

## Introduction

The British Columbia Forest Service is reviewing the timber supply for all timber supply areas\* (TSAs) and tree farm licences (TFLs) in the province. This review examines the impacts of current forest management practices on the timber supply, economy, environment and social conditions of the local area and the province. Based on this review, if necessary, the chief forester may adjust the allowable annual cut (AAC) for the Revelstoke TSA.

By law, the chief forester must review and set new AACs for all TSAs and TFLs every five years. The objectives of the Timber Supply Review are to:

- identify relevant economic, environmental and social information based on current forest management practices including their effects on the short- and long-term timber supply
- identify where improved information is required for future timber supply forecasts
- provide the chief forester with information to make any necessary adjustments to the AACs for the next five years

## Timber Supply Review in the Revelstoke Timber Supply Area

The Revelstoke TSA Data Package and Information Report were released in November 1997. Following this, the documents were reviewed by licensees, the public and government agencies. The BC Forest Service has now completed the Revelstoke Timber Supply Area Analysis Report which is summarized in this discussion paper. The objectives of this document are to provide British Columbians with an overview of the timber supply review and forecasts for the Revelstoke TSA and to encourage them to provide comments during the 60-day public review period. Public comments will be accepted until February 12, 1999.

Before setting a new AAC, the chief forester will review all relevant reports and public input. The chief forester's determination will be outlined in a rationale statement which will be available, along with the Summary of Public Input, to the public. Following the release of the AAC determination by the chief forester, the minister of forests will apportion the AAC to the various licences and programs.

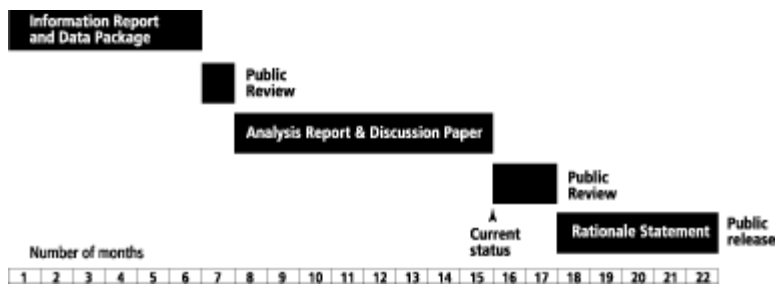


Figure 1. Review process for the Revelstoke TSA

## Description of the TSA

The Revelstoke TSA is situated in southeastern B.C. and is administered by the Columbia Forest District in Revelstoke. The TSA covers approximately 500,000 hectares and includes the communities of Revelstoke and Mica Creek. Of the approximately 8,640 people in the Revelstoke TSA, 90 per cent live in the town of Revelstoke.

## First Nations

The Revelstoke TSA is within the traditional territory of the Shuswap Nation, the Ktunaxa/ Kinbasket Nation and the Okanagan Nation. The Ktunaxa Kinbasket Tribal Council, of which the Shuswap Indian Band is a member, has submitted a comprehensive land claim which covers the southeast corner of BC, including the Revelstoke TSA. The Tribal Council currently has a traditional-use site inventory underway. There are no First Nations reserves or communities within the TSA.

## Forest land resources

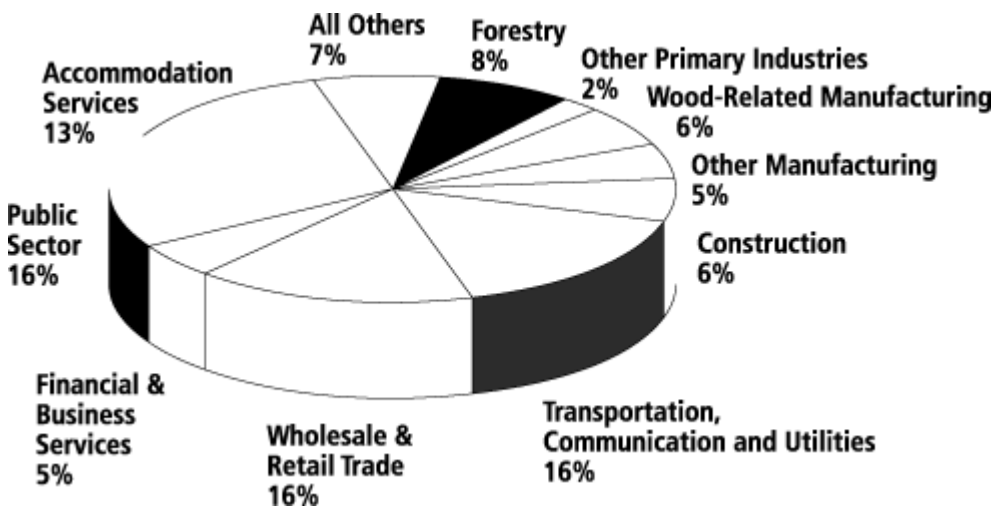
Numerous natural resources are associated with the forest land base. In the Revelstoke TSA these include forest products, significant wildlife habitat, and recreation and tourism amenities.

The rugged, mountainous environment of the Revelstoke TSA creates a diverse forested environment which provides habitat for a wide variety of wildlife species including black bear, grizzly bear, caribou, moose, deer, elk and mountain goat. Recreational and tourism values and uses are high due to the proximity of national and provincial parks, exceptional natural scenery, and the presence of highway and rail transportation.

# Socio-economic profile

## Regional economy

Information from the 1996 Census indicates that the forest sector accounted for 14 per cent of the TSA's experienced labour force (Figure 2). Accommodation services accounted for a further 13 per cent of the labour force, indicating that tourism also plays an important role in the regional economy. The public sector, wholesale and trade are also significant employers. Other important sectors are transportation, communications and utilities, due to the community's position on national east-west transportation routes.



**Figure 2.** Revelstoke TSA - Experienced labour force by sector, 1996 Census Data

	TSA	Provincial
Direct employment (person years)	219	283
Total employment (person years)	320	645
Total employment income (\$1997 millions per year)	13.8	25.8
Provincial government revenues (\$1997 millions per year)	n.a.	7.37

### Figure 3. Economic Summary

Figure 3 illustrates the potential contribution of the forest industry associated with the Revelstoke TSA to both the regional and provincial economies. Figures in this table are based on the current AAC of 230,000 cubic metres.

#### Current AAC

On August 26, 1994, the chief forester reduced the AAC by 15 per cent to 230,000 cubic metres (woodlots excluded) from 269,000 cubic metres. This decision preceded the Kootenay-Boundary Land-Use Plan and Kootenay-Boundary Land-Use Implementation Strategy released by government in 1995 and 1997 respectively. As well, in 1995 the Revelstoke and Area Land-Use Planning Minister's Advisory Committee was created to

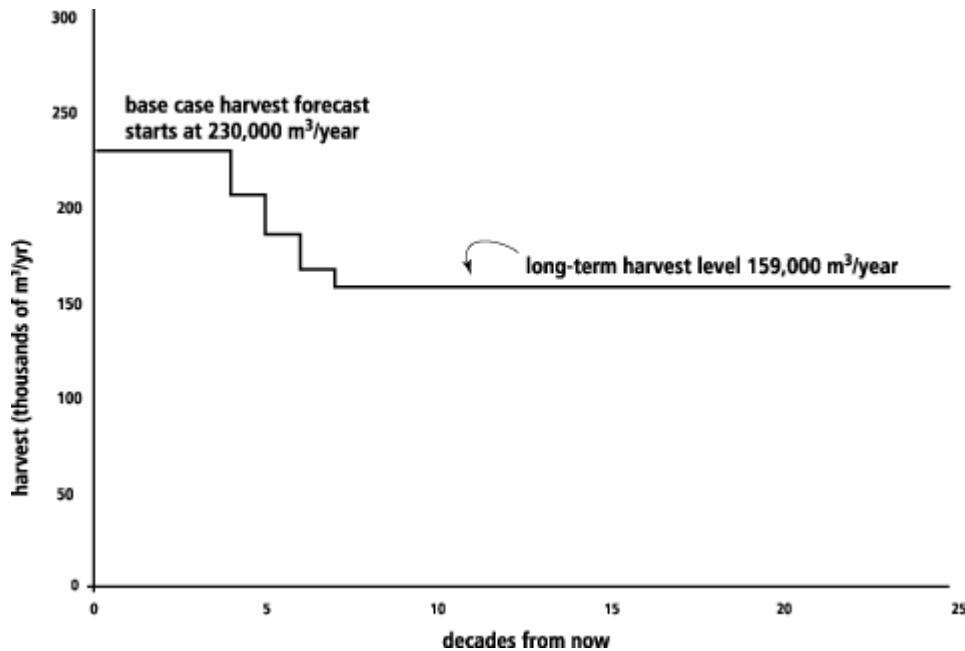
- make recommendations
- to government on how the land-use plan should be implemented in the Revelstoke TSA. Land-use planning decisions regarding forest practices that have been implemented and protected areas that have final approval from government are reflected in this timber supply review.

## Timber supply forecasts

A timber supply computer model is used to project several possible timber supply forecasts for the next 250 years. One of these forecasts is the base case forecast which illustrates the effect of current forest management on timber supply. The base case is not an AAC recommendation, but rather, it is one of many sources of information the chief forester will consider when setting the AAC. The base case forecast presented in this report is for discussion and comparative purposes and, due to areas of uncertainty, the AAC determined by the chief forester may be greater or less than the base case forecast.

The base case timber supply forecast for the Revelstoke TSA indicates the current AAC of 230,000 cubic metres can be maintained for up to 40 years without requiring rapid future harvest level reductions or creating severe future timber disruptions. Beginning 40 years from now, the rate of harvest is projected to decline gradually over the following 40 years to the long-term harvest level of 159,000 cubic metres per year.

The projected rate of harvest indicates a more stable timber supply than previous analyses owing to: increases in the timber harvesting land base, increases in volumes estimates, lower unsalvaged loss estimates and greater recognition of inoperable forests in achieving management objectives for values other than timber.



**Figure 4.** Base case timber supply forecast, 1998

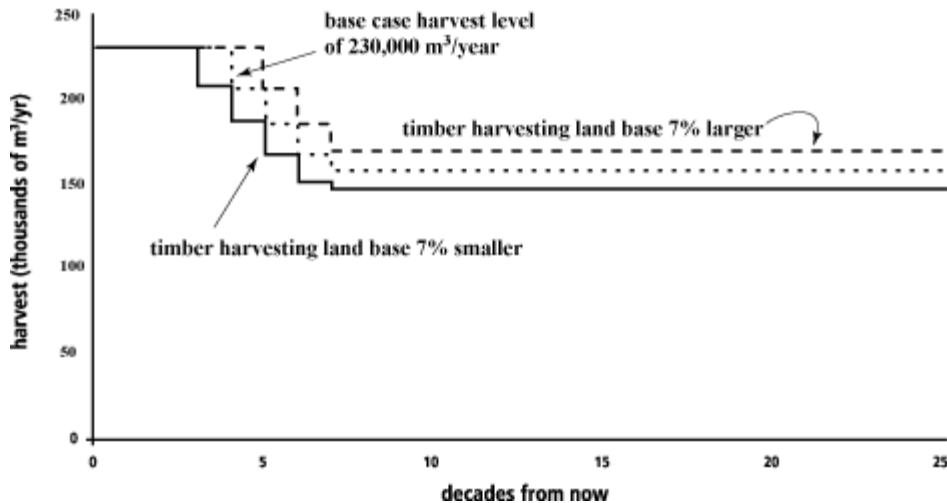
## Sensitivity analyses: examining uncertainty

Since forests are complex and constantly changing, timber supply analysts assess how their timber supply forecast results might be affected by uncertainties in the inventory information and management practices. These uncertainties are examined in sensitivity analyses which the chief forester will consider in determining an AAC. The sensitivity analyses are useful for assessing how any changes in information or uncertainties and risks might affect timber supply.

In the Revelstoke TSA, due to new information, changing markets and the implementation of new forest practices, a number of sensitivity analyses were undertaken to examine the stability of the timber supply. In general, the sensitivity analyses indicated that the short-term timber supply is stable. However, uncertainties did affect the timing of the transition to the long-term harvest level and in some cases, the long-term harvest level itself. Some of the key sensitivity analyses conducted in the timber supply analysis are listed below. For a complete listing, please refer to the Revelstoke TSA Analysis Report.

### Uncertainty in Size of the Timber Harvesting Land Base

The size of the timber harvesting land base is approximated based on inventory information and assumptions about the types of forests available for harvesting under current management practices. Since the last timber supply, a re-inventory of the TSA has resulted in a larger timber harvesting land base. There is uncertainty about some of the increases. If the size of the timber harvesting land base is overestimated by seven per cent, a sensitivity analysis showed that the initial harvest level can be maintained for three decades before declining to the long-term level of 147,000 cubic metres per year (7.5 per cent lower than in the base case). Conversely, if the size of the timber harvesting land base is underestimated by seven per cent, the current harvest level could be maintained for five decades before declining to the long-term level of 170,000 cubic metres.



**Figure 5.** Uncertainty in size of the timber harvesting land base, 1998

### Uncertainty in Landscape-Level Biodiversity Requirements

Since landscape units with biodiversity emphasis designations have not been finalized for the Revelstoke TSA, the analysis used an averaging approach. The Minister’s Advisory Committee (MAC) has provided draft recommendations on which areas should be assigned different biodiversity emphasis (for high, intermediate or low), as well as recommendations on guidelines to achieve distribution of seral stages across the forested land base.

A harvest forecast was developed using the committee’s recommendations. In the short-term, this forecast was almost the same level as the base case; in the long-term the harvest level was lower by less than one per cent.

Landscape-unit biodiversity requirements do not particularly constrain timber supply significantly because the extensive mature- and old-forest stands outside the timber harvesting land base meet the majority of the requirements for landscape level biodiversity.

### Uncertainty in Caribou Management Guidelines

The Revelstoke TSA and Mount Revelstoke National Park are home to one of only three viable populations of mountain caribou in western Canada. To ensure the survival of the Revelstoke herd, guidelines have been developed to manage caribou habitat. Within the caribou zone (which covers about half of the timber harvesting land base), habitat is maintained by requiring that at all times at least 10 per cent of the operable area be in stands 250 years or older and 40 per cent be 140 years or older.

An additional 2600 hectares have been identified by the MAC as a “relaxed caribou guideline area.” A sensitivity analysis showed that adding this 2600 hectares to the caribou zone (an increase of four per cent), had no impact on the short-term timber supply, and only a slight (one per cent) impact on the medium- and long-term timber supply.

A sensitivity analysis also examined the impact of removing all caribou guidelines from the timber harvesting land base, thereby making a large amount of old-forest area available for harvest. This has a significant impact on timber supply, suggesting the current AAC could be maintained for eight decades before declining to a long-term level of 172,000 cubic metres per year (8.2 per cent higher than in the base case). However, because caribou

management was used to account for management for intermediate biodiversity, complete elimination of caribou guidelines would put both caribou and biodiversity at high risk.

## Implications of changes in the AAC

### **Environmental Implications**

Current forest management follows the standards set in the Forest Practices Code and several strategies described in the Kootenay-Boundary Land-Use Plan. These standards and strategies manage for a range of critical biodiversity and wildlife values in the Revelstoke analysis area. About 70 per cent of the forested area is not considered available for timber harvesting and will provide for many environmental values. On the timber harvesting land base, about 64 per cent is managed for wildlife concerns and a further seven per cent is managed for watershed and visual quality concerns. Forested area both in and outside of the timber harvesting land base will aid in the maintenance of critical forest habitats for many species.

### **Community Implications**

The implication of changes in the AAC for local communities is an important consideration in the Timber Supply Review. Communities within the Revelstoke TSA rely on the forest sector. If the current AAC of 230,000 cubic metres is fully harvested and processed, it would support approximately 283 person-years of direct, and 362 person-years of indirect and induced employment, in the province. The base case forecast indicates that the current AAC of 230,000 cubic metres can be maintained for the next four decades. Not until the fifth decade, or after 40 years, would the harvest decline and affect employment.

Recent harvest levels from the Revelstoke TSA have been close to the AAC. This means that if the AAC is maintained at 230,000 cubic metres, the current level of forestry activity in the TSA could also be maintained.

## Your input is needed

Establishing the AAC is an important decision which requires well-informed and thoughtful public input. Feedback is welcomed on any aspect of this discussion paper, the Revelstoke TSA Analysis Report and other issues related to the timber supply in the Revelstoke TSA. Forest Service staff would be pleased to discuss questions or concerns you may have that would help you prepare your response. Please mail your comments to the forest district manager at the address below. Your comments will be accepted until February 12, 1999.

You may identify yourself on the response if you wish. If you do, you are reminded that responses will be subject to the Freedom of Information and Protection of Privacy Act and may be made public. If the responses are requested, personal identifiers will be removed before the responses are released.

A summary of public comments will be attached to the AAC rationale and will be available from the district office when the chief forester's AAC determination is announced.

For more information contact and/or mail your comments to:

District Manager

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Phone: (250) 837-7611 Fax: (250) 837-7626 or electronically mail to [Ken.Gibson@gems5.gov.bc.ca](mailto:Ken.Gibson@gems5.gov.bc.ca) or visit our website at <http://www.for.gov.bc.ca/tsb>

# Background Information Regarding TSR

## The Chief Forester's Responsibility

Determining the Allowable Annual Cuts (AACs)

for public forest lands in British Columbia is the responsibility of the province's chief forester. Section 8 of the Forest Act requires the chief forester to consider the following factors:

1. The rate of timber production that may be sustained from the area, taking into account:
  - the composition of the forest and its expected rate of growth
  - the time in which the forest will become re-established
  - silviculture treatments, including reforestation
  - standards of timber utilization
  - constraints on the amount of timber that may be produced due to use of the forest for other purposes.
2. The short- and long-term implications to the province of alternative rates of timber harvesting from the area.
3. The nature, production capabilities and timber requirements of established and proposed processing facilities.
4. The economic and social objectives of the Crown for the area, region and province—as expressed by the Minister of Forests.
5. Abnormal insect or disease infestations, and major salvage programs planned for the timber on the area.

Some of these factors can be measured and analyzed—others cannot. Ultimately, the chief forester's determination is an independent professional judgment based on the best available information. By law, the chief forester is independent of the political process, and is not directed by the minister of forests when determining AACs. In these determinations, the chief forester considers relevant information from any source, including interest groups. However, he cannot allow these determinations to be inappropriately influenced by the advocacy efforts of one group.

## Why the current AAC may be higher than the long-term harvest level.

Some concern has been expressed that the AACs are higher than the long-term harvest level. There are two main factors which explain this difference:

- In the short term, harvesting takes place in older forests which have accumulated high timber volumes by growing for a long time. Future harvesting on the same sites will take place in second-growth forests at younger ages, yielding lower volumes per hectare.
- Where the long-term harvest level is significantly below the current AAC, the chief forester's strategy is to phase in the lower level over several determinations to allow communities which rely on the forest sector to avoid sudden economic disruptions and to plan for the future—provided the long-term harvest level is not jeopardized.