive forest* – Land base exclusions to account for the removal of very dry sites in the Bunchgrass, Interior Douglas-fir, and Ponderosa Pine biogeoclimatic zones results in a two percent overestimation in base case timber supply.
- *riparian reserves and management areas* – The reduction in THLB area reflecting the riparian buffers modelled in the Syilx forest management scenario, which reflects current practice within TFL 49, represents a 2.5 percent overestimation in the base case timber supply.
- *landscape-level biodiversity* – The base case modelled drawdown of old-seral targets, causing further reductions in the projections of old forest representation. The public’s expectation is for increased protection of old growth values in our forests. A short-term

reduction in base case timber supply of 2.5 percent is accounted for current practice and ensure flexibility to meet long-term objectives for old growth forest management.

- *high impact fires* – To account for the merchantable timber losses and uncertainty in regenerating areas affected by high intensity wildfire of the 2023 McDougall Creek Wildfire after completion of timber supply modelling results in a two percent overestimation in timber supply.
- *unharvested and unused volumes* – To account volume disposition plans of BCTS unharvested volume I will account for a 2.5 percent overestimation in short-term timber supply.

In total, the combined effect of these factors represents a net overestimation of the base case harvest level of 9.5 percent. However, there were some factors I considered where the impacts to timber supply were overestimated but unquantified. These factors, '*first nations cultural heritage resources and archaeological sites*', '*community watersheds*', '*fisheries sensitive watersheds & other watersheds*', '*climate change*', and '*forest health*' I reviewed and discussed the analyses and recommendations provided by ministry staff and the information presented in the *Syilx scenario*. It is beyond the scope of my authority to prescribe remedies to maintain these values and to mitigate the risks to timber supply posed by '*climate change*' and '*forest health*', however I conclude that combined these uncertainties pose a further risk to timber supply.

I have identified the following factors in my considerations as indicating that the timber supply projected in the base case may have been overestimated, but not quantifiable at this time:

- *cultural heritage resources* – Current practice is to retain areas of high cultural or archaeological significance, in engagement and collaboration with First Nations. The base case assumed the conservation of cultural heritage features through co-location with other retention requirements. Co-location is not always possible, resulting in an unquantified overestimation of THLB and short-term timber supply.
- *community watersheds* – Management of community watersheds ECAs to the higher level of moderate risk, consideration of only the area above the snowline may not provide an accurate account of risk to watershed values. The impact on timber supply is unquantified, but changes in how watersheds are assessed and included in future timber supply reviews are expected.
- *fisheries sensitive watersheds and other watersheds* – Management of fisheries sensitivity watershed ECAs to the higher level of moderate risk, consideration of only the area above the snowline may not provide an accurate account of risk to watershed values. I do recognize the work Tolko has undertaken in implementing the WRMF both within FSWs and other watersheds beyond FSP requirement. The impact on timber supply is unquantified, but changes in how watersheds are assessed and included in future timber supply reviews are expected.
- *climate change* – There is substantial scientific agreement that the climate is changing, and the changes will affect forest ecosystems. The magnitude of the impact is difficult to quantify but climate change will result in a long-term reduction in timber supply.
- *forest health* – Research in adjacent management units indicates that balsam bark beetle-related mortality is underestimated in the aerial overview surveys which were used to generate the base case timber supply projection. Increasing forest health mortality is expected to continue, due to the increased impact of climate change on forests, but the impact to timber supply is unquantified.

As stated under ‘*Guiding principles for AAC determinations*’, one way of dealing with uncertainty is to manage risks by evaluating the significance of specific uncertainties associated with the current information and assessing the potential current and future social, economic, and environmental risks associated with a range of possible AACs. Consequently, the AAC I determine will account for these unquantified risks and give staff the opportunity to adopt forest practices to mitigate the risk to these values and to timber supply. Following a comprehensive review of the analysis results for TFL 49, I have considered the comments received from the public and the concerns expressed by First Nations. The factors where the impact to timber supply were quantifiable indicate that timber supply in the base case should be reduced by 9.5 percent to 160 149 cubic metres. However, after considering the unquantifiable factors described above, I concluded that this adjustment does not adequately address uncertainties and First Nations concerns in the timber supply projection and results in an overestimation of available timber supply. To best reflect the actual timber supply available and address the aforementioned potential overestimate, I am setting the AAC at 150 500 cubic metres on TFL 49.

It is my expectation that there will be changes to the way that old forest is managed in the TFL. Implementation of long-term measures for old forest management, including TAP polygons and other old forest, is expected to occur through land-use planning processes, in collaboration with First Nations and input from the public. While this unfolds, I anticipate that some of the old forest contributing to the timber supply projection may be voluntarily deferred from harvest.

Therefore, to avoid licensees relocating the harvest contribution associated with at-risk old growth to younger stands, I am instituting two AAC partitions based on the definitions of old forest provided in the NSOGO. In the first, a maximum of 67 500 cubic metres or 45 percent of the AAC can be harvested from “old forest”. Old forest is defined as stands older than 140 years (NDT 3) and 250 years or older in less frequently disturbed stands (NDT 1, 2, and 4). In the second, a maximum of 55 percent of the AAC can be harvested from stands that are not “old forest”.

With respect to old growth forests, once the province and First Nations have established new legal requirements for the management of old growth, including the at-risk old growth identified by the TAP, these changes will be incorporated in timber supply reviews. If significant changes occur, the AAC can be adjusted either through a determination earlier than required in legislation or by means of the AAC Administration Regulation.

With respect to steep slopes, I am mindful that the timber supply sustainability of the TFL is contingent on increasing harvest performance on slopes greater than 40 percent to a level that is proportionate to their contribution to the THLB. Although Tolko indicates it has significant cable harvesting capacity, increasing harvest performance on steep slopes still requires a significant shift in operational planning and timber harvesting methods. Therefore, to reduce the risks associated with a concentration of harvesting on slopes less than 40 percent, I am instituting a partition in the AAC such that a maximum of 85 percent of the AAC can be harvested from slopes less than 40 percent.

## **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, reflects current management practices, as well as the socio-economic objectives of the Crown, can be best achieved in TFL 49 by establishing an AAC of 150 500 cubic metres. This harvest level is 26.2 percent lower than the current AAC of 204 000 cubic metres.

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

1. Old forest: A maximum of 67 500 cubic metres per year or 45 percent of the AAC may be harvested from old forest. “Old forest” is defined as stands older than 250 years in less frequently disturbed ecosystems (Natural Disturbance Types (NDT) 1, 2, and 4) and stands older than 140 years in more frequently disturbed ecosystems (NDT 3).
2. Not old forest: A maximum of 83 000 cubic metres per year or 55 percent of the AAC may be harvested from stands that are not old. “Not old forest” is defined as stands younger than or equal to 250 years in less frequently disturbed ecosystems (NDT 1, 2, and 4) and stands younger than or equal to 140 years in more frequently disturbed ecosystems (NDT 3).
3. Slopes less than 40 percent: A maximum of 128 000 cubic metres per year or 85 percent of the AAC can be harvested from stands on slopes less than 40 percent.

This determination is effective November 21, 2025 and will remain in effect until a new AAC is determined, which must take place within 10 years of the effective date of this determination. If additional significant new information is made available to me, or major changes occur in the management assumptions upon which this decision is based, 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 tenure holder’s staff to undertake or support the tasks and studies noted below, the benefits of which are described in appropriate sections of this rationale document.

I recognize that the ability of ministry and the tenure holder to undertake projects is dependent on available resources, including funding. However, I have highlighted here what I view to be the most critical needs to help reduce the risks and uncertainty associated with key factors that affect timber supply in TFL 49.

1. *Forest and related inventory* – I expect the licensee to focus future harvest on the burnt timber profile and to avoid the harvest of green stands when burnt or insect infested stands are economically available for harvest. Additionally, I ask that district staff monitor the contribution of burnt stands to the overall timber profile of the TFL.
2. *Genetic gain* – The use of Class A seed is a legal requirement for forest licensees. I ask Ministry staff to provide outreach materials and information on the benefits of Class A seed in improving stand yield, tree resiliency to climate change impacts, and the use of natural seed in the Ministry’s tree improvement program, in future discussions as requested by the Splatsin.
3. *Landscape-level biodiversity* – I expect Tolko to manage to the intent of the *Order Establishing Provincial Non-Spatial Old Growth Objectives* (NSOGO) and not deplete old-seral forest below the targets specified in this order.
4. *Grade 4 credit* – The licence holder for this TFL is harvesting the full AAC, and I am concerned that any increase in the grade 4 credits currently permitted will lead to over harvest of the AAC. I expect Ministry staff to monitor the use of grade 4 credit and report any concerns to the chief forester.

5. *Community and fisheries sensitive watersheds* – I ask that future watershed assessments within Community and Fisheries Sensitive Watersheds, overlapping TFL 49, undertake a more comprehensive approach, considering watershed cumulative effects and historical and future stand disturbances including salvage logging and wildfire impacts. I also expect that future assessments assess the equivalent clearcut area (ECA) of the entire watershed, not just the areas above the snowline or those portions of the watershed overlapping the TFL area.



Shane Berg, RPF  
Chief Forester

November 21, 2025

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

Section 8 of the *Forest Act*, Revised Statutes of British Columbia 1996, c. 157, (current to November 4, 2025), 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 November 4, 2025) reads as follows:

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

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

(a) encourage maximum productivity of the forest and range resources in British Columbia;

(b) manage, protect and conserve the forest and range resources of the government, having regard to the immediate and long term economic and social benefits they may confer on British Columbia;

(c) plan the use of the forest and range resources of the government, so that the production of timber and forage, the harvesting of timber, the grazing of livestock and the realization of fisheries, wildlife, water, outdoor recreation and other natural resource values are coordinated and integrated, in consultation and cooperation with other ministries and agencies of the government and with the private sector;

(d) encourage a vigorous, efficient and world competitive

(i) timber processing industry, and

(ii) ranching sector

in British Columbia;

(e) assert the financial interest of the government in its forest and range resources in a systematic and equitable manner.

### Appendix 3: Minister's letter of October 31, 2025



File: 280-30  
Reference: 281918

October 31, 2025

Shane Berg, R.P.F.  
Assistant Deputy Minister, Chief Forester  
PO Box 9532 Stn Prov Govt  
Victoria, British Columbia  
V8W 9M1

Dear Shane Berg:

The *Forest Act* grants you the authority to determine the allowable annual cut (AAC) for each timber supply area (TSA) and tree farm licence (TFL) in the province; a role that carries significant implications for British Columbia's economy, forest communities and workers, natural environment and for achieving provincial objectives for lasting and meaningful reconciliation with Indigenous peoples.

In keeping with the government's 2021 vision document *Modernizing Forest Policy in British Columbia*, this letter outlines the social and economic objectives that are to be considered in AAC determinations and replaces prior ministerial guidance. "Ministerial guidance" includes the letter of November 24, 2021, issued to the Chief Forester by the Minister of Forests, Lands, Natural Resource Operations and Rural Development.

As you know, B.C.'s forests provide a wide range of benefits. Healthy, biodiverse forests, active forest management and a stable timber supply underpin thriving communities, a robust industry, and strong regional and provincial economies. At the same time, forestry in B.C. is undergoing a significant transition, shaped by the end of mountain pine beetle salvage, major losses from wildfires, insects and disease, global economic pressures, shifting public expectations, the impacts of climate change on B.C.'s forests and evolving land use decisions related to species at risk and old growth conservation.

As such, British Columbians and First Nations expect a provincial government that understands these dynamics, and remains committed to building a strong, sustainable economy that benefits everyone, and a path forward for lasting and meaningful reconciliation in partnership with Indigenous peoples.

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Ministry of Forests

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](http://www.gov.bc.ca/for)

Shane Berg, Assistant Deputy Minister and Chief Forester

In this complex and dynamic environment, and in addition to all current legal policy and best practice considerations that your office incorporates into AAC decision-making, I ask that your AAC determinations do the following:

- Promote the full utilization of the harvest profile. This involves the harvesting of wildfire- and insect-damaged timber, in addition to innovative forestry practices such as commercial thinning and partial harvesting. These practices will assist in improving forest health, reducing wildfire risk, and strengthening sustainable forest management.
- Consider the knowledge of Indigenous peoples whose traditional territories overlap with the management unit under consideration and incorporate this where applicable, as the Government of B.C. continues implementing the *Declaration on the Rights of Indigenous Peoples Act* and working to align provincial laws with the United Nations Declaration on the Rights of Indigenous Peoples. For greater certainty, please continue to ensure your AAC determinations are consistent with the outcomes of that work, with applicable government-to-government agreements and with current case law defining Aboriginal rights and title.
- In order to ensure efficient and accurate determinations, I ask that you critically review how determinations are made, employ cutting edge technology, and create measurable improvements in the delivery of results.

Finally, when faced with necessary reductions in AACs, determinations should consider that these should be no larger than is necessary to avoid potentially significant long-term impacts on the timber supply that underpins B.C.'s forest economy.

Thank you, Shane, for your continued service as well as your care and attention to these important matters. I look forward to working with you in inspiring and guiding the Forest Service through the transition ahead and in ensuring practical solutions to maximize timber supply while preserving other forest values.

Yours truly,



Ravi Parmar  
Minister

pc: Makenzie Leine, Deputy Minister of Forests

#### **Appendix 4: Information sources used in the AAC determination**

The information sources considered in determining the AAC for TFL 49 include the following:

A New Future for Old Forests: A Strategic Review of How British Columbia Manages for Old Forests within its Ancient Ecosystems. <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/old-growth-forests/strategic-review-20200430.pdf>;

Aerial Overview Surveys. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-health/aerial-overview-surveys>;

Approved Government Actions Regulation – Ungulate Winter Ranges. [http://www.env.gov.bc.ca/wld/frpa/uwr/approved\\_uwr.html](http://www.env.gov.bc.ca/wld/frpa/uwr/approved_uwr.html);

Archaeology in British Columbia. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. <https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/archaeology>;

Biodiversity Guidebook, Ministry of Forests. [Biodiversity Guidebook \(Forest Practices Code of British Columbia, September 1995\) \(gov.bc.ca\)](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/biodiversity-guidebook);

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

British Columbia Geographic Warehouse. <https://www2.gov.bc.ca/gov/content/data/geographic-data-services>;

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Forest Practices Board. *Reforestation in the Interior Douglas-fir Subzone: Are Reforestation Choices Meeting Objectives?*. 2020. <https://www.bcfpb.ca/release-publications/releases/reforestation-in-the-douglas-fir-subzone-are-reforestation-choices-meeting-objectives/>;

Forest Practices Code Riparian Management Area Guidebook. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/silviculture/silvicultural-systems/silviculture-guidebooks/riparian-management-area-guidebook>;

Forest Stewardship Council. FSC Regional Certification Standards for British Columbia Main Standards. 2005. <https://connect.fsc.org/document-centre/documents/resource/181>;

Harvest Billing System (HBS). Ministry of Forests. <https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/harvest-billing-system>;

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Letter from the Minister of Forests to the chief forester stating the economic and social objectives of the Crown, BC Government November 24, 2021;

Landscape Unit Planning Guide. Ministry of Forests. [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/archive/lup\\_guide.pdf](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/archive/lup_guide.pdf);

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