

**Timber
Supply
Review**

Queen Charlotte Timber Supply Area

P u b l i c D i s c u s s i o n P a p e r

October 2000



**BRITISH
COLUMBIA**

Ministry of Forests

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, the chief forester may, if necessary, adjust the allowable annual cut (AAC) for the Queen Charlotte 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 include:

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

Timber Supply Review in the Queen Charlotte TSA

The *Queen Charlotte TSA Data Package* and *Information Report* were released in March 1999. Following the release, the documents were reviewed by licensees, the public, and government agencies. The B.C. Forest Service has now completed the *2000 Queen Charlotte TSA 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 Queen Charlotte TSA, and to encourage them to provide comments during the 60-day public review period. Public comments will be accepted until Dec. 8, 2000.

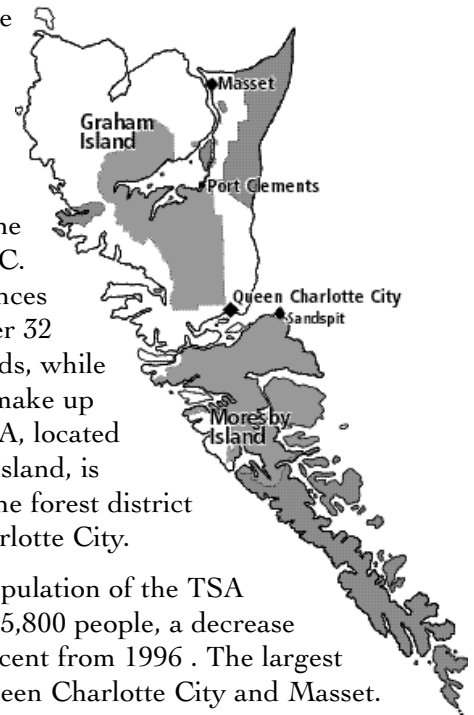


Figure 1. Review process for the Queen Charlotte TSA

Before setting a new AAC, the chief forester will review all relevant reports and public input. The chief forester will outline his determination in a rationale statement which, along with the summary of public input, will be publicly available upon release. 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.

Description of the TSA

The Queen Charlotte TSA occupies about 45 per cent (460,000 hectares) of the Queen Charlotte Islands – Haida Gwaii, off the northern coast of B.C. Three tree farm licences (25, 39 and 47) cover 32 per cent of the Islands, while parks and reserves make up 22 per cent. The TSA, located mainly on Graham Island, is administered from the forest district office in Queen Charlotte City.



In 1999, the total population of the TSA was estimated to be 5,800 people, a decrease of less than one per cent from 1996. The largest communities are Queen Charlotte City and Masset. Other communities include Sandspit, Skidegate, Tlell, Port Clements, and Old Masset.

**A timber supply area is an integrated resource management unit established in accordance with the Forest Act.*

The natural resources

Numerous natural resources are associated with the forests in the Queen Charlotte TSA. These include timber, significant fish and wildlife habitat, First Nations cultural values, and recreation and tourism amenities.

The rugged, steep terrain of the Queen Charlotte Ranges dominates the west coast of Graham Island. The relatively flat Queen Charlotte Lowlands dominate the east side of the island and the rolling uplands of the Skidegate Plateau dominate the centre. Both areas have extensive bogs and nutrient-poor sites. However, where drainage and soil nutrient conditions are favourable, forest stands in the Queen Charlotte TSA can achieve some of the fastest growth rates on the B.C. coast.

Approximately 77 per cent of the TSA (about 354,000 hectares) is productive forest area. However, less than one-quarter of the productive forest (about 82,400 hectares) is available for timber harvesting, and then only with due consideration for other resources.

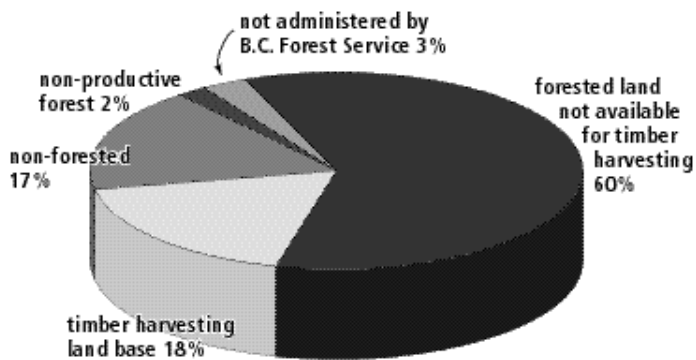


Fig. 2 Timber harvesting land-base as a proportion of the Queen Charlotte TSA.

The Queen Charlotte Islands are home to many wildlife species that are distinct from continental forms, including species of deer mouse, dusky shrew and short-tailed weasel, and subspecies of black bear and pine marten. The Islands lie along an important flyway for migratory birds and provide one of the more important seabird nesting areas in the north Pacific Ocean. Streams support significant spawning runs of salmon, steelhead and cutthroat trout.

As a place to explore the west coast rain forest and associated marine environments, the Queen Charlotte TSA attracts visitors from all parts of the world. South Moresby National Park on Moresby Island and Naikoon Provincial Park are important destinations.

Land-use planning

The province recognizes the need to resolve complex issues related to land and resource management on the Queen Charlotte Islands. These issues are normally resolved through strategic land-use planning, interim agreements, or treaty negotiations. Once land-use decisions have been made and implemented, they will be considered in future timber supply reviews.

In addition, the Islands Community Stability Initiative (ICSI), which consists of elected representatives from communities and rural electoral areas, has successfully established a pilot agreement for a community forest licence covering the Tlell River watershed.

Current allowable annual cut

The current allowable annual cut for the Queen Charlotte TSA is 361,000 cubic metres, a 24-per-cent temporary decrease from the previous AAC of 475,000 cubic metres. The AAC was reduced in December 1999 following an Oct. 5, 1999 decision by the provincial cabinet under Part 13 of the *Forest Act* to “designate” the Duu Guusd area. The designation is in place through Dec. 31, 2000. The current AAC is partitioned into a conventional volume of 304,000 cubic metres and 57,000 cubic metres to low-volume cedar. The low-volume cedar stands are generally poor quality with a net merchantable volume of less than 350 cubic metres per hectare.

Socio-economic profile

The communities in the Queen Charlotte TSA rely heavily on the public sector and forestry for employment, although tourism, wholesale and retail trade, and business services have grown significantly. Forestry is the second-largest employment sector, providing about 31 per cent of the labour force. The forestry sector includes logging, forestry services and wood products processing. The forests also provide employment (in addition to the 31 per cent) for those harvesting other resources such as mushrooms, berries and floral vegetation.

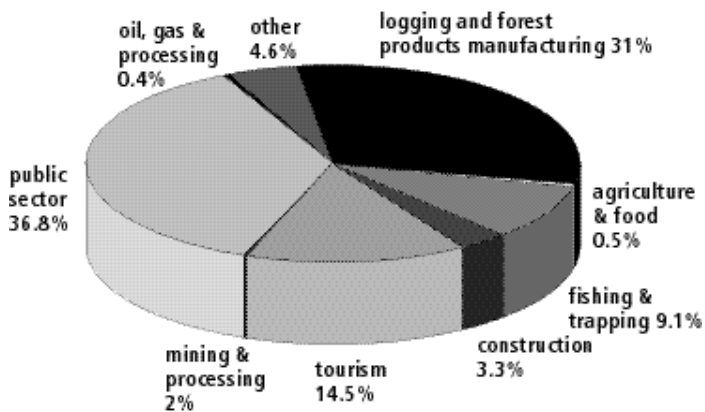


Figure 3. Estimate of employment by sector for the Queen Charlotte TSA, 1996

Source: 1996 Census

While forestry in the Queen Charlotte TSA is an important source of local employment, it also supports workers living in other locations along the coast. Approximately 97 per cent of the timber harvested from all Island sources is processed by mills on the north coast, the Lower Mainland and Vancouver Island.

The forestry sector supports numerous other jobs through companies and employees purchasing goods and services from businesses. Each 100 full-time direct forestry jobs in the Queen Charlotte TSA are estimated to support another 33 to 49 jobs, depending on the forestry activity (harvesting or timber processing). By comparison, 100 direct jobs in the tourism sector support an estimated 15 additional jobs.

Table 1 illustrates the potential contribution of the forest industry associated with the Queen Charlotte TSA AAC of 361,000 cubic metres to both the regional and provincial economies.

	TSA	Provincial
Direct employment (person-years)	108	451
Total employment (person-years)	158	1,009
Total employment income (\$1998 millions per year)	\$6.7	\$38.7
Provincial government revenues (\$1998 millions per year)	n.a.	\$15.0

Table 1. Summary of local and provincial economic information associated with the *new* AAC.

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 “total timber harvesting land-base forecast,” which illustrates the effect of current forest management on timber supply. The total timber harvesting land-base forecast is not an AAC recommendation, but rather one of many sources of information the chief forester will consider when setting the AAC.

The total timber harvesting land-base forecast is presented in this report for discussion and comparison; due to areas of uncertainty, the AAC determined by the chief forester may be greater or less than the level in the projected forecast.

The total timber harvesting land-base forecast for the Queen Charlotte TSA assumes that all of the TSA is available, including low-site cedar stands, the Duu Guusd designated area and the Tlell River watershed. This forecast also accounts for other resources such as environmentally-sensitive areas, fish habitat, cultural resources and biodiversity.

As Figure 4 shows, the total timber harvesting land-base forecast indicates that an annual harvest level of 475,000 cubic metres could be maintained for 50 years, before declining over the subsequent 40 years to a long-term harvest level of 323,000 cubic metres.

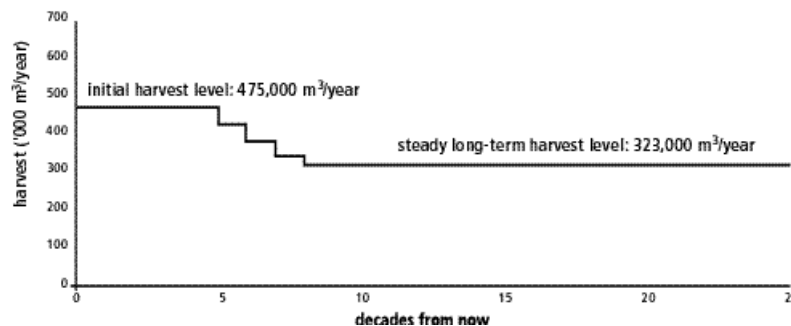


Figure 4.

Total timber harvesting land-base forecast, 2000

Compared to the 1996 timber supply review, the current analysis shows that an annual harvest level of 475,000 cubic metres could be maintained 40 years longer with a 21-per-cent higher long-term harvest level, even with additional limitations from the Forest Practices Code. This change is primarily due to a seven per cent increase in the size of the timber harvesting land-base—as a result of revised operability mapping—and a 10 per cent increase in estimated yields from natural stands—as a result of an in-depth local volume adjustment study.

Sensitivity analyses: examining uncertainty

Because 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 generally examined in what are called “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 Queen Charlotte TSA, due to uncertainty about the area that contributes to the timber harvesting land-base, volume estimates, and accounting for other resource values, a number of sensitivity analyses examined the stability of the timber supply. Three important sensitivity analyses are described below. For a complete listing, please refer to the *2000 Queen Charlotte TSA Analysis Report*.

Uncertainty in the size of the timber harvesting land-base

In any area, the timber supply depends significantly on the land-base that contributes to the analysis. In the Queen Charlotte TSA, two areas pose uncertainty: the Duu Guusd area and the Tlell River watershed. Harvesting has been suspended in the Duu Guusd area since Nov. 29, 1999. In the timber supply analysis, the Duu Guusd contributes 20 per cent to the total timber harvesting land-base forecast in the short term and 21 per cent in the long term.

There has been a short-term abeyance of harvesting in the Tlell River watershed to allow for further planning. In the timber supply analysis, the Tlell River watershed contributes about eight per cent to the total timber harvesting land-base forecast over the long term. When combined in the analysis, the Duu Guusd and Tlell River watershed contribute 29 per cent to the short-term timber supply as projected in the total timber harvesting land-base forecast.

Discussions regarding land use in the Duu Guusd and Tlell River watershed are currently underway. The chief forester will review and consider all the relevant information regarding these areas. However, in determining the AAC, it is inappropriate for the chief forester to preempt and account for any action that has not yet been finalized by government.

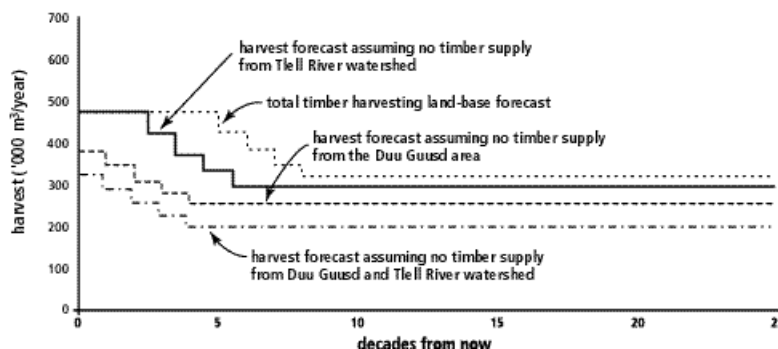


Figure 5. Uncertainty about the size of the Queen Charlotte TSA timber harvesting land-base, 2000

Uncertainty about volume estimates for existing stands

An audit conducted in 1998 revealed that volume estimates for existing stands (derived using the forest inventory) underestimated actual volume by about 10 per cent. In the analysis, adjustments were applied to the inventory timber volumes to offset the underestimation. Figure 6 shows the impact of the volume adjustment on timber supply.

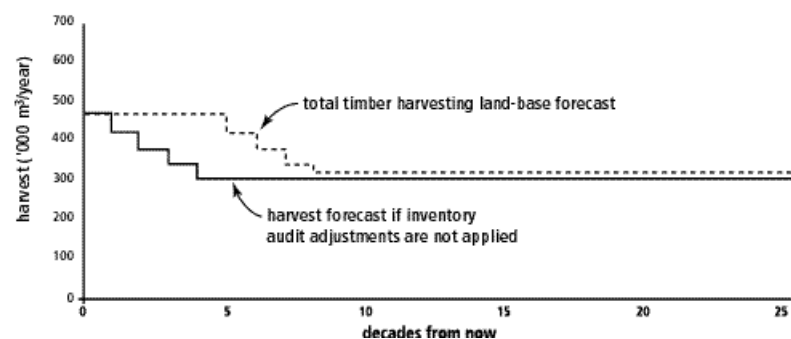


Figure 6 Impact of adjusting volume estimates for existing stands

Uncertainty in old-growth site index estimates

The results of two recent provincial studies suggest that the productivity of second-growth stands is higher than estimates based on old-growth stands growing on ecologically-similar sites. The research is of particular interest to the Queen Charlotte timber supply area because 78 per cent of the timber harvesting land-base consists of stands older than 140 years. A local study was undertaken in the Queen Charlotte Forest District to confirm the results of the provincial studies. The local study indicates that the long-term harvest level in the Queen Charlotte timber supply area could be 80 per cent higher than the total timber harvesting land-base forecast.

While the local study supports the provincial studies, further work in this area needs to be done before productivity adjustments can be applied. In addition, the results of these studies represent the potential site productivity that might be achieved under ideal conditions. In the field, regeneration and subsequent growth do not always occur under ideal conditions.

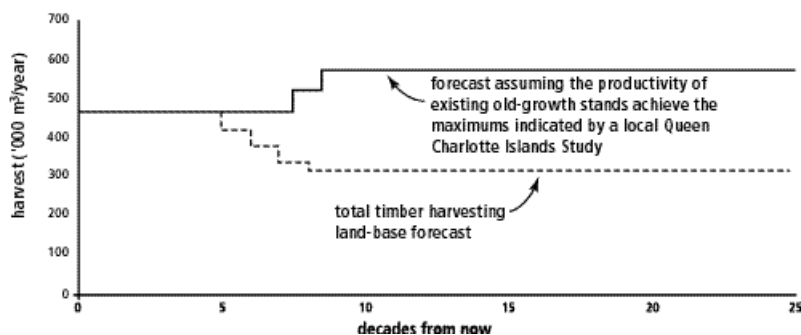


Figure 7. Harvest forecast if the productivity of the future forest is increased by the amount suggested by recent and ongoing research—Queen Charlotte TSA, 2000

Implications of changes in the AAC

Environmental Implications

Current forest management follows the standards set out by the Forest Practices Code. These standards are designed to maintain a range of ecosystem attributes. In the Queen Charlotte analysis area, about 77 per cent of the productive forest is not considered available for timber harvesting and will provide for many environmental values. Forested areas both inside and outside the timber harvesting land-base will help to maintain critical forest habitat for many species. Forest cover requirements and land-base exclusions for biodiversity, scenic values, community watersheds, and wildlife were incorporated in the analysis.

In the TSA, one mammal and five bird species have been designated as Identified Wildlife under the Forest Practices Code and their habitat requires special management. These include Keen's long-eared myotis (a species of bat), northern (Queen Charlotte) goshawk, sandhill crane, marbled murrelet, ancient murrelet and Cassin's auklet. Only the goshawk and murrelet habitats occur in the timber harvesting land-base.

At this time, no wildlife habitat areas have been designated in the Queen Charlotte Islands. When wildlife habitat areas are established they will be incorporated into future timber supply reviews.

First Nations Implications

The Haida First Nation has traditional territory within the Queen Charlotte TSA. According to census data, there is a total of about 3,800 Haida, most of whom belong to one of two bands: the Old Masset Band and the Skidegate Band. One-third of the Haida live on the Islands.

The Haida have used the forest and other land and marine resources for thousands of years, and continue to derive food, shelter, medicines and an extensive artisan culture from more than 200 species of plants. Much of Haida cultural expression depends on yellow and redcedar trees, and demand for these species appears to be increasing. The Haida have also shown an interest in forestry's economic opportunities.

The Haida have submitted a comprehensive land claim and are currently involved in the provincial treaty process.

Community Implications

The implication of a change in the AAC for local communities is an important consideration in the Timber Supply Review. The average harvest from 1993 to 1999 was 340,440 cubic metres per year, or about six per cent below the current AAC of 361,000 cubic metres. The lower harvest levels were a result of a number of factors, such as the downturn in the Asian markets and restricted access to U.S. markets. The total timber harvesting land-base forecast for the Queen Charlotte TSA suggests that a harvest level of 475,000 cubic metres could be maintained for five decades—an increase of 32 per cent over the current AAC.

Therefore, if the AAC is maintained at the current level and fully harvested, or if the total timber harvesting land-base forecast is adopted and fully harvested, there may be employment opportunities for laid-off or new workers in the Queen Charlotte TSA.

Your input is needed

Establishing the AAC is an important decision that requires well-informed and thoughtful public input. Feedback is welcomed on any aspect of this discussion paper, the *2000 Queen Charlotte TSA Analysis Report* and other issues related to the timber supply in the Queen Charlotte TSA. Forest Service staff would be pleased to answer questions or discuss concerns that would help you prepare your response. Please send your comments to the forest district manager at the address below. Your comments will be accepted until Dec. 8, 2000.

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 made public, 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

B.C. Forest Service

Queen Charlotte Islands Forest District

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Queen Charlotte City, B.C. V0T 1S0

Phone: (250) 559-6200, Fax: (250) 559-8342, or electronically mail to

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Visit our website at <http://www.for.gov.bc.ca/tsb> on the Internet.

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. In this lengthy and complex process, the chief forester considers technical reports, analyses and public input, as well as government's social and economic objectives. It is not the responsibility of the chief forester to speculate on the outcomes of land claims or land-use discussions. When those decisions have been made, the chief forester will incorporate them in future AAC determinations.

This responsibility is granted by legislation in the *Forest Act*, Section 8. It states that the chief forester shall consider specific factors, including the following:

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 that it will take the forest to 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 readily 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 dictated to by the minister of forests when determining AACs. In these determinations, the chief forester considers relevant information from all sources.

Why the 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. Two main factors explain this difference:

- In the short term, harvesting takes place in older forests that 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, often yielding lower volumes per hectare.
- Where the long-term harvest level is significantly below the current AAC, the chief forester's strategy is to gradually reduce AACs in a managed transition to the lower level over several decades (provided the long-term harvest level is not jeopardized). This allows communities that rely on the forest sector to avoid sudden economic disruptions and to plan for the future.

