

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

Tree Farm Licence 56

held by
The Revelstoke Community Forest Corporation

Rationale for Allowable Annual Cut (AAC) Determination

Effective May 4, 2021

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

Acknowledgement

For preparation of the information I have considered in this determination, I thank licence holder staff, and staff of the British Columbia (BC) Ministry of Forests, Lands, Natural Resource Operations and Rural Development (the “Ministry”) in the Selkirk Natural Resource District and Kootenay/Boundary Natural Resource Region and the Forest Analysis and Inventory Branch (FAIB). I am also grateful to First Nations and the public who have taken the time to make me aware of the issues unique to this TFL.

Statutory framework

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

Overview of the Tree Farm Licence

TFL 56, held by the Revelstoke Community Forest Corporation (“the licence holder”), is located in southwestern British Columbia 40 kilometres north of Revelstoke. The Selkirk Natural Resource District (“the district”) administers the TFL from Nelson within the Kootenay Boundary Region. The TFL is bounded on the west by the Lake Revelstoke Reservoir, on the east by the Selkirk Mountains, on the north by the Goldstream River, and on the south by the Downie-Carnes height-of-land.

There are 14 First Nations associated with the Secwepemc, Ktunaxa or Okanagan First Nations whose territories predate the creation of the administrative boundary of TFL 56.

The total area of TFL 56 is 119 353 hectares, of which 23 233 hectares (19.5 percent) is considered to be currently available for timber harvesting. After accounting for the additional wildlife tree retention and road development associated with future harvesting, the long-term timber harvesting land base (THLB) is 21 987 hectares (18.4 percent of the total area). Of the forested land base, about one-third is currently available for timber harvesting.

The TFL land is extremely rugged and dominated by two roughly east-west valleys – those of the Downie Creek and Goldstream River – and one north-south valley, that of the Columbia River (Lake Revelstoke Reservoir). Elevation ranges from 573 metres at reservoir level to 3050 metres at Carnes Peak.

The three biogeoclimatic ecosystem classification (BEC) zones in the TFL, in descending order by total area, are Engelmann Spruce Subalpine Fir (ESSF), Interior Cedar Hemlock (ICH) and Alpine Tundra (AT). The THLB is dominated by spruce (29.7 percent), cedar (27.2 percent), and hemlock (23.8 percent) stands. Douglas-fir, subalpine fir, and pine account for the remainder of the coniferous species. Deciduous trees occur as a minor component in predominantly coniferous stands.

Wildlife species such as grizzly and black bears, moose, deer, small mammals and birds are abundant on the TFL. Species requiring active management include mountain caribou, grizzly bear, Coeur d'Alene salamander, and goshawk.

TFL 56 was awarded to the Revelstoke Forest Corporation in 1993, at which time the AAC was set at 103 500 cubic metres. The current AAC of 90 000 cubic metres was determined on September 8, 2010.

New AAC determination

Effective May 4, 2021, the new AAC for TFL 56 is 90 000 cubic metres. The new AAC is the same as the AAC in place prior to this determination.

This AAC will remain in effect until a new AAC is determined, which must take place within 10 years of this determination. If additional significant new information is made available to me, or major changes occur in the management assumptions upon which this decision is predicated, then I am prepared to revisit this determination sooner than the 10 years required by legislation.

Role and limitations of the technical information used

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

Computer models cannot incorporate all the social, cultural and economic factors that are relevant when making forest management decisions. Technical information and analysis, therefore, do not necessarily provide the complete answers or solutions to forest management issues that must be considered when making decisions such as AAC determinations. Such information does provide valuable insight into potential impacts of different uncertainties about or changes to resource information and management practices, and thus forms an important component of the information I must consider in AAC determinations.

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

Guiding principles for AAC determinations

Section 8 of the *Forest Act* requires the chief forester to consider particular factors in determining AACs for timber supply areas and tree farm licences.

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

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

AAC determinations should not be construed as limiting the Crown's obligations under court decisions in any way, and in this respect, it should be noted that AAC determinations do not prescribe a particular plan of harvesting activity within the management units. They are also independent of any decisions by the Minister of Forests, Lands, Natural Resource Operations and Rural Development with respect to subsequent allocation of wood supply.

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

Information uncertainty

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

Two important ways of dealing with this uncertainty are:

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

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

timber supply but are not consistent with legislative requirements and not substantiated by demonstrated performance.

It is not appropriate to speculate on timber supply impacts that may eventually result from land-use designations not yet finalized by government. Where specific protected areas, conservancies, or similar areas have been designated by legislation or by order in council that prohibit timber harvesting, these areas are deducted from the THLB and are not considered to contribute any harvestable volume to the timber supply in AAC determinations, although they may contribute indirectly by providing forest cover that helps meet resource management objectives such as biodiversity.

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

Where appropriate, information will be considered regarding the types and extent of planned and implemented silviculture practices as well as relevant scientific, empirical and analytical evidence on the likely magnitude and timing of their timber supply effects.

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

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

First Nations

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

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

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

Where the nature, scope and geographic extent of Aboriginal rights and title have not been established, the Crown has a constitutional obligation to consult with First Nations regarding their Aboriginal Interests in a manner proportional to the strength of those Interests and the degree to which they may be affected by the decision. The manner of consultation must also be consistent with commitments made in any agreements between First Nations and the Province. In this regard, full consideration will be given to:

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

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

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

remains as provincial land managed by the Province, and will contribute to timber supply.

Integrated decision making and cumulative effects

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

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

Climate change

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

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

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

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

The role of the base case

In considering the factors required under Section 8 of the *Forest Act* to be addressed in AAC determinations, I am assisted by timber supply projections provided to me through the work of the Timber Supply Review (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 model, a series of timber supply forecasts can be produced to reflect different starting harvest levels, rates of decline or increase, and potential trade-offs between short- and long-term harvest levels.

From a range of possible harvest projections, one is chosen in which an attempt is made to avoid both excessive changes from decade to decade and significant timber shortages in the future, while ensuring the long-term productivity of forest lands. This is known as the base case forecast and it forms the basis for comparison when assessing the effects of uncertainty on timber supply. The base case is designed to reflect current management practices.

Because it represents only one in a number of theoretical forecasts, and because it incorporates information about which there may be some uncertainty, the base case forecast is not an AAC recommendation. Rather, it is one possible forecast of timber supply, whose validity - as with all the other forecasts provided - depends on the validity of the data and assumptions incorporated into the computer simulation used to generate it.

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

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

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

AAC determined may or may not coincide with the base case. Judgments that in part may be based on uncertain information are essentially qualitative in nature and, as such, are subject to an element of risk. Consequently, once an AAC has been determined, no additional precision or validation would be gained by attempting a computer analysis of the combined considerations.

Base case for TFL 56

The timber supply analysis for TFL 56 was prepared for the licence holder, the Revelstoke Community Forest Corporation, by Forsite Consultants Ltd. using the modelling software Patchworks™ which has been 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 (CHR), recreation and visual quality. Based on the review by FAIB, as well as my own experience reviewing results from similar models, I am satisfied that Patchworks is capable of providing an appropriate projection of timber supply.

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

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

The inventory used in the base case was updated for depletions and the volumes were projected to January 1, 2019. The base case begins January 1, 2019, and the harvest levels are reported in 10-year increments for 300-years.

In the base case, an initial harvest level of 92 100 cubic metres per year, which is 2100 cubic metres per year or 2.3 percent higher than the current AAC of 90 000 cubic metres, is maintained for seven decades before increasing to 106 700 cubic metres per year for the remainder of the forecast period.

In addition to the base case, I was provided with two alternative harvest forecasts. In the first, increasing the initial harvest level to 95 600 cubic metres per year delayed the transition to the base case long-term harvest level by 20 years.

In the second, increasing the initial harvest level to 101 800 cubic metres per year for the first decade before decreasing it to the base case level of 92 100 cubic metres per year delayed the transition to the base case long-term harvest level by 10 years.

The notable changes in the timber supply analysis for TFL 56 since the current AAC was determined in 2010 include:

- improved operability line mapping and assignment of harvesting system;
- revised non-forest and low productivity site definitions;

- inclusion of existing wildlife tree patches as a spatial reduction to the current THLB;
- revised seral targets for landscape-level biodiversity as a result of changes to the Revelstoke Higher Level Plan Order, including removal of the requirement to meet targets both above and below the operability line;
- updated growth and yield models;
- use of the provincial site productivity layer for managed stand site index; and,
- incorporation of improved genetic worth information for existing managed stands.

Overall, these changes have resulted in a THLB that is 658 hectares (2.9 percent) larger than in the previous timber supply review.

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

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

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

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

Table 1. List of factors accepted as modelled

| Forest Act section and description | Factors accepted as modelled |
|--|--|
| 8(8)(a)(i) - the composition of the forest and its expected rate of growth on the area | <i>non-Crown land</i> <i>non-forest and non-productive areas</i> <i>existing and future roads, trails and landings</i> <i>parks and Crown reserves</i> <i>terrain stability</i> <i>non-merchantable stands</i> <i>low productivity sites</i> <i>recreation resources</i> <i>volume estimates for natural stands</i> <i>volume estimates for managed stands</i> <i>inoperable areas</i> <i>riparian reserves and management zones</i> <i>site productivity assignments</i> <i>genetic gain</i> <i>operational adjustment factors</i> <i>minimum harvest criteria</i> <i>backlog and current non-stocked areas</i> |
| 8(8)(a)(ii) - the expected time that it will take the forest to become re-established on the area following denudation | <i>stand establishment</i> |
| 8(8)(a)(iii) - silviculture treatments to be applied to the area | <i>silviculture systems</i> |
| 8(8)(a)(iv) - the standard of timber utilization and the allowance for decay, waste and breakage expected to be applied with respect to timber harvesting on the area | <i>decay, waste and breakage</i> <i>timber utilization</i> |
| 8(8)(a)(v) - 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 | <i>cutblock adjacency and green-up</i> <i>Downie Salt lick</i> <i>harvest rules and priority</i> |
| 8(8)(a)(vi) - any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber | <i>none</i> |
| 8(8)(b) – the short and long term implications to British Columbia of alternative rates of timber harvesting from the area | <i>alternative harvest forecasts</i> |
| 8(8)(c) – the nature, production capabilities and timber requirements of established and proposed timber processing facilities | This section of the <i>Forest Act</i> has been repealed [2003-31-2 (B.C. Reg. 401/2003)] |

| | |
|---|-------------------------------|
| 8(8)(d) – the economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia | <i>none</i> |
| 8(8)(e) - abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area | <i>non-recoverable losses</i> |

Forest Act Section 8 (8)

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

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

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

Land base contributing to timber harvesting

- general comments

The timber harvesting land base (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 the TFL 56 is approximately 119 353 hectares. Of this total area, 23 233 hectares are deemed to be currently available as THLB after deductions are applied for factors noted in Table 1 above and in factors discussed below.

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

For this determination, I accept that the approach used to determine the THLB for the TFL 56 base case was appropriate.

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

- *cultural heritage resources*

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

Archaeological sites, including culturally modified trees that pre-date 1846, pictographs, petroglyphs and graves, are protected from timber harvesting under the *Heritage Conservation Act*.

In the rationale for the 2010 AAC determination, the deputy chief forester encouraged the licence holder to collaborate with the Neskonlith Indian Band and other First Nations who have traditional territory that encompasses TFL 56 to identify archaeological sites and to conduct archaeological assessments.

In 2010, the licence holder completed an archaeological overview assessment (AOA) and has been contracting First Nations to provide CHR reports. To date, no sites have been identified within the TFL. The licence holder indicated that if archaeological sites are identified the information will be shared with First Nations and the province and the sites will be protected from harvest. In the absence of known sites, no area was excluded from the THLB used in the base case.

The Ktunaxa Nation Council (KNC) requested a sensitivity analysis be prepared to assess the timber supply implications of avoiding CHRs. FAIB responded by reviewing the cultural conservation value forest (CCVF) information provided by the KNC. No CCVF areas were identified within the TFL.

For this determination, I accept that the assumptions used in the base case to account for archaeological sites and CHR reflect the currently available information. I appreciate the licence holder’s response to the deputy chief forester’s recommendation and encourage them to continue their collaborative work with First Nations to identify and manage archaeological sites and CHR within the TFL.

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

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

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

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

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

- dead potential volume

In April 2006 new log grades were implemented for the BC Interior. Previously, a log was assessed according to whether the tree it came from was alive or dead at the time of harvest. Prior to April 2006, grade 3 endemic (the ‘normal’ mortality observed in a mature stand) and grade 5 (dead tree with less than 50 percent firmwood and/or less than 50 percent of lumber produced is merchantable) were not charged to the AAC if harvested. Under the new system, grades are based on the log size and quality at the time it is scaled, not simply whether it was alive or dead at harvest.

To better account for all harvested volumes in AAC cut control, logs previously considered grade 3 endemic or grade 5 (dead potential volume) are now charged to the AAC. Therefore, this volume should now be taken into account in an AAC determination. Data obtained from forest inventory audit plots for TFL 56 show that the dead potential volume is about 14 percent of the ‘green’ volume for stands over 60 years of age. However, FAIB staff indicate this estimate may be unreliable because the sampling error for the dead potential volume estimate is considered too high. District staff note that inventory audit data from the adjacent Revelstoke TSA, where the terrain and stands are similar to those in TFL 56, show dead potential volumes around 4.4 percent of the green volume.

Given there is insufficient inventory audit plot data available for TFL 56 to provide a reliable estimate of dead potential volume and given the similarities between TFL 56 and the Revelstoke TSA, I find it reasonable to account for up to a 4.4 percent underestimation in the base case harvest levels, as discussed in ‘**Reasons for Decision**’.

As indicated in ‘**Implementation**’, I expect the licence holder to undertake additional ground sampling to improve the estimates of dead potential volume. This information can also be used to improve the vegetation resource inventory (VRI) through field-verification.

- grade 4 credit

Section 17(6) of the Cut Control Regulation allows licensees to apply to have grade 4 logs that are delivered to a non-lumber or veneer facility not count towards the AAC volume attributed to their licence. This practice is referred to simply as “grade 4 credit”. The grade 4 credit is intended to provide an incentive to licensees to utilize low quality logs. As this grade 4 credit volume is not accounted for in the AAC apportionment, this may enable the total harvest in a TSA or TFL to exceed the AAC determined under Section 8 of the *Forest Act*.

The licence holder received grade 4 credits of 24 582 cubic metres and 10 439 cubic metres in 2012 and 2019, respectively. Although this harvest level is not inconsistent with the Ministry’s cut control policy, continued application of grade 4 credits may result in harvest levels that exceed the Section 8 AAC.

In 2014, the *Forest Act* and Cut Control Regulation were amended to allow the minister to set a maximum volume limit on grade 4 timber that may be credited in a TFL or TSA in situations where sustainability of the timber supply is a concern. No maximum has been set for TFL 56.

The inventory used in the base case has been updated for depletion, including the harvested grade 4 volume, consequently no adjustment is required on this account. However, as discussed under ‘**Implementation**’, I expect district staff to continue to monitor the volumes attributed to grade 4 credit, and in the event that the volume of grade 4 credits could result in a risk to the sustainability of the AAC that I determine, it is my expectation that staff will request that the Minister implement a maximum volume limit.

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

Integrated resource management objectives

The Ministry is required, under the *Ministry of Forests and Range Act* (see Appendix 2), to manage, protect and conserve the forest and range resources of the Crown; and to plan the use of these resources so that the production of timber and forage, the harvesting of timber, the grazing of livestock and the realization of fisheries, wildlife, water, outdoor recreation and other natural resource values are coordinated and integrated. The *Forest and Range Practices Act* (FRPA) and other legislation provide for, or enable, the legal protection and conservation of timber and non-timber values. Accordingly, the extent to which integrated resource management objectives for various forest resources and values affect timber supply must be considered in AAC determinations.

- higher level plans

In 2005, government issued an order under the *Forest Practices Code of BC Act* that established select recommendations from the Revelstoke and Area Land Use Plan Final Recommendations as a higher level plan. The *Order Establishing Resource Management Zone Objectives Within the Area Covered by the Revelstoke Land Use Plan as a Higher Level Plan Order* (Revelstoke and Area Land Use Plan (RLUP) Order) established resource management zones and biodiversity emphasis options; specified mature and old, and old seral forest requirements above and below the 1994 operability line; required the retention of seasonal habitat for caribou; and required the retention of high value grizzly bear habitat alongside avalanche chutes.

In 2009, the RLUP Order was amended cancelling the RMZ caribou requirements to avoid duplication or conflict with the 2007 Mountain Caribou Recovery Implementation Plan and caribou ungulate winter ranges. In 2011, the biodiversity and old and mature forest objectives were amended.

- landscape-level biodiversity

seral stage requirements

Old-seral stage forest retention is an important aspect of landscape-level biodiversity. In TFL 56, biodiversity emphasis options (BEO) and requirements for old and mature forest retention have been legally established as specified in the RLUP Order. Biodiversity

targets are expressed as a percentage of area that must retain old-seral stage characteristics within the Crown forest land base (CFLB) for each biogeoclimatic subzone/variant in each landscape unit, with percentage targets varying by biogeoclimatic subzone/variant, natural disturbance type, and BEO. There are two landscape units in TFL 56; R12 near Downie Creek and R19 along the Goldstream River.

In the Interior Cedar Hemlock (ICH) and Englemann Spruce Subalpine Fir (ESSF) biogeoclimatic zones, in areas of low natural stand disturbance (natural disturbance types 1 and 2), old seral forest is defined as stands older than 250 years. In the ICH, in areas with higher levels of natural disturbance (natural disturbance type 3), old seral forest is defined as stands older than 140 years.

In the base case, the model was required to retain sufficient old forest to meet the old seral stage requirements in each landscape unit/biogeoclimatic zone variant (LUBEC) according to the BEO assigned to that LUBEC. Where there is insufficient old seral forest, the model recruits younger stands and reserves them from harvest until the old seral stage requirements are met.

In LUBECs with an intermediate BEO, the old seral stage requirements must be met or recruited for immediately. As provided for in the *Order Establishing Provincial Non-Spatial Old Growth Objectives* (NSOGO), the old seral stage requirements can be met over three rotations in LUBECs with a low BEO.

In landscape unit R12, there are old seral stage deficits in the ICH Thompson mw3 in both the intermediate and low BEO areas totalling 6.7 hectares. In landscape unit R19, there are old seral stage deficits in the ICH Shuswap wk1 intermediate and low BEO areas totalling 0.7 hectares. These deficits are largely the result of historic logging prior to the establishment of landscape-level biodiversity requirements. In the base case, the model was able to retain sufficient mature stands that became old enough to meet the old seral stage requirements after the first decade of the forecast period.

In the ICH Shuswap wk1 subzone in the R19 low BEO area, the full old seral requirement is met at the beginning of the base case. However, harvesting in the model reduces the amount of old seral stands such that after 85 years the amount of old seral forest falls below the full target but remains above the two-thirds target. The amount of old seral increases to the full requirement after 220 years. The allowance in the NSOGO to meet old seral stage requirements over three rotations was intended to address the significant immediate timber supply impacts of implementing the targets. In this situation, I do not believe it was appropriate to project a unit with an excess of old seral stands to fall below the full targets. Given the ICH Shuswap wk1 low BEO in R19 represents 7.1 percent of the THLB, this requirement results in a small, unquantified underestimation in the base case long-term harvest level.

With respect to the ICH Shuswap wk1 low BEO within R19, I note that since there is currently sufficient old seral forest to meet the RLUP Order requirements, application of the Provincial Non-Spatial Old Growth Order provision to meet the requirements over three rotations should not have been applied in the base case. Based on the results of the sensitivity analysis in which the model was required to maintain the full old seral stage requirement for the entire forecast period, I will account for a small, unquantified

overestimation in the base case long-term harvest level, as discussed in ‘**Reasons for Decision**’.

- *old growth management areas*

In addition to seral stage requirements, old growth objectives in the TFL are met by the establishment of ‘non-legal’ old growth management areas (OGMA). OGMAs are often referred to as being either ‘legal’ or ‘non-legal’, where ‘legal’ OGMAs have been established through the issuance of legal orders under the *Land Act* and ‘non-legal’ OGMAs are subject to a notice that commits to meeting the requirements of Section 8 in the *Order Establishing Provincial Non-Spatial Old Growth Objectives*.

The licence holder has indicated that it is following the intention of the RLUP Order with respect to the currently proposed OGMAs by excluding these non-legal OGMAs from the THLB. District staff note that the licence holder does track OGMAs and replaces areas that have been harvested or otherwise impinged upon with suitable stands elsewhere. In the base case, a gross area of 4034 hectares was identified as non-legal OGMA and excluded from the THLB.

I accept that the requirements for non-legal OGMAs were correctly modelled in the base case.

The KNC have indicated that old growth management is a priority issue for them and they would like OGMAs to be legally established. They are concerned that the targets for the amount of old growth to be retained in landscape units are too low and consequently there is a risk to those wildlife species that rely on them for habitat. These targets are of particular concern in lower elevations where the majority of harvesting takes place and where the creation of dams along the Columbia River flooded large areas of previously forested areas. The KNC note that the targets for old and mature forests do not reflect the natural range of variation as they are based on calculations that evaluated the current land base and did not consider the previously forested areas.

Also of concern to the KNC are those areas assigned a low BEO. For these areas the RLUP Order requires one-third of the old seral stage target to be met immediately while the full target does not need to be met until the third rotation. Given there has been no evaluation conducted on the effectiveness of the targets and their impact on species that depend on them, the KNC reiterate the risk to these and other species and the need for the decision maker to exercise an abundance of caution when determining the cut.

On July 17, 2019, the BC government appointed an independent panel to undertake a province-wide Old Growth Strategic Review. The resultant report entitled *A New Future for Old Forests: A Strategic Review of How British Columbia Manages for Old Forests Within its Ancient Ecosystems* was submitted to the Minister on April 30, 2020. The BC government is implementing key recommendations from the report as part of its old growth strategy that will include the establishment of new old growth management requirements and strengthen existing requirements.

With respect to the appropriateness and efficacy of the existing seral stage requirements, I do not have the authority to alter existing or establish new legal requirements.

However, I understand that the Kootenay Boundary Natural Resource Region has initiated a process to consider options for improving old growth management in the

region and that First Nations will be engaged prior to any decisions being made on how to proceed. This will provide a venue for more detailed discussion on old growth targets and options for improved management. Changes in old growth management that result from this process or government's old growth strategy will be reflected in subsequent timber supply reviews. In the event that these changes may significantly affect timber supply, I am prepared to revisit this decision earlier than required in legislation.

For TFL 56, the establishment of legal OGMAs and formation of a plan to meet the old seral stage targets in areas where they are not being met as quickly as possible is consistent with the Province's commitment to improving the management of old growth forests in BC and the interests expressed by the KNC. Furthermore, meeting the seral stage requirements is a requirement under the RLUP Order.

I am concerned that lack of legal OGMAs represents an uncertainty to landscape-level biodiversity in TFL 56. In this regard, I encourage the licence holder to work with district staff and First Nations to establish legal OGMAs. And, where old seral stage targets are not being met, to exercise due diligence to ensure that these gaps are addressed.

- stand-level biodiversity

Stand-level biodiversity objectives established under the Forest Planning and Practices Regulation (FPPR) are achieved through the retention of wildlife tree areas (WTRA) within and adjacent to harvest blocks. Licensees are required to maintain a minimum seven percent of the harvested areas as WTRAs, of which 3.5 percent must be retained within cutblocks.

After accounting for areas that have already been excluded from the THLB, a net area of 431 hectares was excluded from the THLB to account for existing WTRAs. Applying a 3.5 percent aspatial reduction to stands in the THLB older than 60 years reduced the future THLB by an additional 650 hectares.

In the rationale for the 2010 AAC determination, the deputy chief forester encouraged the licence holder to "map existing wildlife tree patches and account for them in the next timber supply analysis". In response, the licence holder completed a block-by-block assessment of the WTRAs for the previous 10 years. The results indicate that the average per block WTRA was 11.6 percent, of which 6.7 percent was in-block retention.

The licence holder has indicated that it will be adjusting its practices to better align with the FPPR objectives. Therefore, following the current legal requirements, the establishment of future WTRA was modelled in the base case by applying an aspatial reduction of 3.5 percent to the THLB areas greater than 25 years old.

The KNC are concerned that there is a risk to wildlife and biodiversity given the lack of wildlife species and habitat monitoring conducted by either the licence holder or Ministry. They believe that the seven percent WTRA level requirement in the FPPR is too low as there have not been any assessments to determine if this amount of retention is sufficient to provide habitat for a wide range of species. They also indicated that many of the WTRA locations are not appropriate as they are often co-located in areas that are being retained for other values, such as archaeology, visuals or terrain stability. The

KNC are also concerned about the risk to WTRA effectiveness if these areas are harvested in the future.

For this determination, I conclude that WTRAs were accounted for correctly and I will make no adjustment to the base case on this account. As indicated, reducing WTRA retention is in line with legal requirements; however, this change should not be realized at the expense of diminishing wildlife habitat.

In considering the concerns shared by the KNC, I am mindful that while it is not within the scope of my legal authority to alter WTRA requirements, the FPPR does allow licensees to provide alternative results and strategies to manage for stand-level biodiversity in their FSPs. As such, I encourage the district and KNC to work to identify stand attributes that should be retained in WTRAs, as they relate to species or ecosystems of importance to the KNC. Comments will be provided to the licence holder during FSP consultation and during information sharing on road and cutting permits. I will discuss the KNC concerns regarding monitoring and wildlife habitat effectiveness in **'First Nations'**.

- wildlife habitat areas

Wildlife habitat areas (WHA) are established through the issuance of Government Actions Regulation (GAR) orders to provide habitat for identified wildlife species that are at risk or are of regional importance and include objectives that may limit or prevent harvesting.

Coeur d'Alene salamander populations, which are listed as 'species of special concern' under the federal *Species at Risk Act* (SARA) and 'red-listed' (i.e., identified as a species at risk of extinction or extirpation) provincially, occur in TFL 56. One WHA has been established for Coeur d'Alene salamander in the TFL and the area was excluded from the THLB.

The KNC expressed concern about the lack of established WHAs for goshawks and requested information about the timber supply impacts if best management practices for goshawks were implemented. The district responded that a goshawk nest was identified in 2002. A Goshawk Management Plan was created which includes best management practices (*Managing Identified Wildlife: Procedures and Measures Vol. 1*, Feb. 1999). The proposed harvesting activity for the area did not proceed, and most of this area has now been incorporated into a Ungulate Winter Range-Government Actions Regulations (UWR-GAR) area and is protected from harvest. In the future, identified nest sites will be incorporated into the Goshawk Management Plan.

I conclude that WHAs were correctly accounted for and will make no adjustments to the base case on this account. With respect to goshawk, I note that the district and licence holder staff will undertake the appropriate measures to identify and manage goshawk nests and that they will share this information with First Nations.

- mountain caribou

Southern mountain caribou populations, which are listed as 'threatened' under SARA and 'red-listed' provincially, occur in TFL 56. The 2005 RLUP Order established a resource management zone and objectives for caribou that required the retention of seasonal

habitats for the maintenance and viability of the existing mountain caribou subpopulations.

The provincial government endorsed the *Mountain Caribou Recovery Implementation Plan* in October 2007. Implementation of the plan in 2009 resulted in the issuance of GAR orders establishing UWR for caribou. These orders included general wildlife measures, which may exclude or restrict harvesting, for the established UWRs.

Ungulate winter range u-3-005 occupies 20 747 hectares of CFLB within TFL 56. In order to account for this area, in which timber harvesting is not permitted, 9511 hectares were excluded from the THLB. In addition to the UWR, measures to protect mountain caribou habitat within the TFL include the management of forest health to protect and preserve caribou habitat and young stands, seasonal recreation closures and predator control.

The KNC requested analysis to assess the potential impacts of climate change to caribou habitat. The KNC technical working group is exploring opportunities to improve on wildlife habitat supply analyses so that better information can be incorporated into future timber supply reviews.

The KNC noted that mechanized skiing is another industry that impacts wildlife, particularly caribou, by causing animals to move down into lower elevations. Ministry staff indicated that caribou herd planning groups are currently developing practices for caribou management that will help mitigate such impacts and will be incorporated into TSRs as they are implemented.

Based on my review of the mountain caribou information, I am satisfied that the assumptions used in the base case appropriately reflect current management and will make no adjustments to the base case on this account. District staff inform me that the licence holder is adhering to the current caribou management requirements. If incremental caribou management requirements are established that significantly affect timber availability, I am prepared to re-visit this determination earlier than required in legislation.

- *grizzly bear*

Grizzly bear, which are listed as ‘species of special concern’ under the federal SARA and ‘blue-listed’ (i.e., species not immediately threatened, but of concern because they are particularly sensitive to human activities or natural events), occur in TFL 56.

The 2005 RLUP Order established a resource management zone and objective for grizzly bear that requires the retention of high value habitat alongside avalanche chutes. The gross area of high value grizzly bear habitat was 42 hectares.

In the rationale for the 2010 AAC determination, the deputy chief forester encouraged the licence holder “to map and model grizzly bear habitat for use in the next timber supply analysis”. The licence holder indicated that although it was unable to undertake grizzly bear habitat mapping due to a lack of information regarding grizzly bears in the TFL, it does work with local guide outfitters to gain a better understanding of grizzly bear activity in the TFL. District staff indicate that current management practices include the protection of high value habitat that are consistent with the requirements of the RLUP Order and are reviewed by a habitat biologist.

The KNC requested additional information and modelling for high value grizzly bear habitat and population densities within the TFL. District staff provided KNC with the criteria of high value habitat and the latest report on grizzly bear populations (spring 2020). The KNC Technical Working Group is exploring opportunities to improve on wildlife habitat supply analyses so that better information can be incorporated into future timber supply reviews.

Based on my review of the grizzly bear information, I am satisfied that the assumptions used in the base case appropriately reflect current management and will make no adjustments to the base case on this account. Although the licence holder could not complete the grizzly bear habitat mapping recommended at the time of the last determination, I am satisfied that the licence holder is working with local experts and habitat biologists to manage the TFL in a manner that supports grizzly bear health and habitat conservation and I encourage the licence holder to continue with these practices.

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

Other information

- First Nations

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

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

TFL 56 overlaps the territories of the Ktunaxa Nation Council, Okanagan Nation Alliance and communities, Secwepemc communities and Sinixt.

First Nations engagement processes and accommodation for the impacts that forestry decisions may have on Aboriginal Interests may be components of Government-to-Government agreements. For the TFL 56 AAC determination, engagement with the KNC was conducted in accordance with the Ktunaxa Nation Strategic Engagement Agreement. Engagement with the Lower Similkameen, Penticton, Okanagan and Upper Nicola Indian Bands, who are members of the Okanagan Nation Alliance, was conducted in accordance with the Forest Consultation and Revenue Sharing Agreement (FCRSA) signed by each First Nation. Engagement with the Adams Lake Band, Simpcw First

Nation, Little Shuswap Lake Band, Shuswap Indian Band, Neskonlith Indian Band and Splitsin First Nation, who are members of the Secwepemc (Shuswap Nation Tribal Council), was conducted in accordance with the FCRSAs signed by each First Nation.

Following consideration of the Province's recommendations regarding engagement with the Sinixt and the readily available ethnohistoric information for Sinixt, it was decided that the Lakes Band of the Confederated Tribes of the Colville Reservation would not be engaged on this decision.

As per recent case law and current government direction, a review of available information for the First Nations was conducted in order to assess the level of consultation given the strength of claims made by First Nations and the degree of impact the AAC determination may have on those claims. Preliminary strength of claim assessments for each First Nation and community was determined using readily available information, including ethnohistorical and cultural heritage information.

Based on a review of this information, assessment of the impact of the decision, issues raised by First Nations and in consideration of the Ktunaxa Strategic Engagement Agreement, it was suggested that consultation be at the "normal" level with the KNC and at the "notification" level for all other First Nations and communities.

District staff led the consultation process for the TFL 56 Draft Management Plan and the timber supply review supporting this AAC determination. Consultations began on July 12, 2019 with an overview letter sent to all First Nations explaining the timber supply review process. Consultation on the *Information Package* was initiated by letter with a request for a response. Consultation on the draft *Management Plan* began by letter with all First Nations with a request for a response. In the correspondence with First Nations, district staff: (i) provided a summary of the initial review of available information regarding First Nations interests, and an initial assessment of the potential impact the *Management Plan* and subsequent *AAC Determination* for TFL 56 may have on the First Nations' interests; and (ii) included the suggested level of consultation deemed appropriate for each First Nation given the initial review of available information and the consultation process specified in the FCRSAs and socio-economic analysis (SEA).

No responses were received from the Okanagan Nation Alliance, Neskonlith, Simpcw or Shuswap Indian Band. The Adams Lake Indian Band confirmed receipt of the referral but requested no additional information.

The Little Shuswap Lake Band responded asking for any field assessments or reports generated as part of the timber supply review process. Ministry staff indicated that no new field assessments were being undertaken in conjunction with the timber supply review and that the *Information Package* and draft *Management Plan* that were provided included all of the relevant information. No additional requests were received.

The Splitsin responded that the Pespesellkwe (Splitsin, Adams Lake Indian Band, Neskonlith, and Shuswap Indian Band) were interested in meeting with the Ministry to discuss the timber supply review. At a meeting held on July 30, 2020 a representative of the Splitsin, was provided with background materials explaining the Province's timber supply review process. Following the meeting, the Splitsin sent an email introducing

their referrals team and indicating that they had recently applied to the Province for capacity funding to engage in several timber supply review processes.

During the consultation period for this determination, the Qwelmínte-Secwepemc Government-to-Government Forestry Working Group, as part of the Qwelmínte-Secwepemc negotiation table, met with Ministry staff to discuss a number of forest management processes, including timber supply reviews.

Engagement on the TFL 56 timber supply review with the KNC and was conducted in accordance with the Ktunaxa Strategic Engagement Agreement at the “normal” level. Following referral of the draft *Information Package* in July 2019, the KNC responded with two letters, dated September 10, 2019 and January 13, 2020 and by email on March 23, 2020. The Ministry provided written responses to each following discussion with staff and the licence holder.

On January 15, 2020, Forest Analysis and Inventory Branch, Selkirk District and Kootenay Boundary Regional First Nations Relations staff met with the KNC at the KNC government office to provide additional information regarding the timber supply review process.

In April 2020, the KNC requested to become a more active participant in the timber supply review processes currently underway or planned for various forest management units within ʔamaʔkis Ktunaxa.

The KNC proposed that a Joint Technical Working Group with representation from the KNC and the Province be established to address the issues associated with timber supply reviews undertaken in KNC territory in an efficient and effective manner. Further, the KNC requested to work collaboratively with the Ministry to establish a process that is more inclusive, transparent and effective.

The Province agreed and the KNC Technical Working Group was established. Communications between Ministry staff and the KNC on TFL 56 have occurred at the working group since it was established in May 2020. There were seven meetings to date, with the most recent occurring on March 10, 2021.

The objectives of the KNC Technical Working Group are to:

- identify issues of importance and concern to the Ktunaxa Nation that relate to the timber supply review and analyses;
- determine how, and if, the issues can be reflected in any or all of the timber supply reviews currently underway;
- determine if the issues can be considered/reflected in the AAC determination for each of the management units;
- if the issues cannot be considered/reflected, then specific direction needs to be provided as to where and how the KNC’s concerns may be addressed; and,
- create a report outlining the issues of importance expressed by Ktunaxa and how Ktunaxa believe they should be incorporated into the TSR model. Where issues cannot be addressed or where Ktunaxa and the Ministry disagree on how, or whether, those issues should be incorporated into the report, the position of both

parties will be included in the report. The report will be provided to the decision maker prior to the AAC determination meeting for each of the listed management units.

Due to the timing of the establishment of the KNC Technical Working Group, and the TFL 56 AAC determination meeting, the KNC still have several outstanding issues. Potential solutions are being developed and will be incorporated into the TSR process. As discussed at a meeting on November 16, 2020, it is not an expectation of either party that all of these issues would be resolved prior to the TFL 56 determination meeting. Working group meetings are expected to continue in 2021.

Several themes have emerged during consultation with the KNC, both in their written submissions and during KNC Technical Working Group discussions. These include old growth management, wildlife habitat and wildlife tree retention areas; wildlife habitat supply modelling; cumulative impacts modelling; and effectiveness monitoring. With the exception of effectiveness monitoring, these concerns have been considered under the relevant factors elsewhere in this rationale.

The KNC are concerned about the limited monitoring of non-timber values such as old growth, landscape-level biodiversity, listed plant species and ecological communities, soils, wildlife and/or wildlife habitat, species at risk, fish and fish habitat at a watershed scale. Of particular importance is the need to have effective monitoring of WTRAs, stand-level biodiversity and old growth management areas. The KNC do not see the Forest and Range Evaluation Program (FREP) monitoring as effective or adequate and would like to see effectiveness monitoring in addition to FREP. KNC would also like to see improvements made to the FREP stand-level biodiversity protocol.

The district has committed to sharing the FREP summary report for the district with the KNC when it becomes available. The district will have further discussions on KNC priority values and locations in the district, where targeted sampling could be completed.

Improvements to the new stand-level biodiversity FREP protocol were implemented for the 2020 field season. The protocol has been provided to the KNC. Further discussion will take place on increasing KNC participation in FREP. KNC concerns regarding possible improvements to the protocols will be forwarded to the provincial FREP coordinators.

The KNC have indicated that they want me to consider that there is a risk to biodiversity given the lack of monitoring conducted by either the Ministry or licence holder, on wildlife species populations and habitats, as well as old growth management. On this basis, the KNC recommend that the AAC be reduced. I have considered this recommendation, as discussed in '**Reasons for Decision**'.

In reviewing the First Nations consultation process with district staff, I conclude that the First Nations whose territories overlap TFL 56 were consulted in accordance with current provincial guidance and applicable case law. I am satisfied that consultations have been carried out in good faith and the Crown's process of seeking to understand potentially outstanding issues and impacts was reasonable. I accept the district staff's assessment that the proposed timber harvesting scenarios reflect current forest practices, management method, and the consideration of Aboriginal Interests at the operational level.

Ministry staff believe any adverse impacts on Aboriginal Interests stemming from forest development activities that occur subsequent to the AAC determination, can be appropriately mitigated or minimized through existing legislation, planning documents, and meaningful engagement at the operational level. I agree with this conclusion.

The specific location, size and nature of the identified First Nations' values are not known. When combined with the strategic nature of an AAC decision, it is difficult to assess the potential impact of the decision. Therefore, it is reasonable to assume that tactical and operational mitigation and accommodation measures may not fully address potential impacts on Aboriginal Interests. As such, there is a potential for AAC decisions to have an adverse impact on First Nations' ability to hunt, fish, gather, and carry out cultural activities, and to meaningfully exercise their Aboriginal Interests.

To achieve greater understanding of cultural uses within TFL 56 and to reduce the potential impacts on Aboriginal Interests, I encourage Ministry and licence holder staff work to improve the information sharing processes with First Nations on cultural heritage features and resources within the TFL, to improve forestry practices necessary to protect and maintain these values, and to monitor the effectiveness of such forestry practices.

- cumulative effects

Cumulative effects are changes to social, economic and environmental conditions caused by the combined impact of past, present and potential human activities or natural events. The Province's Cumulative Effects Framework (CEF) policy was developed as a standardized approach to assess, validate and communicate the condition of identified CEF values and the effectiveness of the existing management regimes. It contains policies, procedures and decision-support tools to improve the consideration of cumulative effects in natural resource decision-making in BC. It also enables a strategic approach to assessing cumulative effects CEF values and identifying management responses that support ongoing sustainable management of that value, or actions that are necessary to mitigate undesired effects to these values.

Cumulative effects assessments within pilot areas across the province are currently ongoing. And although it is not directly applicable to TFL 56, the Elk Valley Cumulative Effects Management Framework was co-developed with the KNC for the Elk Valley in southeastern BC. The KNC have indicated that they would like cumulative effects modelling employed in all TSR processes.

Ministry staff have initiated discussions with the Kootenay Boundary CEF team. At this time the feasibility, time and resources needed to implement this request are being assessed. Once known, additional discussions will take place with the KNC and any subsequent CEF assessments will be implemented to the extent possible for future TSRs.

Although a CEF assessment is not available for TFL 56, many of the current objectives and management approaches applied in TFL 56 may be mitigating the negative effects of forest development activities. Such objectives that are reflected in the timber supply analysis include: the *Revelstoke Higher Level Plan Order*; FRPA objectives; landscape-level biodiversity objectives; old growth objectives; wildlife tree and stand-level retention objectives; cutblock adjacency objectives; visual quality objectives;

riparian reserve and management zones; and reductions to the THLB to account for values such as CHR and recreation.

I have considered the information on cumulative effects and have interpreted the related information according to my statutory authority and my '*Guiding principles for AAC determinations*'. I conclude that the base case adequately reflects current management, the current status of the effects of past and present industrial activity on the land base, and the legal objectives established by government for various non-timber resources. I will therefore make no adjustment to the base case on this account.

As the consideration of cumulative effects information results in changes in current management, these changes will be reflected in timber supply reviews. The requirement for regular AAC determinations will allow these changes to be considered on an ongoing basis. In those circumstances in which changes in current management objectives may have a significant effect on the sustainability of the AAC, I am prepared to re-visit this determination earlier than required in legislation.

- *climate change*

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

The climate in the Kootenay-Boundary Region has already changed noticeably over the past century and is expected to continue to change. By mid-century, temperature in the region is expected to warm, on average by 2 to 5 C in winter, spring and fall and by 3 to 7 C in the summer. Precipitation is projected to increase by 10 to 25 percent in winter, spring and fall and decrease by up to 30 percent in summer.

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

Biogeoclimatic (BEC) zones reflect the combined effect of multiple factors, predominantly climatic conditions. For the Kootenay-Boundary Region, the distribution and extent of BEC zones will likely shift. TFL 56 lies primarily in the Interior Cedar Hemlock (ICH), Engelmann Spruce Sub-alpine Fir (ESSF) and Alpine Tundra (AT) BEC zones. In general, the ICH and ESSF are expected to shift upward in elevation, while their range shifts northward. The ICH area is projected to increase, while the ESSF area is expected to decrease in the mid term.

At the species level, Douglas-fir is expected to continue growing well under warmer temperatures even with increased summertime drought stress conditions. While western redcedar and western hemlock are likely to show increasing levels of drought stress, particularly on drier sites. Suitable trees at any given point in time may become maladapted by rotation age, creating additional uncertainty and complexity for management.

The impacts of forest pests such as Douglas-fir beetle, spruce beetle and western bark beetle may increase as changes in precipitation stress and weaken stands established under previous climatic conditions.

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

The KNC requested information and provided comments about how the effects of climate change are addressed in timber supply reviews. In addition to the information provided by Ministry staff, the KNC Technical Working Group will continue to work to make improvements to the modelling process in the region to address these concerns.

There is a large amount of uncertainty surrounding the short-, mid-, and long-term impacts from climate change but it is important to encourage dialogue to develop climate change mitigation and adaptation strategies through stakeholder engagement forums. It will be worthwhile to continue to consult and collaborate with federal and provincial government agencies, First Nations, universities, and forest licensees to better understand climate adaptation and mitigation challenges and opportunities in relation to forest management.

While projected climate change will likely affect forest productivity and growth, the dynamics of natural disturbances, forest pests and hydrological balances (e.g., drought stress), the magnitude, extent and timing of these impacts is uncertain. I accept that the best approach in the short term is to monitor for changes to enable timely adaptive responses and to undertake analysis to increase our understanding over time. In general, the requirement for regular AAC reviews will allow for the incorporation of new information on climate change and its effects on forests and timber. On-going observations, data collection, analysis and discussions through various collaborative teams will play a critical role in ensuring we are able to respond to predicted implications for timber supply. The use of CBST and CCISS will help forest managers develop future forests that are better adapted to a changing climate.

- harvest performance

The harvest performance of the licence holder is evaluated in the *Provincial Timber Management Goals, Objectives and Targets – Management Unit Targets for TFL 56* report (August 29, 2018). The evaluation examines the extent to which the licence holder's harvest performance correlates with the AAC and the species composition, age, volumes and slope classes of stands in the VRI.

Based on information from the province's Harvest Billing System (HBS) for the eight-year period between 2012 and 2019 for TFL 56, the total scaled volume was 719 379 cubic metres, or close to 100 percent of the total AAC volume of 720 000 cubic metres available for the same period.

In the report, a comparison of HBS harvest volume by species to the inventory profile by leading species for stands older than 60 years indicates that the licence holder is harvesting disproportionately higher volumes of cedar and hemlock, and disproportionately lower volumes of balsam and spruce. According to the report, cedar represents 16 percent of the inventory profile but accounts for 42 percent of the harvested volume.

According to the licence holder, cedar accounts for 27 percent of the THLB stand area. A review of the base case outputs shows that on average cedar makes up 25 percent of the projected harvest volume throughout the forecast period. The licence holder indicates that cedar is an important component of all regenerated stands ranging from 50 percent to 60 percent in cedar-leading stands and from five to ten percent in other stands.

FAIB staff indicate that cedar is often underestimated in the VRI because of its crown composition and minor composition in many stand types. A comparison between the scaled volume species percent and the inventory species percent on the same areas using forest tenures administration harvest boundary mapping shows that the VRI slightly underestimates the difference in the amount of cedar in the areas harvested in the last five years.

The majority of harvested stands are older than 140 years, and this is consistent with the age class structure of the TFL. A comparison of harvest performance by volume class shows that although the licence holder is harvesting primarily in stands with volumes greater than 250 cubic metres per hectare there is demonstrated performance in lower volume stands.

A comparison of harvest performance by slope class to the inventory slope class, shows that although harvesting is occurring in all slope classes, a disproportionate amount of the harvest is occurring in stands with slopes equal to or less than 60 percent.

In the base case, the volume contribution of stands on steeper slopes that are harvested using aerial systems was limited to a maximum of 10 percent of the total stand volume in each period. A review of the base case outputs shows that on average aerial harvesting accounted for 5 percent of the harvested volume in each period, although the maximum limit of 10 percent was realized in some periods.

District staff indicate that there has been no aerial harvesting in TFL 56 since before the 2010 AAC *Determination* and that there is limited contractor capacity for aerial harvesting in this region. In a sensitivity analysis, decreasing the maximum level of aerial harvesting from 10 percent to 5 percent of the volume harvested each period decreased the short- and mid-term harvest levels by one percent below the base case. Decreasing the level of aerial harvesting from 10 percent to zero would result in further decreases in the projected harvest levels.

In the absence of demonstrated performance using aerial harvesting systems in TFL 56, and considering the results of the sensitivity analysis, I conclude that the base case short- and mid-term harvest levels have been overestimated by at least one percent and I will account for this in my determination, as described in '**Reasons for Decision**'.

With respect to the species composition of the harvest and performance on steep slopes, I am concerned that a continued focus on harvesting higher value species and more easily accessible stands, will require the licence holder to focus future harvesting in lower value stands on steeper slopes with higher operating costs. Consequently, I expect the licence holder and ministry staff to track the species composition of the harvest and performance in all slope classes and that this information will be provided for the next timber supply review. This instruction is described in '**Implementation**'.

- unharvested volume carry forward

In January 2018, the Ministry 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 this policy is to provide guidance on the administration of accumulated volume for forest licences, tree farm licences and woodlot licences in accordance with Section 75.8 of the *Forest Act*. This policy sets out the process steps that should be followed to determine the unharvested volume that may be made available in the next AAC determination period (i.e., after a Section 8 AAC determination is made).

The TFL holder's licence with the Province permits the district manager to dispose of up to 0.5 percent of the AAC for free-use permits and to reserve up to 11 480 cubic metres per year of timber volume for BC Timber Sales (BCTS).

Regional Forest Tenure staff indicate that with the exception of the four-year cut control period 2008 to 2011, the licence holder has fully utilized its AAC allocation. For the period 2008 to 2011, the licence holder's AAC allocation was underharvested by 29 percent. No non-replaceable forest licences have been issued from this undercut. At the time of this determination, BCTS has an accumulated undercut of 86 798 cubic metres.

I note that although the licence holder has been fully utilizing its AAC allocation for the most recent cut control periods, BCTS has accumulated an undercut of 86 798 cubic metres, which represents 10 percent of the current AAC. The base case on which this determination is predicated includes this undercut volume. As such, the issuance of licences to harvest this undercut volume could result in a harvest level that exceeds the AAC that I determine.

In the event that disposition of the undercut volume significantly affects the sustainability of the AAC I determine, I am prepared to re-visit this determination earlier than the 10 years required in legislation. This instruction is included in '**Implementation**'.

- public comments

The public was provided an opportunity to comment on the draft *Information Package*, and the draft *Management Plan* including the timber supply analysis for TFL 56. No public comments were provided for my consideration in this determination. Based on my discussions with district staff, I am satisfied that suitable opportunities were provided to the public to comment on the timber supply review for TFL 56.

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

No factors under this section required additional consideration.

Section 8 (8) (c) the nature, production capabilities and timber requirements of established and proposed timber processing facilities

This section of the *Forest Act* has been repealed [2003-31-2 (B.C. Reg. 401/2003)].

Section 8 (8) (d) the economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia

Economic and social objectives

- Minister's letter

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

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

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

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

- ensure that the Ministry's approved strategies for delivering its forestry objectives are integrated into the timber supply review process;
- ensure AAC determinations take into consideration relevant agreements between First Nations and the Government of BC, and court decisions that define Aboriginal title and rights; and in addition, support government's commitment to moving forward on reviewing policies, programs and legislation to determine how to bring the principles of the *United Nations Declaration on the Rights of Indigenous Peoples* into action for AAC determinations;
- consider traditional knowledge and other input from BC First Nation communities and organizations as they pertain to the AAC determination;
- consider how AAC determinations can support government's objective to focus on planning and sustainable resource management in a way that supports robust forest recovery and timely and effective responses to emerging threats from

factors such as insect infestations and wildfire while promoting forest health and values;

- ensure the timber supply review process incorporates the best available information on climate change and the cumulative effects of multiple activities on the land base and explores management options that align with established climate change strategies, adaptation and mitigation practices;
- where the cumulative effects of timber harvesting and other land-based activities indicate a risk to natural resource values, ensure the timber supply review identifies those risks for consideration in land-use planning;
- consider the environmental, social and economic needs of local communities as expressed by the public during the timber supply review processes, including strategies that contribute to community economic stability, and the jobs that the forest sector creates in communities, where these are consistent with government's broader objectives; and,
- when faced with necessary reductions in AACs, that those reductions be no larger than necessary to avoid significant longer-term impacts.

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

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

No factors under this section required additional consideration.

Reasons for Decision

In reaching my AAC determination for TFL 56, 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 92 100 cubic metres per year can be maintained for 70 years before increasing to 106 700 cubic metres per year for the remainder of the 300-year harvest forecast.

I am satisfied that the assumptions applied in the base case, for most of the factors applicable to TFL 56, were appropriate including those detailed in Table 1 or as described in my considerations previously discussed in this rationale. However, I have identified some factors, which, considered separately, indicate that the timber supply may be either greater or less than that projected in the base case. Some of these factors can be readily quantified and their impact on harvest projections assessed with reliability. Others may influence timber supply by adding an element of risk or uncertainty to the decision but cannot be reliably quantified at this time.

I have identified the following factor that indicates a potential underestimation in the base case timber supply:

- *dead potential volume* – including the dead potential volume attributable to grade 3 endemic or grade 5 logs represents up to a 4.4 percent underestimation of the base case harvest levels.

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

- *landscape-level biodiversity* – the full old seral forest targets in the ICH Shuswap wk1 low BEO, should have been applied throughout the forecast period. This represents a small, unquantified overestimation in the long-term base case harvest level.
- *harvest performance/aerial harvesting* – the absence of aerial harvesting in the TFL represents at least a one percent overestimation in the base case mid- to long-term harvest levels.

Taking these factors into account, I conclude that the base case harvest levels have been underestimated by up to 4.4 percent in the short term, and by approximately one percent in the mid- to long-term.

In considering whether to increase the AAC to the initial harvest levels shown in the base case and alternative harvest forecasts, I have also thought about the timber supply implications of the licence holder's lack of demonstrated harvest performance using aerial harvesting systems and on steep slopes. As discussed in '*harvest performance*', the licence holder has not used aerial harvesting systems in TFL 56 for at least 10 years. Stands harvested in this manner represent an average of five percent of the volume harvested in the base case. Given the length of time that aerial harvesting systems have been in disuse, and the volume attributable to stands harvested in this manner, I am not willing to increase the AAC at this time.

In considering the KNC's recommendation that I reduce the TFL 56 AAC due to insufficient monitoring information, and consistent with my '*Guiding principles*', I note that I will not reduce the AAC solely on the basis of uncertain information. In addition, I believe that the Ministry is taking meaningful action to improve the available information by enhancing the monitoring of non-timber values with the KNC, sharing FREP information and protocols, identifying priority values and locations for targeted sampling, increasing KNC participation in FREP and ensuring that KNC recommendations are provided to the provincial FREP co-ordinators. As new monitoring information becomes available it will be considered in AAC determinations.

Determination

I have considered and reviewed all the factors as documented above, including the risks and uncertainties of the information provided. It is my determination that a timber harvest level that accommodates objectives for all forest resources during the next 10 years and that reflects current management practices as well as the socio-economic objectives of the Crown, can be best achieved in TFL 56 by establishing an AAC of 90 000 cubic metres. This is the same as the current AAC of 90 000 cubic metres.

This determination is effective May 4, 2021, and will remain in effect until a new AAC is determined, which must take place within 10 years of the effective date of this determination.

If additional significant new information is made available to me, or major changes occur in the management assumptions upon which this decision is predicated, then I am prepared to revisit this determination sooner than the 10 years required by legislation.

Implementation

In the period following this decision and leading to the subsequent determination, I expect district and licence holder staff to undertake or support the tasks and studies noted below, the particular benefits of which are described in appropriate sections of this rationale document. I recognize that the ability of all parties to undertake or support these projects is dependent on provincial priorities and available resources, including funding. However, these projects are important to help reduce the risk and uncertainty associated with key factors that affect the timber supply in TFL 56.

1. *dead potential* – I expect the licence holder to work with FAIB to undertake additional ground sampling in the TFL to improve the estimates of dead potential volume and provide for field-verification of the VRI.
2. *grade 4 credit* – I expect district staff to continue to monitor the volumes attributed to grade 4 credit, and in the event that the volume of grade 4 credit could result in a risk to the sustainability of the AAC, I expect staff to ask the minister to implement a maximum volume limit.
3. *harvest performance* – I expect the licence holder and district staff to track harvest performance by harvesting system, slope class and species and provide this information for the next determination.
4. *unharvested volume carry forward* – I expect regional tenures staff to monitor the issuance of licences to dispose of the undercut and to inform me if this results in harvesting that affects the sustainability of the AAC.



Shane Berg RPF
Deputy Chief Forester

May 4, 2021

Appendix 1: Section 8 of the *Forest Act*

Section 8 of the *Forest Act*, Revised Statutes of British Columbia 1996, c. 157, (current to March 24, 2021), reads as follows:

Allowable annual cut

- 8 (1)The chief forester must determine an allowable annual cut at least once every 10 years after the date of the last determination, for
- (a)the Crown land in each timber supply area, excluding the Crown land in the following areas:
 - (i)tree farm licence areas;
 - (ii)community forest agreement areas;
 - (iii)first nations woodland licence areas;
 - (iv)woodlot licence areas, and
 - (b)each tree farm licence area.

(2)If the minister

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

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

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

(3)If

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

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

(3.1)If, in respect of the allowable annual cut for a timber supply area or tree farm licence area, the chief forester considers that the allowable annual cut that was determined under

subsection (1) is not likely to be changed significantly with a new determination, then, despite subsections (1) to (3), the chief forester

(a) by written order may postpone the next determination under subsection (1) to a date that is up to 15 years after the date of the relevant last determination, and

(b) must give written reasons for the postponement.

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

(a) by written order may rescind the order made under subsection (3.1) and set an earlier date for the next determination under subsection (1), and

(b) must give written reasons for setting the earlier date.

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

(5) In respect of an allowable annual cut determined under subsection (1), the chief forester may, at any time, specify that portions of the allowable annual cut are attributable to one or more of the following:

(a) different types of timber or terrain in different parts of Crown land within a timber supply area or tree farm licence area;

(a.1) different areas of Crown land within a timber supply area or tree farm licence area;

(b) different types of timber or terrain in different parts of private land within a tree farm licence area.

(c) [Repealed 1999-10-1.]

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

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

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

(a) each community forest agreement area in accordance with the community forest agreement for that area, and

(b)each first nations woodland licence area in accordance with the first nations woodland licence for that area.

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

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

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

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

(iii)silviculture treatments to be applied to the area,

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

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

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

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

(c)[Repealed 2003-31-2.]

(d)the economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia, and

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

(9)Subsections (1) to (4) of this section do not apply in respect of the management area, as defined in section 1 (1) of the **Haida Gwaii Reconciliation Act**.

(10)Within one year after the chief forester receives notice under section 5 (4) (a) of the **Haida Gwaii Reconciliation Act**, the chief forester must determine, in accordance with this section, the allowable annual cut for

(a)the Crown land in each timber supply area, except the areas excluded under subsection (1) (a) of this section, and

(b)each tree farm licence area

in the management area, as defined in section 1 (1) of the **Haida Gwaii Reconciliation Act**.

(11) The aggregate of the allowable annual cuts determined under subsections (6), (7) and (10) that apply in the management area, as defined in section 1 (1) of the **Haida Gwaii Reconciliation Act**, must not exceed the amount set out in a notice to the chief forester under section 5 (4) (a) of that Act.

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

Section 4 of the *Ministry of Forests and Range Act* (current to March 24, 2021) reads as follows:

Purposes and functions of ministry

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

Appendix 3: Minister's letter of October 30, 2017



Reference: 230810

October 30, 2017

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

Dear Diane

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

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

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

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

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

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

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Diane Nicholls, Chief Forester and Assistant Deputy Minister

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

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

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

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

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

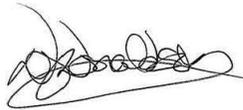
In order to ensure that AAC determinations align with government objectives to modernize land-use planning and sustainably manage B.C.'s ecosystems, rivers, lakes, watersheds, forests and old growth forests, the Timber Supply Review process should incorporate the best available information on climate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

Diane Nicholls, Chief Forester and Assistant Deputy Minister

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

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

Sincerely,

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

Doug Donaldson
Minister

Appendix 4: Information sources used in the AAC determination

The information sources considered in determining the AAC for TFL 56 include the following:

Legislation

- *Forest Act* and regulations, BC Government, current to March 24, 2021;
- *Ministry of Forests and Range Act*, BC Government, current to March 24, 2021;
- *Forest and Range Practices Act* and regulations and amendments, BC Government, current to March 24, 2021;
- *Forest Practices Code of British Columbia Act*, BC Government, current to March 24, 2021, and regulations and amendments;
- *Land Act*, BC Government, current to March 24, 2021;
- *Environment and Land Use Act*, BC Government, current to March 24, 2021;
- *Parks and Protected Areas Statutes Amendment Act*, BC Government, current to October 23, 2019;
- *Protected Areas of British Columbia Act*, BC Government, current to March 24, 2021;
- *Species at Risk Act*, Government of Canada (S.C 2002, c29), current to March 20, 2021;
- *Forestry Revitalization Act*, BC Government, current to March 24, 2021;
- *Heritage Conservation Act*, BC Government, current to March 24, 2021;
- *Interpretation Act*, BC Government, current to March 31, 2021; and,
- *Wildlife Act*, BC Government, current to March 24, 2021.

Licence Holder Plans and Timber Supply Review Documents

- *Tree Farm Licence 56 Proposed Management Plan 5*, including Information Package and Timber Supply Analysis. The Revelstoke Community Forest Corporation. 2020;
- *TFL 56 Forest Stewardship Plan 2015 – 2020*. The Revelstoke Community Forest Corporation. 2015;
- Letter from the Minister of Forests, Lands, Natural Resource Operations and Rural Development to the chief forester stating the economic and social objectives of the Crown. October 30, 2017;
- AAC Determination Binder for TFL 56 - including input received from First Nations and others through the consultation process and comprehensive discussions with Ministry staff, including the AAC determination meeting held in Victoria, BC on December 2, 2020;

Land Use, Forest Practices and other Documents

- *Order Establishing Resource Management Zones and Resource Management Zone Objectives within the Area Covered by the Revelstoke Land Use Plan as a Higher Level Plan*. Ministry of Sustainable Resource Management. 2005;
- *Revelstoke Higher Level Plan Order Cancelling the Caribou Objective in the Revelstoke Higher Level Plan Order*. Ministry of Agriculture and Lands. 2009;
- *Revelstoke Higher Level Plan Order Amendment to Biodiversity Emphasis Objectives and Old and Mature Forest Objectives*. Ministry of Forests, Lands and Natural Resource Operations. 2016;

- *Order Establishing Ungulate Winter Range - #U-3-005*. Mountain Caribou – Revelstoke Shuswap Planning Unit. BC Ministry of Environment. 2009;
- *Provincial Timber Management Goals, Objectives and Targets – Management Unit Targets – TFL 56*. B.C. Ministry of Forests, Lands and Natural Resource Management and Rural Development. 2019;
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