

**BRITISH COLUMBIA  
MINISTRY OF FORESTS**

# **Tree Farm Licence 3**

**held by  
Interfor Corporation**

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

**Effective July 18, 2024**

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Deputy 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) 3. This document also identifies where new or better information is needed for incorporation in future determinations.

## **Acknowledgement**

For preparation of the information, I have considered in this determination, I am indebted to staff of the B.C. Ministry of Forests (the “ministry”) in the Selkirk Natural Resource District (SNRD) and the Forest Analysis and Inventory Branch (FAIB). I am also grateful to the First Nations, local residents, individuals, and Interfor Corporation 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 Timber Supply Areas (TSAs) and TFLs. Section 8 of the *Forest Act* is reproduced in full as Appendix 1 of this document. For the purposes of this AAC determination in accordance with Section 23(3) of the *Interpretation Act* the deputy chief forester is expressly authorized to carry out the functions of the chief forester (including those required under Section 8 of the *Forest Act*).

## **Description of the TFL**

TFL 3 consists of approximately 78 091 hectares of Crown land in the West Kootenays about 40 kilometres north of Castlegar, near the village of Slocan City. The TFL is bounded by Valhalla Provincial Park to the north, and TFL 23 (also held by Interfor Corporation) to the west and south.

Biogeoclimatic zones in the TFL include the Interior Cedar Hemlock, Subalpine Fir-Engelmann Spruce, and Interior Mountain-heather Alpine biogeoclimatic zones. The main conifer species at lower elevations within the TFL are Douglas-fir, larch, cedar, lodgepole pine, and hemlock. At higher elevations spruce and balsam are the major tree species.

The TFL 3 administrative boundary overlaps the traditional territories of the Adams Lake Indian Band, Ktunaxa Nation Council, Lower Similkameen Indian Band, Neskonlith Indian Band, Okanagan Indian Band, Penticton Indian Band, Shuswap Band, Sinixt – Lakes Tribe of the Colville Confederated Tribes, Skwłāx te Secwepemcúfecw, Splots’in First Nation, Upper Nicola Band, and Westbank First Nation.

The Selkirk Natural Resource District (“the district”) administers the TFL from Nelson, Castlegar, and Revelstoke within the Kootenay-Boundary Region.

## **History of the AAC**

TFL 3, originally known as Forest Management Licence 3, was first awarded to Passmore Lumber Company Ltd. in 1950. Before being acquired by Interfor Corporation in 2013, the TFL was sold five times. The TFL area has remained relatively unchanged until 1977, when 221 hectares were removed from the TFL to account for a road right-of-way and 1988, when 220 hectares were removed from the TFL and incorporated into Valhalla Provincial Park.

The last AAC determination for TFL 3, made on March 30, 2010, set the AAC at its current level of 80 000 cubic metres. On April 15, 2020, the AAC determination was postponed to a date on or before March 30, 2023.

## **New AAC determination**

Effective July 18, 2024, the new AAC for TFL 3 will be 56 100 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 7300 cubic metres (13 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 (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 48 800 cubic metres (87 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 50 percent: A maximum of 33 700 cubic metres per year (60 percent of the AAC) can be harvested from stands on slopes less than 50 percent.

This AAC is approximately 30 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 10 years required by legislation.

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

Section 8 of the *Forest Act* requires the chief forester, in determining AACs, to consider biophysical, social and economic information. Most of the technical information used in determinations is in the form of a timber supply analysis and its inputs related to inventory, growth and yield, and management. The factors used as inputs to timber supply analysis have differing levels of uncertainty associated with them, due in part to variation in physical, biological and social conditions. 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. In order to make

my approach in these matters explicit, I have considered and adopted the following body of guiding principles, which have been developed over time by 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 give consideration to the following information:

- (i) information provided to First Nations to explain the timber supply review process and analysis results;
  - (ii) information, including Indigenous Knowledge, brought forward through consultation or a collaborative engagement process with respect to Aboriginal Interests, and how these interests may be impacted by an AAC decision;
  - (iii) any strategic level plans, operational plans, or management information that describe how Aboriginal Interests are addressed through specific actions and forest practices;
  - (iv) existing relevant agreements and policies between First Nations and the Province;
- and,

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

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

The timber on established Aboriginal title lands (meaning Aboriginal title declared by a court or defined under an agreement with necessary federal and provincial implementation legislation), Treaty Settlement Lands or Indian Reserves, is no longer provincial timber. Consequently, it does not contribute to the AAC of the management unit overlapped by those lands. Prior to establishment of Aboriginal title, it is not appropriate for the chief forester to speculate on how potential establishment of Aboriginal title in an area could affect timber supply, given uncertainties about the scope, nature and geographic extent of title. Unless land has been established to be Aboriginal title land, Treaty Settlement Land or reserve land it remains as provincial land managed by the Province and will contribute to timber supply. However, where there is clear intent by government to recognize lands as title land that are yet to be finalized, I will consider information that is relevant to the decision in a manner that is appropriate to the circumstances. The requirement for regular AAC reviews will ensure that future determinations address ongoing changes to the land base.

#### Information Uncertainty

Given the complex and dynamic nature of forest ecosystems coupled with changes in resource use patterns and social priorities there is always a degree of uncertainty in the information used in AAC determinations. The following are two ways of addressing they uncertainty of information available to support an AAC determination:

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

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

It is not appropriate to speculate on timber supply impacts that may eventually result from land-use designations not yet finalized by government. Where specific protected areas, conservancies, or similar areas have been designated by legislation or by order in council, these areas are deducted from the 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 tool that could be used to address the risk of serious harms in situations of deep uncertainty or significant deficiencies in information. However, the precautionary approach does not consider the full spectrum of values or extensive range of research and information utilized by the chief forester. For these reasons, AAC determinations more appropriately follow a decision process utilizing analyses of current land and management practices and the exploration of the potential effects of uncertainties, rather than relying on an overriding precautionary approach.

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

### Forest Landscape Planning

In addressing the factors outlined in Section 8 of the *Forest Act*, I will consider relevant available information on timber and non-timber resources in the management unit, including information on the interactions among those resources and the implication for a sustainable timber supply.

AAC determinations will be made in the context of new forest landscape plans and legal orders that establish forest management expectations. These plans and orders direct forestry activities and guide the stewardship of 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 is not necessarily possible to fully analyze and immediately account for the consequent timber supply impacts in an AAC determination. Many of government's land-use decisions must be followed by detailed implementation decisions requiring, for instance, further planning or legislated designations such as those provided for under the *Land Act* and FRPA. In cases where government has been clear about the manner in which it intends land-use decisions to be implemented, but the implementation details have yet to be finalized, I will consider information that is relevant to the AAC in a manner that is appropriate to the circumstance. The requirement for regular AAC reviews will ensure that future determinations address ongoing plan implementation decisions.

### Cumulative Effects

Cumulative effects (CE) are changes to environmental, social and economic values caused by the combined effect of past, present and potential future human activities and natural processes. In the context of AAC determinations, I am aware of the mandate provided by the Minister of Forests (FOR) which tells me to ensure that my AAC determinations continue to incorporate the best available information on the CE of multiple activities on the land base. Where the CE of



timber harvesting and other land-based activities indicate a risk to natural resource values, my determinations should identify those risks for consideration in land-use planning. I am also asked to consider ways in which my AAC determinations could encourage actions or practices to mitigate risks to natural resource values.

Section 8 of the *Forest Act* only authorizes the chief forester to make decisions on allowable harvest levels, not to change or institute new management regimes for which other statutory decision makers have specific authority. However, cumulative effects information can highlight important issues and uncertainties in need of resolution through land use planning which I can note and refer to those responsible for such planning.

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

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

#### Climate Change

One key area of uncertainty relates to climate change. There is substantial scientific agreement that climate is changing and that the changes will affect forest ecosystems. Forest management practices will need to be adapted to the changes and can contribute to climate change mitigation by promoting carbon uptake and storage. The potential rate, amount, and specific characteristics of climate change in different parts of the province are uncertain. This uncertainty means that it is not possible to confidently predict the specific, quantitative impacts on timber supply.

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

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

Due to the uncertainty surrounding impacts on the AAC from climate change, it is important to encourage dialogue to develop climate change mitigation and 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 management decisions about the appropriate approach and associated practices will be incorporated into future AAC determinations. The requirement for regular AAC reviews will ensure continuous improvement of the information and knowledge on climate change and ensure the development of a responsive decision-making process to emerging natural resources issues.

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

In considering the factors required under Section 8 of the *Forest Act* to be addressed in AAC determinations, I am assisted by timber supply 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 in a number of theoretical projections, and because it incorporates information about which there may be some uncertainty, the base case is not an AAC recommendation. Rather, it is one possible projection of timber supply, whose validity, as with all the other projections provided, depends on the validity of the data and assumptions incorporated into the computer simulation used to generate it.

Therefore, much of what follows in the considerations outlined below is an examination of the degree to which all the assumptions made in generating the base case 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 on the basis of informed judgment using currently available information about forest management, and that information may well have changed since the original information package was assembled. Forest management data are particularly subject to change during periods of legislative or regulatory change, or during the implementation of new policies, procedures, guidelines or plans.

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

### **Base case for TFL 3**

The timber supply analysis for TFL 3 was conducted by Forsite Consultants Ltd. using PATCHWORKS™, which is approved by FAIB for use in timber supply reviews. PATCHWORKS is a spatially explicit forest estate model used to project timber harvesting

activities following current management practices including objectives for non-timber values such as biodiversity, wildlife habitat, cultural heritage resources, recreation, and visual quality. Based on the review by ministry staff, as well as my own experience reviewing results from similar models, I am satisfied that PATCHWORKS can provide an appropriate projection of timber supply.

In addition to the use of the PATCHWORKS model, major changes from the 2009 timber supply analysis include: redefinition of stand merchantability; adjustment of the TFL boundary to reflect major road right-of-way corridors and transfer of area to Valhalla Provincial Park; no application of the Phase 2 statistical adjustments to the forest inventory; alignment of land base and forest management assumptions with those used for Interfor's adjacent TFL 23 tenure; use of updated ministry growth and yield models for both natural and managed stands; and revision of the silviculture regimes for managed stands.

The inventory used for the analysis was updated and projected for growth and disturbance to January 1, 2022. The harvest flow objectives used for the base case were to achieve a long-term harvest level close to the long range sustained yield (LRSY), a stable growing stock on the THLB during the last 100 years of the projection and limiting any increases or decreases to 10 percent in a 10-year period. The base case begins in 2022 and the harvest levels are reported for 300 years.

The base case shows an initial harvest level of 80 170 cubic metres per year can be maintained for 51 years before increasing in two steps to the long-term harvest level of 95 040 cubic metres per year in year 61 of the projection. The long-term harvest level is slightly lower than the LRSY, which is 99 394 cubic metres per year. The initial harvest level is about the same as the current AAC of 80 000 cubic metres.

In an alternative harvest projection, an initial harvest level of 87 950 cubic metres per year, which is 10 percent higher than the current AAC, can be maintained for 131 years before increasing to the same long-term harvest level as in the base case. This harvest projection was not selected as the base case because the transition to the higher long-term harvest level is delayed by 60 years.

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

### **First Nations engagement**

The Crown maintains a duty to consult with, and accommodate as necessary, those First Nations for whom it has knowledge of claimed Aboriginal rights and/or title (Aboriginal Interests) that may be impacted by a proposed decision, including strategic-level decisions such as AAC determinations. The AAC can affect various resource values and therefore the ability of Aboriginal Peoples to meaningfully exercise their Aboriginal rights or interests. Information gained through consultation with potentially affected First Nations has been considered in this determination.

TFL 3 overlaps with the traditional territories of 12 First Nations, including: the Adams Lake Indian Band, Ktunaxa Nation Council, Neskonlith Indian Band, Shuswap Band, Sinixt - Lakes Tribe of the Colville Confederated Tribes (Sinixt), Skwłāx te Secwepemcúłecw (Skwłāx), Splats'in First Nation, as well as the Okanagan Indian Band, Lower Similkameen Indian Band,

Penticton Indian Band, Upper Nicola Band, and Westbank First Nation, who are all members of the Okanagan Nation Alliance.

The licensee shared a *Draft Information Package, Analysis Report* and *Management Plan* with potentially impacted First Nations. In a parallel process, Ministry of Forests district staff led the consultation process with First Nations for the various TSR phases.

Pre-consultation engagement for the TFL 3 Management Plan began on November 30, 2021. Consultation on the draft *Information Package* was initiated on May 5, 2022, and ended on July 5, 2022. Consultation on the draft *Management Plan*, which included the *Analysis Report*, was initiated on April 4, 2023, and ended on September 8, 2023.

### Ktunaxa Nation Council

The Ktunaxa Nation Council (KNC) represents four Kutenai bands in B.C. These include: the ʔakisq̓nuk (Columbia Lake First Nation), Kootney Yaq̓it ʔa·knuql̓iʔit (Tobacco Plains Indian Band), ʔaq̓am (St. Mary's First Nation) and Yaq̓an nuʔkiy (Lower Kootenay Indian Band).

KNC have several agreements with the Province, including the Ktunaxa Economic, Community and Development Agreement; Forest Consultation and Revenue Sharing Agreements (FCRSA); and Forest Tenure Opportunity Agreements (FTOA). ʔaq̓am is part of the Sixteen First Nations Clean Energy Commitment, which is shared with 15 other First Nations throughout .. KNC also has a Strategic Engagement Agreement with the Province, which was signed in 2010 and expired on March 31, 2024. KNC has been in treaty negotiations with the Province since 1993. In the fall of 2021, KNC suspended treaty negotiations under Stage 5 of the B.C. Treaty process, and the member bands continue to review options for self-determination and their future governance structure.

The KNC did not respond during the consultation periods for the TFL 3 TSR. However, the KNC's interests and concerns have been communicated to the Province through the KNC TSR Working Group and the KNC Forestry Standard Document.

Since 2020, the Ministry and KNC have been collaborating on TSRs for the following management units: Golden Timber Supply Area (TSA), Kootenay Lake TSA, Revelstoke TSA, and TFL 56. To date, the working group's focus has been on the Kootenay Lake TSA TSR, which was occurring concurrent with this timber supply review.

In March 2020, KNC released the *Ktunaxa Forestry Standards Document for Forestry Within ʔamaʔkis Ktunaxa* ("Ktunaxa FSD"). The KNC prepared the FSD due to concerns that current forest management practices are degrading lands and waters, and cumulative developments interacting with accelerating climate change are putting forest biodiversity at unacceptable levels of risk. KNC think that significant reductions in AAC are needed.

KNC provided Interfor with their FSD prior to the release of the *Information Package*. Input received from this engagement was incorporated into the draft *Information Package* prior to public review. Interfor also conducted several sensitivity analyses. These include two scenarios, one in which the Ktunaxa FSP riparian and wildlife tree retention requirements were applied and another in which the Ktunaxa FSP riparian and wildlife tree retention requirements were applied without minimum block size restrictions (see 'riparian areas' and 'wildlife tree retention').

Although ministry staff did not provide a response to KNC because they did not comment directly on the TFL 3 TSR process, I have considered the relevant comments provided by the KNC through the KNC TSR Working Group and the *Ktunaxa FSD* in making this determination.

### Okanagan Nation Alliance and Member Bands

The Okanagan Nation Alliance is a tribal council representing several member bands including the Penticton Indian Band, Lower Similkameen Indian Band, Okanagan Indian Band, Upper Nicola Band, and Westbank First Nation. Apart from the Upper Nicola Band, all members of the Okanagan Nation Alliance have FCRSAs. The Penticton Indian Band has been working with Interfor at an operational level to incorporate its standards for protecting cultural values in cutblock and road development. This cooperative work has been occurring within the Penticton Indian Band area of responsibility in all Interfor tenures. Except for the Westbank First Nation, who are at Stage 4, none of the Okanagan Nation Alliance member tribes are engaged in the B.C. Treaty process. Ministry staff work with non-treaty Okanagan Nation Alliance member bands through engagement and economic agreements, working groups, and other non-treaty processes.

Although several meetings were held in early 2021 to discuss ways to participate in TSR, no responses were received from the Okanagan Nation Alliance during the engagement and consultation periods.

### Secwepemc Nation/Shuswap Nation Tribal Council

The Secwepemc Nation/Shuswap Nation Tribal Council is an association of 10 of the 17 Secwepemc bands. Qwelmintec Secwepemc, which is part of the tribal council, is comprised of six member bands. Of these, the Adams Lake Indian Band, Skwłāx, and Splants'in First Nation were identified for consultation on this timber supply review. The Adams Lake Indian Band is part of the Sixteen First Nations Clean Energy Commitment with the Province. Skwłāx has an FCRSA, FTOA, and First Nations Clean Energy Business Fund Revenue Sharing Agreement with the Province. None of the Qwelmintec Secwepemc bands are engaged in the B.C. Treaty process.

### Neskonlith Indian Band, Skwłāx, and Splants'in First Nation

Along with the Adams Lake Indian Band, Skwłāx, and Splants'in First Nation, the Neskonlith Indian Band is a member of the Secwepemc Nation Tribal Council. These four bands comprise the Pespellkwe or Lakes Division of the Secwepemc Nation.

The Neskonlith Indian Band claim territory that overlaps TFL 3 but is not a signatory to the Qwelmintec Letter of Commitment. The Neskonlith Indian Band has an FCRSA, an FTOA, and an Economic Benefits Agreement with the ministry. The Neskonlith Indian Band is not involved in the B.C. Treaty process.

During the TSR, Skwłāx provided several comments during the consultation period for the draft Management Plan. These comments and ministry responses have been addressed in the relevant factors in this document.

Splants'in First Nation requested an extension on the review period for the Management Plan due to capacity issues and complications related to wildfires. This request was granted, and the consultation period was extended to September 8, 2023.

### Shuswap Band

Members of the Shuswap Band are descendants of the Secwepemc who travelled throughout the Upper Columbia River to hunt and fish, and eventually settled in the region in the early to mid-1850s. The Shuswap Band has an FCRSA and FTOA. The Shuswap Band is not engaged in the B.C. Treaty process.

### Sinixt – Lakes Tribe of the Colville Confederated Tribes

The asserted territory of the Sinixt spans from north of Revelstoke along the Columbia/Arrow and Slocan to northern Washington State. On April 23, 2021, the Supreme Court of Canada released its decision on the Desautel case and found that the Lakes Tribe of the Colville Confederated Tribes – a modern day successor of the Sinixt – are an “Aboriginal Peoples of Canada”, who have an Aboriginal right to hunt in Canada under Section 35 (1) of the *Constitution Act* of 1982.

During the initial engagement, Sinixt indicated they were very interested in the methodology used to determine the AAC, and how climate change is considered. The ministry responded by providing them with a copy of the TSR information pamphlet, an overview of the TSR process, and a link to the FAIB website. No further comments were provided by Sinixt.

In reviewing the First Nations consultation process with district staff, I conclude that the First Nations whose territories overlap with TFL 3 were consulted in accordance with current provincial guidance, applicable case law, and the signed agreements held by the affected First Nations. I am satisfied that these consultations have been carried out in good faith and the Crown’s process of seeking to understand potentially outstanding issues and impacts was reasonable.

### **Summary of public input**

The public review strategy for Management Plan #11 was approved by the Regional Executive Director of the Kootenay-Boundary Natural Resource Region on December 8, 2021.

The review period for the draft *Information Package* occurred from April 28, 2022, to June 28, 2022. Operational comments were referred to Interfor operational staff for resolution. Comments related to the timber supply review are summarized below.

The review period for the draft *Management Plan* occurred from March 15, 2023 to May 15, 2023.

During the review period, a letter writing campaign was initiated by Last Stand West Kootenay (LSWK) to protect the ancient forest ecosystems of Russell and Koch Creeks from logging and to maintain ecosystem resiliency in the context of climate change.

LSWK prepared a letter template that included 11 core elements: prioritize ecosystem health and connectivity; incorporate impacts of climate change and projected biodiversity losses in timber supply models; follow the recommendations from *Adapting Natural Resource Management to Climate Change in the Kootenay-Boundary Region*; plan ecological reserves that go above and beyond the temporary deferral areas; recognize that TFL 3 contains significant tracts of old forests; utilize ground proofing methods to protect areas not identified by TAP; provide alternatives to clearcutting practices; identify red- and blue-listed species; obtain free and prior consent from the “Autonomous Sinixt”; and acknowledge community opposition to Interfor’s logging plans.

A total of 97 letters were submitted to Interfor, and carbon copied (“cc’d”) to the district manager, as a result of the campaign. These submissions echoed the recommendations provided by the LSWK in whole or in part. The most common concerns are ecosystem health, old growth, and climate change. Interfor provided written responses to all respondents.

Within the scope of my authority under Section 8 of the *Forest Act*, I have considered the concerns expressed during the public consultation processes and the responses provided by Interfor and/or ministry staff, as discussed under the relevant factors in this determination. I conclude that Interfor has followed all the actions specified in its approved public review

strategy. As such, I conclude the public review has been completed to the expected standard for a timber supply review.

**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 accepted factors

<b>Forest Act section and description</b>	<b>Factors accepted as modelled</b>
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>• <i>Private land</i></li> <li>• <i>Non-forest and non-productive forest</i></li> <li>• <i>Existing and future roads</i></li> <li>• <i>Hydro line right-of-way</i></li> <li>• <i>Environmentally sensitive areas</i></li> <li>• <i>Non-merchantable stands</i></li> <li>• <i>Archaeological sites</i></li> <li>• <i>Cultural heritage resources</i></li> <li>• <i>Volume estimates for natural stands</i></li> <li>• <i>Dead potential volume</i></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>• <i>Genetic gain</i></li> <li>• <i>Non-satisfactorily restocked areas</i></li> <li>• <i>Regeneration assumptions</i></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>• <i>Timber utilization standards</i></li> <li>• <i>Decay, waste, and breakage for existing natural stands</i></li> <li>• <i>Deciduous volume</i></li> <li>• <i>Minimum harvest criteria</i></li> <li>• <i>Cutblock aggregation</i></li> </ul>
8(8)(a)(v) constraints on the amount of timber produced by use of the area for purposes other than timber production	<ul style="list-style-type: none"> <li>• <i>Visual quality</i></li> <li>• <i>Mule deer winter range</i></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	
8(8)(b) the short and long term implications to British Columbia of alternative rates of timber harvesting from the area	
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>• <i>Reference to Minister's letter</i></li> </ul>
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>• <i>Non-recoverable losses</i></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 3 is 78 091 hectares of which 58 259 hectares are classified as productive forest. The current THLB is 26 118 hectares, which is 45 percent of the productive forest area. After accounting for future roads, the future THLB is 25 580 hectares, which is 44 percent of the productive forest area.

A member of the public expressed concerns about the TFL boundary being adjacent to Valhalla Provincial Park, and the importance of protecting wildlife corridors. In response Interfor indicated that all park areas were removed from the THLB and only a small portion of the TFL is adjacent to the park. District staff note that harvesting opportunities adjacent to the park are very limited, as the park/TFL 3 boundary follows the height of land, consequently the boundary area is at high elevation, where there is no road building or timber harvesting.

#### Forest composition and growth

##### *- forest cover inventory*

The forest cover inventory for TFL 3 was completed to Vegetation Resources Inventory (VRI) standards in 2004.

Forest cover inventory is updated annually for disturbance and reforestation by Forest Analysis and Inventory Branch (FAIB) using information entered in the RESULTS database by Interfor and British Columbia Timber Sales (BCTS). Stand age, height, and volume are projected annually using the Ministry's Variable Density Yield Projection (VDYP) model. For this timber supply analysis, the Vegetation Resource Inventory (VRI) data was updated for depletion and growth to January 1, 2022.

The VRI is a photo-based, two-phased vegetation inventory. In Phase I, stand attributes are based on the interpretation of aerial photography. In Phase II, ground sample plots are used to adjust the stand age, height and volumes from Phase I. Phase II ground sample plots were established in TFL 3 in 2001 and the VRI for TFL 3 was completed to VRI standards in 2004.

In the previous timber supply analysis conducted in 2009, the Phase II sampling results indicated the overall volume was unbiased. However, the volume in fir/pine/larch/deciduous-leading stands was underestimated by about five percent and the spruce-leading stand volume was

overestimated by about six percent. The volume of balsam-leading stands younger than 121 years was underestimated by about 10 percent and the volume in older balsam-leading stands was underestimated by about five percent.

FAIB reviewed the VRI information and noted the utility of the information for a Phase II adjustment for this analysis is limited due to the 20-year difference between the ground-sampling measurements (2001) and the projected VRI (2022). Given the age of the 2001 ground sample data, FAIB did not recommend a Phase II adjustment for this timber supply analysis.

Since 2015, the annual VRI update adjusts stand basal area, crown closure, and the number of stems per hectare based on burn severity mapping. However, stand age is not adjusted for burned areas, and this may affect forest cover requirements for other resource values that are age based (e.g., old growth).

The current inventory does not account for natural regeneration in fire-impacted stands and some of these stands may never reach the minimum merchantable volume criteria in the timber supply model, effectively removing them from the THLB, even though they will likely recover at some point in the future.

To reflect natural regeneration in fire-impacted stands in the analysis, “high” burn severity area stand ages were reset to a seven-year regeneration delay based on the year of the fire.

“Medium” burn severity area stand ages for areas classified as “inoperable” and/or on slopes greater than 80 percent were reset to reflect a seven-year regeneration delay if they had site indices greater than or equal to eight metres and the stand yield tables indicated they would never achieve a volume of 100 cubic metres per hectare. These thresholds were chosen to ensure that a reasonable proportion of the non-THLB would be reset to resemble younger stands in the model.

“Medium” burn severity area stand ages for areas classified as “operable” were reset to reflect a seven-year regeneration delay if they had a site index greater than eight metres and stand yield tables indicated they would never meet the minimum merchantable volume criteria (i.e., 150 cubic metres per hectare for slopes greater than 50 percent and 225 cubic metres per hectare for slopes between 50 and 80 percent).

Using this approach, 17.1 hectares of “high” burn severity area and 86.7 hectares of “medium” burn severity area were reset to ages representing regenerating stands.

Skwłāx commented that the provincial VRI data has known inaccuracies and asked how these are accounted for when designing modelling scenarios. Skwłāx asked if any recent ground verification had been completed to check a representative sample of forests against VRI data, noting that FAIB advised the field data was too old to be used in the current analysis.

In response, FAIB provided the information summarized above and noted that when the current inventory (2022) was compared to the field data the predicted volumes were unchanged.

I accept the use of an unadjusted Phase I inventory, and the methodology used to update the inventory to account for timber harvesting 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. However, prior to the next timber supply review, I expect the licensee to work with FAIB to assess and validate the current inventory and if necessary complete a new inventory in a time frame that would allow the results to be incorporated in the next timber supply analysis. This instruction is summarized under ‘**Implementation**’.

- *steep slopes*

In TFL 3, slopes greater than 80 percent are generally not harvested and were removed from the THLB. Slopes greater than 80 percent with evidence of previous harvesting, and not classified as unstable or potentially unstable in slope stability mapping, were not removed from the THLB. Slopes greater than 80 percent occupy a total area of 7090 hectares, of which a net area of 842 hectares was removed from the THLB.

In the base case, slopes greater than 50 percent account for an average of about 50 percent of the projected harvest volume. Slopes between 35 and 50 percent and slopes less than 35 percent contribute an average of 30 percent and 20 percent of the harvest volume, respectively. For the first 55 years, slopes greater than 50 percent contribute to half of the timber supply.

A summary provided by Interfor shows that to date, harvesting has been concentrated on slopes less than 50 percent. The summary shows that 46 percent of the area harvested since 2010 was on slopes less than 35 percent, although these slopes only occupy 30 percent of the THLB. Conversely, 21 percent of the area harvested was on slopes greater than 50 percent, which occupy 41 percent of the THLB. This information is consistent with the Ministry's *Provincial Timber Management Goals, Objectives and Targets Report for TFL 3* (August 2023).

Recognizing the risk to timber supply sustainability if harvesting on steep slopes does not increase above historic levels, Interfor submitted a memo to the chief forester in April 2023. In the memo, Interfor indicated that since 2020 it has increased its cable harvesting capacity across the Kootenay-Boundary Region by about 40 000 cubic metres per year by working with existing and new timber harvesting contractors. Based on its current cable harvesting capacity, Interfor believes that 40 percent of the volume within TFL 3 can be harvested from slopes greater than 50 percent. And, based on information provided by Interfor, 42 percent of its planned blocks are on slopes greater than 50 percent.

An alternative harvest projection limiting the harvest contribution from slopes greater than 50 percent to a maximum of 40 percent of the harvest results in an initial harvest level of 64 030 cubic metres per year, which is 20 percent lower than in the first 50 years of the base case. The long-term harvest level of 95 040 cubic metres per year is achieved after 80 years, which is 20 years later than in the base case.

According to Interfor the Perry Ridge area, which is located within TFL 3, includes 1281 hectares of THLB, of which 415 hectares (32 percent) are on slopes greater than 50 percent. Historically, BC Timber Sales (BCTS) has managed the Perry Ridge area and BCTS staff familiar with the area estimate the operable land base is likely overestimated by about 15 to 25 percent due to the steep terrain.

Reducing the proportion of operable area in the Perry Ridge area by 20 percent (the mid-point of the BCTS estimate) reduces the THLB by 256 hectares. Based on an extrapolation of the results of a sensitivity analysis in which decreasing the size of the THLB by 10 percent reduced the base case initial harvest level by 13 percent, a THLB reduction of this size would decrease the base case harvest level by about one percent.

Although I accept that the THLB in the Perry Ridge area has likely been overestimated and that this results in a one-percent overestimation of the base case harvest level, the Perry Ridge area was included in the TFL 3 alternative harvest projection limiting the harvest contribution from slopes. Consequently, this impact is included in the 20 percent described above.

Based on my review of harvest performance on steep slopes and the results of the alternative harvest projection, I conclude the base case short-term harvest level has been overestimated by

20 percent and I will account for this in my determination as discussed in ‘**Reasons for Decision**’.

While I understand Interfor is working to further increase its cable harvesting capacity in the Kootenay-Boundary Region, including TFL 3, achieving the harvest levels projected in the base case requires a significant shift in both operational planning and timber harvesting methods. To avoid a concentration of harvesting in stands on slopes less than 50 percent, which could jeopardize the timber supply sustainability of TFL 3, I am instituting a partition in the AAC. This partition limits the harvest from stands on slopes less than 50 percent to a maximum of 60 percent of the AAC. This partition is defined in ‘**Reasons for Decision**’. In addition, I expect Interfor to monitor and report on its harvest performance by slope class, operability class (see ‘*inoperable areas*’) and terrain stability class (‘*terrain stability*’), as described in ‘**Implementation**’.

- *inoperable areas*

The operability classification for TFL 3, completed in 1996, identified three operability classes: ‘operable’, ‘alternate’, and ‘inoperable’. ‘Alternate’ operability refers to areas where harvest systems other than cable or conventional ground-based systems are required, such as helicopters or forwarders on steep trails.

In preparation for this timber supply analysis, the operability mapping information was adjusted to match the TFL boundary. One large unclassified area reviewed using satellite imagery was added to the ‘operable’ class. This reclassified area includes 1907 hectares in the Perry Ridge area. In addition, harvested areas previously classified as ‘inoperable’ were reclassified as ‘operable’.

In the operability mapping, 38 053 hectares are classified as ‘inoperable’, 3537 hectares are classified as ‘alternate’, and 36 500 hectares are classified as ‘operable’. To account for the inoperable areas in which harvesting is not expected to occur, 20 837 hectares were removed from the THLB.

In the *2010 AAC Determination Rationale* for TFL 3 and the *2020 AAC Determination Postponement Order*, the chief forester asked the tenure holder to monitor and report on the distribution of harvesting by operability class.

About 92 percent of the THLB is classified as ‘operable’ and based on the information reported by Interfor for the 12-year period from 2010 – 2021, 97 percent of the area harvested during this period was from the ‘operable’ class. In contrast, about eight percent of the THLB is classified as ‘alternate’, however only about three percent of the area harvested since 2010 was in the ‘alternate’ class. Based on information from Interfor, less than two percent of planned cutblocks are in the ‘alternate’ operability class.

For the period 2010 to 2021, a total of 12 129 cubic metres or 1.2 percent of the AAC for the period, was harvested in the ‘alternate’ operability class.

In the base case, eight percent of the projected harvest level is from stands in the ‘alternate’ operability class. If harvest performance in the ‘alternate’ operability class continues at its historic level of about 1.2 percent, the base case short-term harvest level could be overestimated by about seven percent.

A review of the overlap between operability classes and slope classes shows that the ‘alternate’ operability class area is evenly divided between the ‘less than 50 percent slope’ class and ‘greater than 50 percent’ slope class. Consequently, half of the gap between the actual volume harvested in stands in the ‘alternate’ operability class and the contribution of these stands to the base case harvest level has already been accounted for in the base case adjustment described under ‘*steep slopes*’.

Given the magnitude of the steep slope adjustment and the extent of overlap between ‘alternate’ operability areas and slopes greater than 50 percent, I will make no further adjustments to the base case to account for the disproportionately low level of harvest performance in areas requiring non-conventional harvesting systems. With respect to Perry Ridge, this area is a subset of the TFL 3 land base and as such has been accounted for at the TFL level. As indicated in ‘*steep slopes*’ and ‘**Implementation**’, I expect the licensee to monitor its harvest performance by slope class, physical operability class and terrain type and report this information annually to the district and FAIB.

*- unstable terrain*

The majority of TFL 3 has had either reconnaissance level or detailed Terrain Stability Mapping completed. Areas mapped as ‘unstable’ or ‘potentially unstable’ are assessed prior to harvesting or road construction.

In TFL 3, a total of 33 213 hectares is classified as ‘unstable’ or ‘potentially unstable’. For the timber supply analysis, the area within each terrain stability class to be excluded from the THLB was reduced to account for harvesting and a net area of 948 hectares was removed from the THLB. The percentage reductions applied to each terrain stability class were based on a review, completed in 2002, by the tenure holder at that time - Slocan Forest Products - for TFL 3 Management Plan # 10. Ministry staff reviewed the rationale used for the percentage of reduction for terrain stability classes and note the reduction percentages may no longer reflect current knowledge and management practices.

Based on supplemental information provided by Interfor, 20.9 percent of the THLB, or 5658 hectares, consists of ‘unstable’ and ‘potentially unstable’ terrain. However, a review of the harvest history by terrain stability class data from RESULTS for the period from 2010 to 2021 shows that about 17 percent, or 274 hectares, of the total area harvested in this period occurred in areas classified as ‘unstable’ or ‘potentially unstable’. This 1226-hectare difference between assumed performance and demonstrated performance represents a 4.1 percent overestimation of the THLB and 4.8 percent overestimation of the base case harvest level.

I have considered the terrain stability class information and agree that taken on its own, the level of demonstrated performance in areas classified as ‘unstable’ or ‘potentially unstable’ is lower than assumed in the base case. However, given the interplay between steep slopes, areas requiring alternative harvesting methods, and terrain stability, I find it likely that a significant proportion of this impact is accounted for in the base case adjustment for steep slopes. On this basis, I will make no further adjustment to the base case. As indicated in ‘*steep slopes*’ and in ‘**Implementation**’, I expect the tenure holder to monitor and report on its harvest performance by slope class, operability class, and terrain stability class.

*- riparian areas*

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

Riparian classes and the corresponding riparian reserve zones (RRZ), where harvesting is not allowed, and riparian management zones (RMZ), where harvesting is restricted, are specified by the Forest Planning and Practices Regulation (FFPR). These requirements are reflected in Interfor’s approved FSP, along with minimum basal area retention commitments for RMZ.

For the base case, lakes and wetlands were identified from both the vegetation inventory and the Fresh Water Atlas, and classified using the FPPR definitions. Streams were identified from Interfor’s stream database. About 24 percent of the streams in Interfor’s stream database are

classified based on field survey information and the FPPR definitions. Classified streams occur mainly at low elevation, are larger in size, and fish-bearing. For unclassified streams, stream classes were estimated based on slope and the assumption that streams on slopes greater than 25 percent were non-fish bearing.

Based on the length and buffer widths of classified streams, streams predicted to be fish-bearing were assigned a weighted buffer width of 26.3 metres. Unclassified drainages, and stream classes S5 and S6 were assigned a weighted buffer width of 11.0 metres.

Current operational practices on TFL 3 result in a range of basal area retention levels in the RMZ, and average 50 percent overall. In the base case, this average retention level was applied to all RMZs regardless of riparian classification. This practice exceeds the minimum FPPR requirements and the riparian retention commitments in Interfor's FSP and reflects changes to riparian management that have resulted from joint field reviews between the Penticton Indian Band and Interfor.

For modelling purposes, an equivalent RMA width was calculated for each riparian class by considering the widths of the RMZ and RRZ and the percentage basal area retention within the RMZ. Using this approach, and after accounting for overlaps with other areas removed from the THLB to account for other resource values, a net area of 2752 hectares were removed from the THLB.

After receiving the *Ktunaxa FSD*, Interfor agreed to conduct sensitivity analysis on the *FSD* riparian and wildlife tree retention standards. This analysis is discussed in '*wildlife tree retention*'.

Based on my discussions with staff and the information provided by Interfor, I conclude that although the riparian area retention assumptions used in the base case exceed the minimum FPPR and FSP requirements, they do reflect Interfor's commitments to the Penticton Indian Band and are supported by demonstrated performance, and as such were appropriate for use in the base case.

*- wildlife tree retention*

The legal requirements for wildlife tree retention are specified in the FPPR and reflected in Interfor's approved FSP. The FPPR stipulates that wildlife tree retention areas (WTRA) must be present over a minimum of seven percent of the total area of cutblocks harvested annually. The FPPR also requires WTRA on a minimum of 3.5 percent of each cutblock area.

Information from Interfor's forestry management system and the Ministry's RESULTS data base shows that existing WTRAs occupy a total area of 623 hectares. After accounting for overlaps with areas already excluded to account for other resource values, a net area of 451 hectares was removed from the THLB.

To estimate future WTRA in the base case, the expected future wildlife tree retention of seven percent was adjusted using the proportion of net THLB area in WTRAs to gross THLB area in WTRAs (0.738) in existing and planned cutblocks. This resulted in an aspatial netdown factor of 5.17 percent. Application of this factor to stands older than 29 years, except for those in planned cutblocks or subject to aspatial netdowns for environmentally sensitive areas, resulted in the removal of a net area of 835 hectares from the THLB.

According to information in the RESULTS database, the average long-term retention percentage since Interfor acquired TFL 3 in 2013 is 13 percent. Assuming that future retention practices are the same as Interfor's demonstrated performance would result in an aspatial netdown of 9.8 percent (13 percent \* 0.738), which is equivalent to a THLB reduction of 1583 hectares. This is 748 hectares or 2.9 percent higher than in the base case. Based on the results of a sensitivity

analysis in which the size of the THLB was reduced by 10 percent, a THLB overestimation of this magnitude decreases the base case short-term harvest level by 3.7 percent or 2966 cubic metres per year. The long-term harvest level is reduced by 2.8 percent.

The *Ktunaxa FSD* requires additional riparian protection and recommends that 10 percent of harvested areas be retained for wildlife, and that the WTRA does not overlap with riparian management areas. When applied together, the combined effect of increased riparian protection and wildlife tree retention would reduce the THLB by 9.7 percent, of which 7.87 percent is attributable to increased riparian protection and 1.83 percent is attributable to the higher future wildlife tree retention.

Following receipt of the *Ktunaxa FSD*, Interfor prepared two sensitivity analyses to examine the effect of the increased riparian and wildlife tree retention.

In the first sensitivity analysis, increasing riparian buffers and increasing the aspatial reduction for future wildlife tree retention from 7 to 10 percent reduced the short-term harvest level by 19.7 percent or 15 830 cubic metres per year. The long-term harvest level was reduced by 10 percent.

Given that changes to the THLB generally result in a corresponding change in harvest level, a second sensitivity analysis was conducted to investigate whether the increased riparian buffer widths were impacting the model's ability to aggregate small areas together to better reflect the minimum cutblock size used operationally. In this sensitivity analysis, restrictions on minimum cutblock size were removed. This resulted in an 8.2 percent or 6570 cubic metres per year decrease in the short-term harvest level. The long-term harvest level is decreased by 8.1 percent.

Based on the results of the sensitivity analysis, the impact of increased riparian retention alone on the base case short-term harvest level is 16 percent relative to the first sensitivity analysis and 6.6 percent relative to the second sensitivity analysis.

Interfor notes it is difficult to estimate the incremental THLB reduction from implementing the *Ktunaxa FSD* requirements because it is not known how WTRA placement strategies may change in the field to take advantage of co-location opportunities outside of the wider riparian management area buffers. Ministry staff agree with Interfor that it is difficult to estimate the incremental THLB reduction of implementing the *FSD* wildlife retention requirements and note that the sensitivity analysis includes more than one change to the assumptions used in the base case.

Valkyr Adventures made suggestions for using selective logging for basal canopy and stand retention at different elevation bands within their tenure. At 1500 - 1700 metres retain 30 stems per hectare, 1700 - 1900 metres retain 50 percent basal canopy, and at elevations greater than 1900 metres retain 75 percent basal canopy. They also provided comments regarding wildlife corridors, old growth preservation, visuals around tourist lodges, access to ski terrain, and deactivation of roads and bridges.

In response Interfor noted that for the 1500 - 1700 metres band, retention of 30 stems per hectare were included in the WTRA allowance. For elevations greater than 1700 metres, no additional analysis was completed because of the very small amount of the total THLB area in this band, in addition to the fact that these higher elevation stands are probably less productive than the TFL average.

Based on my review of the wildlife tree retention information, I conclude that the assumptions for existing WTRAs reflect current management and were correctly applied in the base case. However, Interfor's current wildlife tree retention practices are not accurately captured by the lower level of future wildlife tree retention modelled in the base case. Consequently, the base

case short- and long-term harvest levels have been overestimated by 3.7 percent and 2.8 percent, respectively. I will account for this in my determination as indicated in my **‘Reasons for Decision’**.

With respect to the *Ktunaxa FSD*, I understand the Province is currently engaging with the Ktunaxa about their forest management expectations. And in this regard, the sensitivity analysis provided by Interfor for TFL 3 will provide valuable technical support for these discussions. Any changes to riparian area and wildlife tree retention that may result from these discussions will be incorporated in subsequent timber supply reviews. In the interim, Interfor’s current riparian retention exceeds the minimum FPPR requirements and commitments in its FSP. Interfor’s current retention practices for wildlife tree areas are similar to the 10 percent recommended in the *Ktunaxa FSD*.

*- recreation sites and reserves*

The McKean Lake recreation site is located within TFL 3. This high elevation site covers about 1200 hectares, of which 14.5 hectares are included in the THLB. The area includes a commercial ski lodge.

A member of the public expressed concern that recreation sites and reserves were not removed from the THLB.

Ministry staff indicate that in general, recreation sites are not removed from the THLB as harvesting can occur within these areas provided it can be completed in a manner consistent with the established recreation objectives. The management objective for the McKean Lake recreation site does not preclude timber harvesting.

I find that harvesting within the McKean Lake recreation site will likely be restricted to some degree by the recreation objective. However, given some harvesting is still possible and the small area of THLB involved, I make no adjustments to the base case harvest level.

*- northern goshawk*

The interior sub-species of the northern goshawk is identified as a ‘vulnerable’ (‘blue-listed’) species in B.C.’s Identified Wildlife Species list and does not have formal protection requirements beyond the best management practices established in 2012 (*A Scientific Basis for Managing Northern Goshawk Breeding Areas in the Interior of British Columbia: Best management Practices*). Best management practices include locating alternative nest sites when a nest site has been located and providing a 200-metre buffer (12.6-hectare buffer area) around identified nest sites, where applicable. While an effective breeding area can range from 30 to 100 hectares across the province, low impacts to occupancy rates occur with reserves greater than 75 hectares in the B.C. interior.

Interfor works with a professional biologist to develop appropriate management when goshawk nests are found. In general, a 400-metre radius buffer (approximately 50 hectares) is established around identified nests, but this can vary depending on past harvesting history, terrain, or other factors

Interfor indicates the presence of two nests in TFL 3. A 0.6 hectare no-harvest zone has been established around one of the nests, and this area was removed from the THLB. The other nest is located within a cutblock harvested in 2017 and does not have an associated no-harvest zone.

While I accept known goshawk nests were correctly modelled in the base case, I note the buffers associated with these nests are not consistent with the best management practices. I urge Interfor to continue to work with professional biologists to identify goshawk nests and ensure that best management practices are implemented.



*- site productivity estimates*

Site index is a species-specific measure of forest site productivity based on the relationship between tree height and age. In British Columbia site index is usually expressed as height at age 50 years.

For this analysis, site indices for natural stands are based on the VRI. The average area weighted VRI site index for natural stands is 16.1 metres.

In the last AAC determination, the chief forester recommended the licensee undertake site productivity studies to improve site index estimates. Interfor did not complete any formal site productivity studies because there is insufficient young stand monitoring (YSM) data available for TFL 3, where only two YSM plots have been established. Consequently, Interfor used site indices based on the provincial site productivity layer (PSPL).

For TFL 3, PSPL site indices are based on predictive ecosystem mapping (PEM) and biogeoclimatic classification (SIBEC) completed for the Arrow TSA, which encompasses the TFL. Of the total number of classification points in the PSPL dataset, 92.4 percent are based directly on the PEM data and only 7.6 percent are derived using a model. The area weighted SIBEC value is 19.9 metres.

During the review of the managed stand yields, FAIB recommended using field data to assess the reasonableness of SIBEC estimates. In the absence of YSM data for TFL 3, Interfor analyzed growth intercept site index information collected during silviculture surveys done in TFL 3 and TFL 23 and recorded in RESULTS. FAIB noted that this information may be more representative of TFL 23, which has a significantly larger THLB (139 266 hectares) than TFL 3 (26 118 hectares).

Overall, the PSPL site indices used in the analysis are 0.68 metres or about 3.4 percent lower than the site indices obtained from the silviculture survey field data.

I have considered the site productivity information used to generate the managed stand yields used in the analysis. I accept that the PSPL SIBEC values represent the best currently available information and will not adjust the base case on this account. Prior to the next determination, I expect the licensee to work with FAIB to establish a YSM program for TFL 3. This instruction is summarized in ‘**Implementation**’.

*- managed stand yields*

Managed stands are those for which forest management treatments (e.g., planting, spacing, use of improved planting stock, etc.) have been implemented to improve the regeneration and growth of the stand. In the analysis, stands currently 60 years of age and younger are considered managed. To reflect the evolution of forest management over time, the period between 1960 – 2021 was divided into six silviculture eras. Two additional eras were used, one for naturally regenerated burned stands and one 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 1960-1986 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 without a silvicultural history record (i.e., it does not have an opening identification) in the RESULTS database. Consequently, there was some concern raised that the use of TIPSY may overestimate the growth and yield of stands established in the 1960-1986 era.

All TIPSYS 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 operational adjustment factors (OAFs) are therefore applied to yields generated using TIPSYS, 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, and waste and breakage.

The TIPSYS model inputs were reviewed by FAIB staff, who concluded the methodology used to identify analysis units, create volume tables, and the volume tables used were reasonable for use in the timber supply analysis.

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 1960-1986 era many be overestimated but believe this risk is small. Consequently, I will make no adjustments to the base case on this account. As indicated in '*site productivity*', I expect the licensee to work with FAIB to establish a Young Stand Monitoring (YSM) program for TFL 3. The information obtained from the YSM plots will reduce the uncertainty associated with a variety of factors, including OAFs and growth performance of older managed stands. This instruction is summarized in '**Implementation**'.

*- silviculture systems*

A silvicultural system is a planned program of silvicultural treatments designed to achieve specific stand structure characteristics to meet site objectives during the whole life of a stand.

Clearcut with reserves, which was modelled using a THLB reduction, is the predominant system used in TFL 3. In a clearcut with reserves silviculture system, some older forest is retained to support non-timber resources, such as wildlife and riparian values. The assumptions used in the base case are consistent with information in the ministry's RESULTS database.

Skwlāx commented that it appears the analysis assumes logging will be completed via clearcut with reserves. Given recommendation number 12 of the *Old Growth Strategic Review*, silvicultural systems other than clearcuts should be considered in timber supply analysis, e.g., large scale partial cuts and/or single tree harvesting.

Last Stand West Kootenay (LSWK) and other members of the public expressed concern about timber harvesting in TFL 3 and recommended that alternative silviculture systems be included in Interfor's TFL 3 Management Plan.

Currently, the B.C. government is engaging with First Nations across the province on how recommendations from the old growth strategic report will be implemented within the context of a provincial strategy for the management of old forests.

The Province is also replacing the forest stewardship plans (FSP) prepared by licensees with forest landscape plans (FLP). FLPs will provide greater opportunities for First Nations and the public to engage with licensees to better address ecological and cultural values, in addition to timber values. The FLP development process will provide opportunities for First Nations and stakeholders to review forest management practices, including the use of alternative silvicultural systems.

I conclude application of a clearcut with reserves silviculture system reflects current management and I will make no adjustments to the base case on this account.

With respect to the input received from Skwlāx, LSWK and members of the public, I note that changes to management practices that may arise from implementation of the *Old Growth Strategic Review* recommendations and FLPs will be reflected in future timber supply reviews. If major changes occur in the management assumptions on which this decision is predicated, I am prepared to revisit this determination sooner than the 10 years required by legislation. Changes in land use designations that result in area deletions from the TFL can be accounted for through the AAC Administration Regulation, or through determination of a new AAC early than the 10 years required under the *Forest Act*.

**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 genetic gain, fertilization, non-satisfactorily restocked areas, and regeneration assumptions 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**

As noted in Table 1, I have considered a factor related to silviculture assumptions. This factor has been appropriately accounted for in the base case, and no further comment is required.

**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**

As noted in Table 1, I have considered factors related to timber utilization, and decay, waste and breakage. These factors have been appropriately accounted for in the base case, and no further comment is required.

**Section 8(8)(a)(v) the constraints on the amount of timber produced from the area that reasonably can be expected by use of the area for purposes other than timber production**

Integrated resource management objectives

The Ministry is required, under the *Ministry of Forests and Range Act*, to manage, protect and conserve the forest and range resources of the Crown; and to plan the use of these resources so that the production of timber and forage, the harvesting of timber, the grazing of livestock and the realization of fisheries, wildlife, water, outdoor recreation, and other natural resource values are coordinated and integrated. The *Forest and Range Practices Act* (FRPA) and other legislation provide for, or enable, the legal protection and conservation of timber and non-timber values. Accordingly, the extent to which integrated resource management objectives for various forest resources and values affect timber supply must be considered in AAC determinations.

The *Kootenay-Boundary Higher Level Plan (KBHLP) Order* issued in 2002, established legal land use requirements in the region, including TFL 3. This order has been fully implemented in the Kootenay-Boundary Region.

Old growth

In 2019, the Government of B.C. embarked on a new approach to old forests, commissioning an independent panel to engage British Columbians and collect their views on the importance and future of old growth in the province. After extensive engagement with First Nations, industry, stakeholders and communities, the independent panel released a report in April 2020, entitled, *A New Future for Old Forests: A Strategic Review of How British Columbia Manages for Old Forests within its Ancient Ecosystems (Old Growth Report)*. In its report the panel recommends a

shift from a management approach focused on timber supply to managing for multiple values, recognizing that a shift to prioritize ecosystem health is necessary if forests are to continue to provide essential benefits, such as clean air, clean water, carbon storage, conservation of biodiversity and a sustainable supply of timber. Government has adopted all the report recommendations and implementation is currently underway.

*- old growth management areas*

“Non-legal” Old Growth Management Areas (OGMA) are OGMA that have not been established by a legal order issued under the *Land Act*. For TFL 3, spatial OGMA have been identified to meet the old growth requirements in the KBHLP Order. Interfor’s approved FSP specifies that timber harvesting will not occur within the non-legal OGMA, except in defined circumstances. Any modified OGMA must be replaced with an equivalent area, so that there is no net loss.

OGMA occupy a total area of 4494 hectares. After accounting for areas already excluded to account for other values, a net area of 1208 hectares was removed from the THLB.

Although no First Nations comments related to OGMA were received during the timber supply review process, the Ktunaxa Nation Council (KNC) through its *Ktunaxa Forestry Standards Document (FSD)* and ongoing discussions with government has expressed a desire for change in the management of old forests within the Kootenay-Boundary Region. These recommendations include OGMA co-location with management zones for other resource values, strengthening of FSP commitments related to OGMA replacement, and ensuring third-party validation of areas selected for OGMA replacement. In addition, KNC does not support harvesting in an OGMA for the purposes of road construction or salvage.

In the base case and sensitivity analyses, spatial OGMA remained static throughout the projection; incursions and subsequent replacements were not modelled. Interfor notes that this is consistent with the *Ktunaxa FSD*.

I conclude non-legal OGMA were modelled correctly in the base case. With respect to the KNC concerns and recommendations for the management of old forests in the Kootenay-Boundary Region, including TFL 3, I understand the Kootenay-Boundary Region has established a working group on old forest management to investigate potential areas for improvement, as stated in the *Ktunaxa FSD*. With respect to the requirements included in the *FSD*, I note that I do not have the legal authority to establish or modify land use requirements. However, any changes in old growth management, including OGMA, that result from this work can be reflected in subsequent timber supply reviews.

*- landscape-level biodiversity*

The KBHLP Order (2002) specifies the minimum mature plus old and old seral stage retention requirements by landscape unit/ biogeoclimatic ecosystem variant, natural disturbance type and biodiversity emphasis option (BEO). For landscape units assigned a low BEO, the order allows for a temporary reduction (“drawdown”) of the old forest minimum retention requirements by up to two-thirds. The full retention targets must be met by the end of the third rotation, or 240 years from the date the order was issued, along with the requirement to meet two-thirds of the full targets by the end of the second rotation, or 160 years from the date of the order.

Where old seral requirements are not being met, the order allows for the development and implementation of strategies to retain mature stands. The order also requires preferential allocation of the seral requirements within established connectivity corridors. Only stands on slopes less than or equal to 80 percent can contribute to meeting seral requirements within connectivity corridors.

In the base case, the seral requirements specified in the KBHLP Order were modelled, as were the provisions for “drawdown” in low BEO landscape units. The model was also configured to achieve the seral stage retention percentages specified in the order within connectivity corridors as well as in the entire landscape unit.

There are three landscape units in TFL 3. About 85 percent of the productive forest area is in landscape units N516 and N517, which are assigned low BEOs. Landscape unit N514 is assigned an intermediate BEO and is the only landscape unit that has a mature plus old requirement. In landscape unit N516, all BEC variants are initially below the full old seral minimum requirements but above the “drawdown” targets. In landscape unit N517 only the Englemann Spruce-Subalpine Fir (ESSF) is initially below the full old seral requirements.

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

In a sensitivity analysis, application of the full seral requirements (no “drawdown” scenario) resulted in a short-term harvest level five percent lower than in the base case. The long-term harvest level was unchanged. In this scenario, the minimum amount of forest older than 250 years varied from 9 percent to 19 percent for the entire timber supply projection.

Skwlāx asked me to consider that some First Nations are opposed to logging in old growth forests. Skwlāx asked for a timber supply scenario in which stands older than 250 years, or eight percent of the old forest, are reserved from harvest and younger stands are retained so they can grow into old growth forests. Consequently, the sensitivity analysis described above addresses the Skwlāx request for an alternative scenario in which eight percent of old forest is retained.

The *Ktunaxa FSD* includes a broad suite of recommendations, including a requirement that FSP holders meet the full seral requirements without the use of drawdowns. And in landscape units that do not meet the full seral stage requirements, the tenure holder should prepare a recruitment strategy to meet the full requirements for old and mature plus old forest in the shortest possible time, based on verified old growth identified in the 2021 Technical Advisory Panel mapping and existing OGMAs. KNC does not support the contribution of old and mature seral targets being met in parks and protected areas.

In considering the management of old forest, I am mindful that although the KBHLP Order allows for reduced old seral retention levels in low BEO landscape units, the B.C. government has committed to implementing the Provincial Old Growth Report recommendations. These include a recommendation that the management of old forests be brought into compliance with existing provincial targets and guidelines for maintaining biodiversity. With this in mind, I encourage Interfor to accelerate the recruitment of stands to meet the full seral stage requirements as soon as possible.

*- Old Growth Deferral Areas from the Technical Advisory Panel*

In June 2021, government convened an independent Old Growth Technical Advisory Panel (TAP) to identify at-risk old growth ecosystems and prioritize areas for temporary deferral from harvesting. The TAP identified 2.6 million hectares of B.C.’s most at-risk old growth forests for deferral, including priority old forest with large trees (1.7 million hectares), ancient forest (400 000 hectares) and rare forest (500 000 hectares).

In August 2022, the Kootenay-Boundary Region received unanimous support for the implementation of at-risk old growth forests deferrals from all First Nations with traditional

territory in the region, including TFL 3. Currently there are about 6800 hectares of old growth on the TFL, of which about 2400 hectares are on the THLB. Of the old growth on the TFL, approximately 5350 hectares have been identified as at-risk old growth forest by the TAP for deferral. Of the total TAP deferred area, about 2400 hectares are in the THLB.

The TFL 3 base case includes the 2400 hectares of at-risk old growth forest in the THLB. In a sensitivity analysis, not harvesting the priority deferral areas at any point during the projection, decreases the size of the THLB by 9.2 percent, which results in a 12.8 percent - or 12 240 cubic metres per year - decrease in the short-term harvest level and an 8 percent decrease - or 7630 cubic metres per year - in the long term.

I do not have the authority to make land use decisions regarding the amount of area protected for old growth management in the province. However, I am mindful that there is unanimous support from all First Nations with traditional territory in the region for the implementation of at-risk old growth forests deferrals. I am also aware that Interfor has voluntarily agreed to not harvest the at-risk old growth forest until final decisions on the management of these areas have been made. As such, I expect that there will not be any harvesting of the at-risk old growth forests identified for deferral in this TFL in the foreseeable future. Given the at-risk old growth forest contributes to the base case on which the new AAC is predicated, I am concerned the avoidance of harvesting in these areas may result in the over harvest of areas outside the deferred areas and negatively impact the timber supply sustainability of the TFL.

For the reasons described above, I am instituting two partitions in the AAC, as described in ‘**Reasons for Decision**’. These partitions are defined based on the sensitivity analysis described above and the KBHLP Order definitions of “old forest”. (The KBHLP order defines “old forest” as stands older than 140 years and younger than 250 years in more frequently disturbed ecosystems (NDT 3) and 250 years or older in less frequently disturbed ecosystems (NDT 1, 2, and 4)).

LSWK and members of the public provided comments and recommendations related to old growth and the priority deferral areas identified by the TAP. These include: ecological reserves should exceed the temporary deferral area; conduct field surveys to identify and protect old forests not identified by TAP all remaining primary forests should not be logged; and all stands older than 90 years should be retained. A member of the public also recommended there be a scenario for future harvest that reflects the priority old growth deferral areas. This scenario is described above.

The LSWK and members of the public also noted that the Russel Creek, Koch Creek, and Greasy Bill drainages contain significant tracts of old growth forest, as defined by the independent panel, and are seen as rare and should be protected.

I appreciate the concerns and recommendations provided by First Nations, LSWK, and members of the public. However, it is outside of the scope of my authority under Section 8 of the *Forest Act* to make land use decisions. If following this determination there are significant changes in land use requirements, I am prepared to determine a new AAC earlier than the 10 years specified in Section 8. Changes in land use that result in the deletion of area from the TFL can be accounted for through AAC Administration Regulation.

*- cutblock adjacency and green-up*

Cutblock adjacency requirements ensure that the structural characteristics left after harvest are consistent with the temporal and spatial distribution of an opening that would result from natural disturbance. For TFL 3, cutblock adjacency, green-up height, stocking standards, and maximum cutblock size are specified in the FPPR and KBHLP Order.

The KBHLP Order specifies that a harvested cutblock must reach 2.5 metres in height before an adjacent block can be harvested. This requirement was modelled aspatially by ensuring, additional to other constraints (e.g., ungulate winter range, visual quality etc.), no more than 25 percent of the THLB area is less than 2.5 metres in height throughout the entire projection period. This requirement was met in the base case.

The FPPR specifies that the size of the net area to be reforested on a cutblock must not exceed 40 hectares. The FPPR also indicates that the maximum size limit does not apply in certain situations (e.g., to recover damaged timber, sanitation treatments) provided harvesting is consistent with natural disturbances. Maximum cutblock size was not modelled. Cutblock aggregation was used in the base case to prevent the model from harvesting “splinters” as this is more consistent with actual harvesting operations.

The Ktunaxa Nation Council (KNC) did not provide comments during the TFL 3 timber supply review consultation process. However, the *Ktunaxa FSD* indicates that green-up height should be five metres and no cutblocks should be larger than 40 hectares.

To assess the effect of the *FSD* requirements, Interfor conducted a sensitivity analysis in which no more than 25 percent of the THLB, which does not overlap with areas constrained by visual quality objectives or mule deer winter range, within each landscape unit could be less than five metres in height. In addition, cutblock size was limited to a maximum of 40 hectares. In the resultant harvest projection, the short-term harvest level is 0.3 percent lower than in the base case. The mid- and long-term harvest levels are unaffected.

I conclude the cutblock adjacency and green-up assumptions reflect current management and were correctly modelled in the base case using accepted procedures. Although maximum cutblock size was not explicitly modelled in the base case, the results of the sensitivity analysis indicate application of a 40-hectare maximum cutblock size has no significant effect on the base case harvest levels. With respect to the higher green-up height indicated in the *Ktunaxa FSD*, the sensitivity analysis results show there may be sufficient flexibility to increase green-up height to five metres with minimal effect on the projected timber supply for TFL 3.

#### *- community and domestic watersheds*

The FPPR and the KBHLP Order require tenure holders to protect water for human consumption. Interfor specifies results and strategies for consumptive use streams in their FSP using the FPPR riparian classes, thus THLB reductions for consumptive use streams are accounted for in the reductions applied for riparian areas.

There are no community watersheds in TFL 3; however, there are 14 domestic watersheds. Domestic watersheds are defined as the drainage areas above a downstream point of diversion on a stream that is licensed under the *Water Act* for human consumption.

The *Kootenay-Boundary Land Use Plan - Implementation Strategy* (KBLUP - IS) includes management guidelines for forest activities in domestic watersheds. Interfor has adopted the equivalent clearcut area (ECA) recommendations provided in the implementation strategy.

In accordance with standard practice, ECA calculations were based on the gross area of the watershed with adjustments made for areas permanently disturbed by human activity outside of the forested land base.

Of the 2674 hectares of THLB in domestic watersheds, no areas exceed the maximum ECA thresholds. Most of the THLB is within two to five percent of the maximum ECA threshold and less than 500 hectares are within one percent of the maximum ECA.

I conclude that domestic watersheds were modelled correctly in the base. I commend Interfor on its management practices in domestic watersheds which exceed the recommended minimum retention levels in the KBLUP-IS. These practices, in conjunction with riparian retention levels that exceed FPPR requirements, help to minimize the impact of forestry activities on aquatic 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 TFL 3 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.

Utilizing the Pacific Climate Impact Consortium meteorology for northwest North America dataset, trends were evaluated by ministry staff for TFL 3 between the years of 1942 and 2012. During this time, there was a significant change in mean annual precipitation in TFL 3, driven by exceptionally large increases in spring (66 percent) and summer (42.3 percent) precipitation. During the same period, mean annual temperatures increased by 0.9° C. For seasonal change in mean annual temperature, winter (1.6° C) and summer (0.8° C) have warmed the most.

Climate model projections for 2041 to 2070 for TFL 3, which were analyzed using Climate B.C. (version 7.21), show a six percent increase in annual precipitation, with spring increasing the most (13.2 percent). However, annual precipitation as snow is projected to decrease by 28.7 percent. It is projected that over this period, mean annual temperatures may increase by 3.2° C, with summer increasing the most (4.0 C), followed by fall (3.4° C), then spring (2.8° C) and winter (2.6° C).

Declines in snow and a shortened snow season can increase the risk of frost damage due to a lack of snow cover to protect trees from cold temperatures and soil moisture storage available to trees during the growing season.

Increases in growing degree days and frost-free period may mean some vegetation will see enhanced growth, however, the increased risk from drought may limit this potential. The potential for stressed trees due to hot dry conditions in the summer months will also limit natural defenses from other disturbances such as pests and wildfire, of which the climate projections are favourable for these to increase as well.

The document entitled, *Adapting Natural Resource Management to Climate Change in the Kootenay Boundary Region: Considerations for practitioners and government staff* was prepared by the regional ecologist for the Kootenay-Boundary Region in 2016. According to the report, for the Kootenay subregion, where TFL 3 is located, decreases in moisture availability are projected to shift drier Interior Cedar Hemlock and Interior Douglas-fir biogeoclimatic zones to grassland/steppe areas. At high elevations, the Englemann Spruce/Subalpine Fir biogeoclimatic zone, parklands and alpine areas are expected to decrease. Increasing winter temperatures and increasing precipitation in winter, spring and fall will likely shift the hydrologic regime from snowmelt-driven to hybrid rain/snow-driven, leading to more frequent rain-on-snow events and smaller spring snowpacks. These changes will affect peak flows, sediment loads, channel



stability and low flows. The report includes adaptive management recommendations around hydrology, biodiversity and trees.

During consultation for the TFL 3 management plan, Skwl̓ax commented that given the recent trend of climate warming, drought should be considered as a factor limiting tree growth.

As indicated in ‘*inventory*’, I have instructed the licensee to work with FAIB to establish a Young Stand Monitoring (YSM) program for TFL 3. YSM provides information on the growth of young stands, including species composition, stand structure, mortality, growth and yield, and stand health. This information will be used to compare observed growth with the projections from growth and yield models for young stands. Changes in stand growth due to climate change will be incorporated in timber supply analyses.

In the *Ktunaxa FSD*, the Ktunaxa expressed concerns related to risks associated with accelerating climate change. These include risks to wildlife and biodiversity, wildfires, insects and diseases, rising temperatures and heat domes, prolonged summer droughts, wetter and warmer winters with more frequent and severe flooding, avalanches, windstorms, large hail events, and terrain stability.

Last Stand West Kootenay (LSWK) and members of the public commented that the impacts of climate change and projected biodiversity losses were not adequately considered in the timber supply model and recommended these impacts be incorporated in the model. They also recommended the licensee follow the recommendations specified in the *Adapting Natural Resource Management to Climate Change and in the Kootenay-Boundary Region* report.

Ministry staff note that many of the recommendations from the *Adapting Natural Resource Management to Climate Change and in the Kootenay-Boundary Region* report are being implemented through stocking standards, the provincial forest health aerial survey program, existing land use plans, and riparian management practices. Interfor indicates that it is adopting a range of practices provided in the report to establish more resilient forests by planting a mix of tree species on most sites, promptly reforesting harvested areas, increasing the use of Ponderosa pine in the regeneration of drier sites, and increasing tree retention around riparian areas. The higher level of riparian protection may help to mitigate the stream flow changes associated with changes in precipitation and snow melt.

Given that future climate change projections, which include warmer winters and increased moisture demands from evapotranspiration, may elevate the risks related to flood, landslide, insect and diseases, drought and wildfire, I conclude that long-term timber supply is overestimated by an unquantified amount.

New tools are currently being developed to account for ecosystem carbon and to assess the risks associated with drought and natural disturbances. As these tools are validated and as more information becomes available, they will be incorporated in future timber supply reviews. As timber supply analyses are conducted at least every 10 years, the forest inventory is regularly updated to reflect the most recent disturbances and silviculture practices. For TFL 3, establishment of a Young Stand Monitoring Program will provide valuable information on the effects of climate change on regenerating stands and provide opportunities for adaptive management practices.

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.

- *cumulative effects*

Cumulative effects are changes to social, economic, and environmental conditions caused by the combined impact of past, present, and potential human activities or natural events. In the Kootenay-Boundary Region, which includes TFL 3, coal mining and forestry have historically been and continue to be the predominant industries. More recently, tourism, residential development, transportation infrastructure and recreational activities have increased within the region.

The Government of British Columbia has developed a Cumulative Effects Framework (CEF) for assessing cumulative effects on priority values, including aquatic ecosystems, old growth forest, grizzly bear, moose, and forest biodiversity. The CEF provides resource managers with procedures and tools to inform decisions that support sustainable management and the needs of many different users.

Cumulative Effects (CE) assessments are not currently available for TFL 3. However, a watershed hazard assessment has been completed for the province under the CEF. Hazard classes reflect the sensitivity of an identified value to further disturbance both natural (e.g., fire, drought) and human caused (e.g., road building, timber harvesting, urban and agricultural development, water extraction, mining etc.). For watersheds that overlap TFL 3, the overall hazard class for aquatic ecosystems is relatively high. The high flow hazard, which is based on equivalent clearcut area (ECA), and surface runoff indicators is relatively moderate. The sediment hazard, which is based on road density, is relatively high. The riparian hazard, which is also based on road density, as well as stream crossing density and riparian disturbance is also high.

Skwlāx asked whether the impacts from other industries were considered in combination with forestry, and land clearing associated with other industries.

In response, ministry staff noted that although CE assessments are not currently available for TFL 3, they are available for other parts of Skwlāx territory. These include stream flow rate and sedimentation hazard for the Kettle River watershed; aquatic ecosystems, old and mature forest, grizzly bear, and bighorn sheep for the Elk Valley watershed; and grizzly bear, watersheds, moose, and visual quality for the Thompson-Okanagan Region. A link to the available CE assessments was also provided.

I am mindful that there are many planning and management practices that may help to mitigate the impacts of forestry. Such objectives that are reflected in the TFL 3 timber supply analysis and Interfor's current management practices include: the *Kootenay-Boundary Higher Level Plan Order*, the *Forest and Range Practices Act*, visual quality objectives, old growth requirements, cutblock adjacency, and riparian and wildlife tree retention. I also note that Interfor's domestic watershed management exceeds the minimum recommended standards in the *KBLUP Implementation Strategy*, and this may help mitigate the risk to aquatic resources.

I conclude that the base case reflects current management, the effects of past and present legal activity on the land base, and the legal objectives established by government for various non-timber resources.

- *harvest performance*

The current TFL 3 AAC is 80 000 cubic metres. Based on information from the Ministry's Harvest Billing System (HBS) for the period from 2010 to 2022, the average harvest volume has been 56 000 cubic metres per year or 70 percent of the current AAC.

Interfor's harvest performance is evaluated in the *Provincial Timber Management Goals, Objectives, and Targets for TFL 3 (PTMGOT)* (August 2023) report. A comparison of the slope class profile of the harvested cutblocks reported in HBS during the five-year period of 2019 to

2022 to the slope class profile of stands older than 60 years in the Vegetation Resource Inventory (VRI) shows that the full slope profile is not being proportionately harvested. Harvesting during this period appears to be concentrated on slopes less than or equal to 50 percent, while harvesting on slopes greater than 50 percent is disproportionately lower than the VRI profile. These findings are consistent with the harvest performance information provided by Interfor, which is discussed under ‘*steep slopes*’.

Based on my review of harvest performance on steep slopes and the results of the alternative harvest projection, I conclude the base case harvest level has been overestimated by 20 percent and I will account for this in my determination as discussed in ‘**Reasons for Decision**’.

While I understand the tenure holder is working to increase its cable harvesting capacity in the Kootenay-Boundary Region, including TFL 3, achieving the harvest levels projected in the base case requires a significant shift in both operational planning and timber harvesting methods. To avoid a concentration of harvesting in stands on slopes less than 50 percent, which could jeopardize the timber supply sustainability of TFL 3, I am instituting a partition in the AAC. This partition is defined in ‘**Reasons for Decision**’. In addition, it is my expectation Interfor will monitor and report on its harvest performance by slope class, operability class (see ‘*physical operability*’ and terrain stability class (‘*terrain stability*’), as described in ‘**Implementation**’.

- *unharvested volume*

In January 2018 the Ministry of Forests introduced a *Policy Regarding the Administration of Unharvested Volumes, Uncommitted Volumes and Unused BCTS Volumes*, collectively referred to as “accumulated volume”. One of the purposes of the policy is to provide guidance on the administration 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 deputy 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 3.

The 2018 policy requires that prior to the AAC determination for a TFL, I must be provided with information regarding the total net volume of unharvested volume. Regional Tenures staff indicate that for TFL 3, for the five-year cut control period from 2010 to 2017, there was an accumulation of approximately 304 897 cubic metres of unharvested volume. On October 6, 2022, the Regional Executive Director for the Kootenay-Boundary Region approved the disposition of 100 000 cubic metres of the accrued volume for the issuance of new licences.

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.

Given the initial merchantable growing stock on TFL 3 is 3.8 million cubic metres, the approved volume disposition represents 2.6 percent of the initial growing stock. Annualized over the 10-year period the new AAC will be in effect, the disposition is equivalent to 10 000 cubic metres per year, or 13 percent of the base case short-term harvest level for the first decade of the projection.

For the cut control period ending in 2022, a total of 175 335 cubic metres of unharvested volume has accrued. Consultation regarding this volume, as required under Section 13 and 47.3 of the *Forest Act*, has not yet occurred.

Since a volume disposition for 100 000 cubic metres has been approved, it is necessary for me to account for the accumulated volume in the TFL that may be harvested under a licence other than

the TFL over the term of the AAC. Accounting for a growing stock reduction of 100 000 cubic metres per year over a 10-year period, results in a short-term harvest level 12.9 percent lower than in the base case, as discussed in ‘**Reasons for Decision**’. As consultation on the disposition of the 175 335 cubic metres accrued in the cut control period ending in 2022 has not yet occurred, I will not account for it at this time.

With respect to the disposition of the unharvested volume, I am also mindful that due to the disproportionately low level of harvest performance on steep slopes a significant proportion of the unharvested volume is likely attributable to these areas. Consequently, disposition of the undercut volume without a means of specifying the volume is to be harvested from the entire slope profile of the THLB could further increase the risk of a concentration of harvesting on slopes less than 50 percent, and this could jeopardize the timber supply sustainability of the TFL.

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

*- alternative harvest projection*

I was provided with one alternative harvest projection in which the initial harvest was increased by 10 percent above the base case level, as described under ‘*Base case for TFL 3*’.

**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 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 non-recoverable losses assumptions 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 3, 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 80 170 cubic metres per year can be maintained for 50 years before transitioning to a long-term harvest level of 95 040 cubic metres per year. The initial harvest level is about the same as the current AAC of 80 000 cubic metres.

I am satisfied that the assumptions applied in the base case, for most of the factors applicable to TFL 3, were appropriate including those detailed in Table 1 or as previously discussed in this rationale. However, I have identified some factors, which, considered separately, indicate that the timber supply may be either greater or less than that projected in the base case. Some of these factors can be readily quantified and their impact on 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 did not identify any factors that indicate a potential underestimation in the harvest levels projected in the base case.

I have identified the following factors that indicate a potential overestimation in the harvest levels projected in the base case:

- *Steep slopes/Inoperable areas/Unstable terrain* - accounting for the disproportionately low level of harvest performance on slopes greater than 50 percent, the disproportionately low level of harvest performance in the alternative operability class, and the difference between the assumed and demonstrated performance in unstable and potentially unstable slopes, decreases the short-term harvest level by 20 percent.
- *Wildlife tree retention* - accounting for the higher level of wildlife tree retention decreases the short-term harvest level by 3.7 percent.
- *Unharvested volume* - accounting for the disposition of 100 000 cubic metres of unharvested volume decreases the short-term harvest level by 12.9 percent.

In total, the combined effect these factors represent a net overestimation of the base case short-term harvest level of 36.6 percent.

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

- *climate change* – As the effects of climate change unfold, I expect long-term timber supply to be lower than projected in the base case. Although the timing and extent to which climate change will impact timber supply is unknown, I am encouraged by work in the Kootenay–Boundary Region to implement climate adaptation measures. As our knowledge and tools around climate change develop I expect they will be incorporated in future timber supply reviews.

In considering an overestimation of the magnitude noted above, I am guided by the objectives of the Crown provided in a letter from the Minister of Forests to the Chief Forester. In the letter, the minister asks that “when faced with necessary reductions in AACs that whenever possible those reductions be no larger than necessary to avoid significant long-term impacts”.

In a sensitivity analysis, an initial harvest level of 87 950 cubic metres per year – nine percent higher than in the base case - could be achieved without impacting the short- to mid-term timber supply, however the transition to the same long-term harvest level as in the base case was delayed by 60 years.

With this guidance and information in mind, I have decided to moderate the base case adjustment by reducing the impact of the unharvested volume from 10 000 cubic metres per year - or 12.9 percent - to 5000 cubic metres per year - or 6.3 percent. This reduces the total base case short-term harvest adjustment from 36.6 percent to 30 percent, and results in an adjusted short-term harvest level of 56 100 cubic metres per year, which is about 30 percent lower than the current AAC and about the same as the average annual harvest since the last AAC determination.

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 50 percent to a level that is proportionate to their contribution to the THLB. Although Interfor indicates it is continuing to increase its 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 50 percent, I am instituting a partition in the AAC such that a maximum of 60 percent of the AAC can be harvested from slopes less than 50 percent.

Old growth has been identified as an important value by First Nations and the public and the B.C. government has committed to changing the approach to old growth management in the province. First Nations with traditional territory in the Kootenay-Boundary region have given their unanimous support for the implementation of the at-risk old growth deferrals identified by the TAP. However, as I do not have the legal authority to make land use decisions, until the province and First Nations have decided on the management of old growth forest, these areas continue to contribute to the THLB, even though they are not currently being harvested.

Therefore, to avoid the over-harvest of forests outside of the at-risk old growth forest, I am instituting two AAC partitions based on the definitions of old forest provided in the KBHLP Order. In the first, a maximum of 7300 cubic metres or about 13 percent of the AAC can be harvested from “old forest”. Old forest is defined as stands older than 140 years and younger than 250 years in more frequently disturbed stands (NDT 3) and 250 years or older in less frequently disturbed stands (NDT 1, 2, and 4). In the second, a maximum of 48 800 cubic metres - or about 87 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. Additionally, the partitions I specify can be modified at any time as long as the AAC can remain unchanged.

## 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 3 by establishing an AAC of 56 100 cubic metres. This is about 30 percent lower than the current AAC of 80 000 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 7300 cubic metres (13 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 (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 48 800 cubic metres (87 percent of the AAC) may be harvested from stands that are not old forest. “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 50 percent: A maximum of 33 700 cubic metres per year) 60 percent of the AAC) can be harvested from stands on slopes less than 50 percent.

This determination is effective July 18, 2024, and will remain in effect until a new AAC is determined, which must take place within 10 years of the effective date of this determination. 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

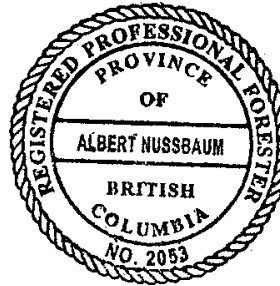
In the period following this decision and leading to the subsequent determination, I expect Ministry staff and tenure holder's staff to undertake or support the tasks and studies noted below, the benefits of which are described in appropriate sections of this rationale document. I recognize that the ability of all parties to undertake or support these projects is dependent on provincial priorities and available resources, including funding. However, these projects are important to help reduce the risk and uncertainty associated with key factors that affect the timber supply in TFL 3. Prior to the next AAC determination:

1. *Inventory* - I expect Interfor to work with FAIB to assess and validate the current inventory and if necessary complete a new inventory in a time frame that would allow the results to be incorporated in the next timber supply review.
2. *Monitoring Partitions and Reporting Annually*
  - *Steep slopes* - I expect Interfor to align its harvest performance on steep slopes to the slope profile of the TFL and to monitor and report to the district and FAIB on its harvest performance by slope class, operability class, and terrain stability class annually.
  - *Old and not old forest* - I ask Interfor to work with District and FAIB staff to develop a monitoring protocol for the old and not old forest partition and to report performance annually.
3. *Site productivity* - I expect Interfor to work with FAIB to establish a YSM program, the results of which will improve site productivity estimates, and increase understanding of the effects of climate change on stand productivity.



Albert Nussbaum, RPF  
Deputy Chief Forester

July 18, 2024



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

Section 8 of the *Forest Act*, Revised Statutes of British Columbia 1996, c. 157, (current to July 2, 2024), reads as follows:

### Allowable annual cut

- 8** (1) The chief forester must determine an allowable annual cut at least once every 10 years after the date of the last determination, for
- (a) the Crown land in each timber supply area, excluding the Crown land in the licence areas of area-based licences, and
  - (b) each tree farm licence area.

(2) If the minister

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

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

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

(3) If

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

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

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

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



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

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

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

(5) In respect of an allowable annual cut determined under this Act, the chief forester may, at any time, specify that portions of the allowable annual cut are attributable to one or more of the following:

- (a) different types of timber or terrain in different parts of Crown land within a timber supply area or tree farm licence area;
  - (a.1) different areas of Crown land within a timber supply area or tree farm licence area;
  - (b) different types of timber or terrain in different parts of private land within a tree farm licence area.
- (c) [Repealed 1999-10-1.]

(5.1) The chief forester may, at any time, amend or cancel a specification made under subsection (5).

(6) The minister must determine an allowable annual cut for each woodlot licence area in accordance with the woodlot licence for that area.

(7) The minister must determine an allowable annual cut for

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

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

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

- (i) the composition of the forest and its expected rate of growth on the area,
  - (ii) the expected time that it will take the forest to become re-established on the area following denudation,
  - (iii) silviculture treatments to be applied to the area,
  - (iv) the standard of timber utilization and the allowance for decay, waste and breakage expected to be applied with respect to timber harvesting on the area,
  - (v) the constraints on the amount of timber produced from the area that reasonably can be expected by use of the area for purposes other than timber production, and
  - (vi) any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber,
- (b) the short and long term implications to British Columbia of alternative rates of timber harvesting from the area,
- (c) [Repealed 2003-31-2.]
- (d) the economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia, and
- (e) abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area.
- (9) Subsections (1) to (4) of this section do not apply in respect of the management area, as defined in section 1 (1) of the *Haida Gwaii Reconciliation Act*.
- (10) Within one year after the chief forester receives notice under section 5 (4) (a) of the *Haida Gwaii Reconciliation Act*, the chief forester must determine, in accordance with this section, the allowable annual cut for
- (a) the Crown land in each timber supply area, except the areas excluded under subsection (1) (a) of this section, and
  - (b) each tree farm licence area
- in the management area, as defined in section 1 (1) of the *Haida Gwaii Reconciliation Act*.
- (11) The aggregate of the allowable annual cuts determined under subsections (6), (7) and (10) that apply in the management area, as defined in section 1 (1) of the *Haida Gwaii Reconciliation Act*, must not exceed the amount set out in a notice to the chief forester under section 5 (4) (a) of that Act.

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

Section 4 of the *Ministry of Forests and Range Act* (current to July 2, 2024) reads as follows:

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

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

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

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

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

(d) encourage a vigorous, efficient and world competitive

(i) timber processing industry, and

(ii) ranching sector

in British Columbia;

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

### Appendix 3: Minister’s letter of November 24, 2021



Reference: 268022

November 24, 2021

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

Dear Diane Nicholls:

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

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

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

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

Office of the Minister

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Diane Nicholls, Assistant Deputy Minister and Chief Forester

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

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

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

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

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

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

Sincerely,



Katrine Conroy  
Minister

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

The information sources considered in determining the AAC for TFL 3 include the following:

A New Future for Old Forests: A Strategic Review of How British Columbia Manages for Old Forests within its Ancient Ecosystems. See <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/old-growth-forests/strategic-review-20200430.pdf>. (Accessed July 8, 2024);

Adapting Natural Resource Management to Climate Change in the Kootenay Boundary Region: Considerations for Practitioners and Government Staff. See <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nrs-climate-change/regional-extension-notes/kbren160222.pdf> (Accessed July 8, 2024);

Aerial Overview Surveys. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. See <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-health/aerial-overview-surveys> (Accessed July 8, 2024);

Approved Government Actions Regulation – Ungulate Winter Ranges. See [http://www.env.gov.bc.ca/wld/frpa/uwr/approved\\_uwr.html](http://www.env.gov.bc.ca/wld/frpa/uwr/approved_uwr.html) (Accessed July 8, 2024);

Approved Legal Orders. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. See <https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions> (Accessed July 8, 2024);

Archaeology in British Columbia. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. See <https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/archaeology> (Accessed July 8, 2024);

Biodiversity Guidebook, Ministry of Forests. See [Biodiversity Guidebook \(Forest Practices Code of British Columbia, September 1995\) \(gov.bc.ca\)](https://www2.gov.bc.ca/gov/content/industry/biodiversity-guidebook) (Accessed July 8, 2024);

Biogeoclimatic Ecosystem Classification Program. Ministry of Forests, Lands and Natural Resource Operations. See <https://www.for.gov.bc.ca/hre/becweb/program/climate%20change/index.html> (Accessed July 8, 2024);

British Columbia Geographic Warehouse. See <https://www2.gov.bc.ca/gov/content/data/geographic-data-services> (Accessed July 8, 2024);

Bulletin – Modelling Visuals in TSR III. Ministry of Forests. See [https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/visual-resource-mgmt/vrm\\_modeling\\_visuals\\_bulletin.pdf](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/visual-resource-mgmt/vrm_modeling_visuals_bulletin.pdf) (Accessed July 8, 2024);

Chief Forester’s Standards for Seed Use, Amendments Established. See <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use> (Accessed July 8, 2024);

Cut Control Regulation. Victoria, BC. See [http://www.bclaws.ca/Recon/document/ID/freeside/17\\_578\\_2004](http://www.bclaws.ca/Recon/document/ID/freeside/17_578_2004) (Current to March 26, 2024);

*Declaration on the Rights of Indigenous Peoples Act*. See <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19044> (Current to July 2, 2024);

Foord, V. 2023. Kootenay Lake TSA Climate Change Analysis. Prepared for TFL 3 AAC Determination;

- Forest Act.* See [https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96157\\_00](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96157_00) (Current to July 2, 2024);
- Forest and Range Practices Act.* See [https://www.bclaws.ca/civix/document/id/complete/statreg/02069\\_01](https://www.bclaws.ca/civix/document/id/complete/statreg/02069_01) (Current to July 2, 2024);
- Forest Planning and Practices Regulation. See [http://www.bclaws.ca/civix/document/id/complete/statreg/14\\_2004](http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004) (Current to March 5, 2024);
- Forest Practices Code Riparian Management Area Guidebook. Ministry of Forests, Lands, Natural Resource Operations and Rural Development. See <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/silviculture/silvicultural-systems/silviculture-guidebooks/riparian-management-area-guidebook> (Accessed July 8, 2024);
- Government Actions Regulation. See [http://www.bclaws.ca/civix/document/id/complete/statreg/582\\_2004](http://www.bclaws.ca/civix/document/id/complete/statreg/582_2004) (Current to July 2, 2024);
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