

**Timber
Supply
Review**

North Coast Timber Supply Area

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

November 1999



**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 licence (TFLs) areas 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 North Coast 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 current forest management practices and assess their effects on short- and long-term timber supply, and identify related economic, environmental and social factors
- to identify where improved information is required for future timber supply forecasts
- to provide the chief forester with information to make any necessary adjustments to the AACs for the next five years

Timber Supply Review in the North Coast TSA

The *North Coast TSA Data Package and Information Report* were released in February 1998. Following the release, the documents were reviewed by licensees, the public and government agencies. The B.C. Forest Service has now completed the *1999 North Coast 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 North Coast TSA and to encourage them to provide comments during the 60-day public review period. Public comments will be accepted until January 28, 2000.

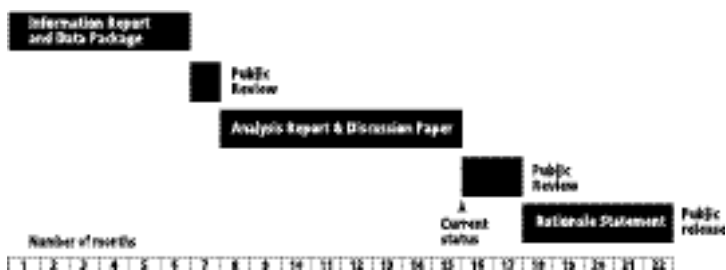


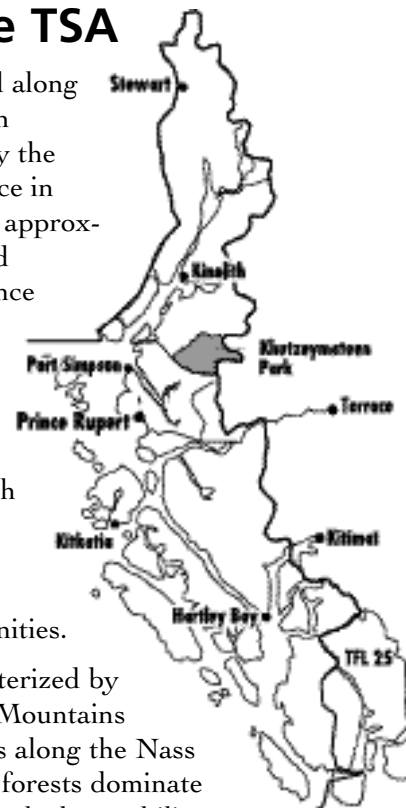
Figure 1.

Review process for the North Coast TSA

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, along with the summary of public input, will be publicly available. 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 North Coast TSA is located along the coast of northwestern British Columbia and is administered by the North Coast Forest District office in Prince Rupert. The TSA covers approximately 1.96 million hectares and includes the communities of Prince Rupert and Stewart, as well as numerous smaller communities.



Forest land resources

The forest land base in the North Coast TSA is rich in natural resources including timber, significant fish and wildlife habitat, and recreation and tourism amenities.

The North Coast TSA is characterized by the rugged terrain of the Coast Mountains and by valley bottom floodplains along the Nass and Skeena rivers. Cottonwood forests dominate the floodplains while western hemlock, amabilis fir and western redcedar forests dominate the mountainsides.

Because of the diverse landscape and wide range in elevation (from sea level to mountain top), the North Coast TSA is home to a variety of terrestrial and marine wildlife, including black-tailed deer, grizzly and black bears, wolves, sea mammals, and many bird species (including eagles and marine birds). Under the Identified Wildlife Management Strategy, grizzly bear, marbled murrelet and tailed frog are priority species for this TSA.

Some of the finest salmon fishing rivers in the province are in the North Coast TSA, and the freshwater rivers and lakes are home to abundant fish, mainly trout species. Other recreational opportunities include boat cruising, ocean kayaking, scuba diving, and big-game hunting. Khutzeymateen Park, Canada's

**A timber supply area is an integrated resource management unit established in accordance with section 7 of the Forest Act.*

first grizzly bear sanctuary, offers exceptional wildlife viewing opportunities. The coastline forms part of the Inside Passage, a world-renowned cruise ship route, which more than three-quarters of a million visitors pass through each year.

Over the past several years, the North Coast TSA and other areas on the central coast have attracted international attention by virtue of their outstanding scenery, globally-recognized ecological values and the potential loss of undeveloped temperate rainforests world-wide. A particular importance has been placed on maintaining biodiversity in undeveloped watersheds. Decisions about the future of areas covered by a land and resource planning process currently under way will examine these concerns (see below under Land use planning).

Socio-economic profile

Regional economy

The North Coast TSA is one of the few areas in the province, outside of the Lower Mainland, where forest-based employment is exceeded by other industrial sub-sectors. Historically, the largest industrial sector has been commercial fishing and fish processing, followed by primary forestry and wood products manufacturing (particularly the Skeena Cellulose pulp complex in Prince Rupert). However, the outlook for the commercial fishing industry until at least 2001, is for lower performance at the provincial level. This is mainly due to catch restrictions, price competition from farmed salmon, and climate conditions affecting fish populations. Prince Rupert is the main administrative and service centre for the region, and the transportation and tourism sectors are significant and growing.

Figure 2 shows the employment generated in the North Coast Forest District by industry sector. The current percentages may vary due to recent declines in the commercial fishing industry. Note that the forestry sector includes employment generated by harvesting activity in both the TSA and adjacent TFL.

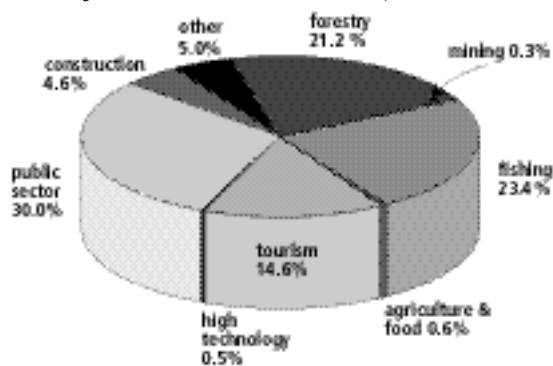


Figure 2.
North Coast Forest District total employment by sector

The forestry sector supports numerous other jobs in the area through companies and employees purchasing goods and services from local businesses. Each 100 direct forestry jobs in the area is estimated to support a further 50 to 90 indirect and induced jobs depending on the type of forestry activity (logging, pulp and paper, or wood manufacturing) and the associated level of wages and salaries. In contrast, every 100 public sector jobs only supports another 29 positions and every 100 jobs in the fishing industry supports another 28 jobs. Only in the construction industry — about one quarter the size of the combined forestry sector — do the spinoff impacts approach a similar magnitude as forestry, with every 100 jobs supporting an associated 50 positions.

	TSA	Provincial
Direct Employment (person years)	200	560
Total Employment (person years)	330	1,255
Total Employment		
Income (\$'96 millions/year)	10.4	37.9
Provincial Government		
Revenues (\$'96 millions/year)	n.a.	11.4

Table 1 Summary of local and provincial economic information associated with the current AAC

Table 1 illustrates the potential contribution of the forest industry associated with the North Coast TSA timber harvest to both the regional and provincial economies. Figures in this table are based on the current AAC of 600,000 cubic metres. The average annual harvest from 1995 to 1997 was 450,000 cubic metres.

Current AAC

In July 1995, the chief forester set the AAC at 600,000 cubic metres, unchanged from the previous determination.

Land use planning

The Central Coast Land and Coastal Resource Management planning process began in the summer of 1997. The management plan covers a large area of B.C.'s central coast, including a southern portion of the North Coast TSA. Since the government has not yet approved decisions regarding the establishment of new parks and resource management zones, they will not be reflected in this timber supply analysis. Once the resource management plan is finalized and implemented, it will be considered in future timber supply reviews.

Timber supply forecasts

A timber supply computer model is used to develop several possible timber supply forecasts for the next 250 years. One of these forecasts is the base case which illustrates the effect of current forest management on timber supply. The base case is not an AAC recommendation; 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 comparison 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 North Coast TSA indicates the current AAC of 600,000 cubic metres could be maintained for the next 20 years. Over the following 50 years, the harvest level is projected to decline by about 10 per cent per decade to the long-term harvest level of 361,000 cubic metres per year.

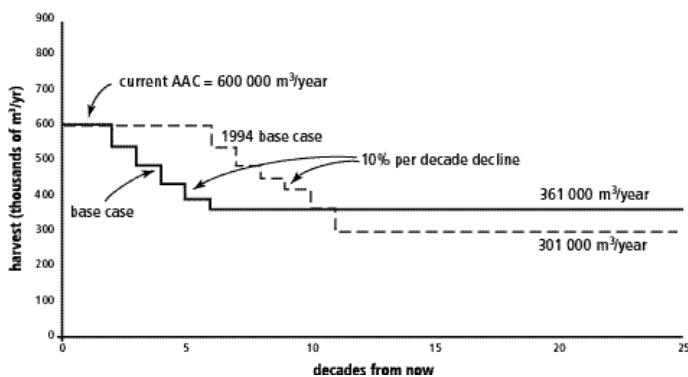


Figure 3.

Base case timber supply forecast, 1999

As shown in Figure 3, when compared with the previous 1994 timber supply analysis, the length of time that the current harvest level can be maintained has decreased by 40 years. While many factors that affect timber supply have changed since the previous timber supply analysis, the principal factor responsible for the decrease is the application of a new growth and yield model for managed stands. The new model generates volume estimates that result in older minimum harvestable ages and a higher long-term harvest level.

Sensitivity analyses: examining uncertainty

Since forests are complex and constantly changing, timber supply analysts assess how uncertainties in the inventory information and management practices might affect timber supply forecast results. These uncertainties are examined in sensitivity analyses

that 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 North Coast TSA, due to new information, ongoing land claim discussions, changing log markets and the implementation of new forest practices, a number of sensitivity analyses were conducted to examine the stability of the timber supply. Two of the key sensitivity analyses are described below. For a complete listing, please refer to the *1999 North Coast TSA Analysis Report*.

Uncertainty in Old-Growth Site Index Estimates

The results of two recent provincial studies — veteran and paired-plot — suggest that the estimated future productivity of old-growth stands may be underestimated. This research compares the measured productivity of existing regenerated stands with the measured productivity of old-growth stands growing on ecologically similar sites. The measured productivity of the regenerated stands has been found to be generally higher than the inventoried productivity of the old-growth stands. These results are based on the maximum potential site productivity that might be achieved under ideal conditions. However, in the field, regeneration and subsequent growth does not always occur under ideal conditions due to factors such as competition from brush or overstocking. Therefore, many stands may not reach the maximum potential productivity suggested by research.

The results of the Old-Growth Site Index studies suggest that the future productivity of current old-growth stands has been underestimated in some parts of the province. However, for the North Coast TSA, no specific studies have been undertaken to verify an underestimation.

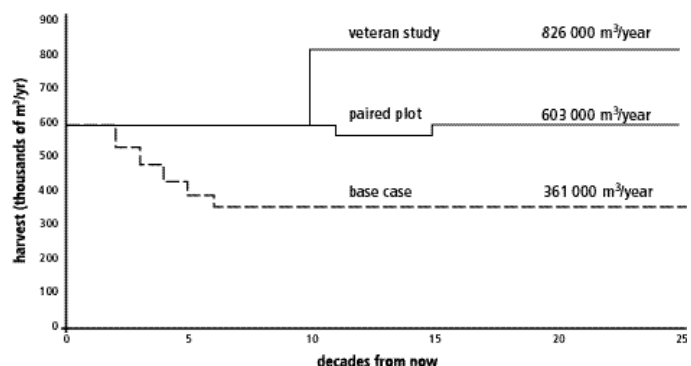


Figure 4.

Site productivity uncertainty, 1999

As Figure 4 indicates, if the productivity of sites currently occupied by old growth have been underestimated, then harvest forecasts are much higher than the base case in the mid and long term.

Uncertainty in the estimated size of the timber harvesting land base

Uncertainty in the estimated size of the timber harvesting land base is due to factors such as fluctuations in timber prices, changes in harvesting and milling technology and new inventory information.

Figure 5 shows that if the timber harvesting land base has been overestimated by 10 per cent, then the initial harvest level could only be maintained for 10 years and the long-term harvest level would be reduced by 10 per cent. However, if the timber harvesting land base has been underestimated by 10 per cent, then the current AAC could be maintained for 30 years and the long-term harvest level would be increased to 397,000 cubic metres per year.

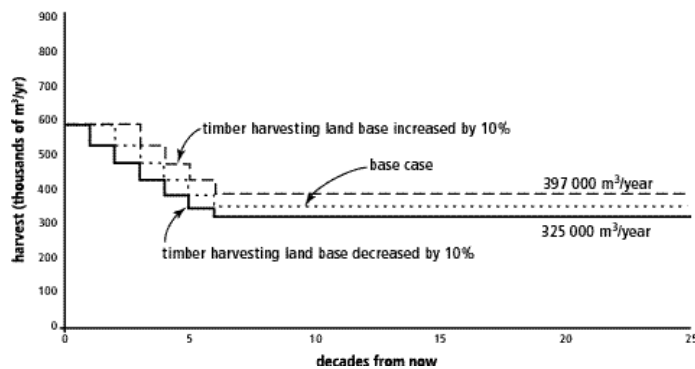


Figure 5.
Timber harvesting land base uncertainty, 1999

Implications of changes in the AAC

Environmental Implications

Current forest management follows the Forest Practices Code which sets standards for a range of critical biodiversity and wildlife considerations. In the North Coast TSA, about 84 per cent of the Crown forested area is not considered available for timber harvesting and will provide for many environmental considerations; only six per cent of the total TSA contributes to the timber supply. Forested areas both in and outside of the timber harvesting land base contribute to the maintenance of critical forest habitats for many species.

First Nations Implications

Most of the North Coast TSA is within the traditional lands of the Tsimshian, while the Nisga'a, Haisla, Heiltsuk and Gitanyow also have traditional territories in this TSA.

The Nisga'a Tribal Council has negotiated a comprehensive treaty which has been ratified by the Nisga'a Nation and the B.C. government. The treaty covers a total of 104,273 hectares within the North Coast TSA, of which about 5,350 hectares are within the timber harvesting land base. This area represents a potential 4.5 per cent decrease to the timber harvesting land base. Figure 6 illustrates the potential impact to timber supply from the Nisga'a Final Agreement.

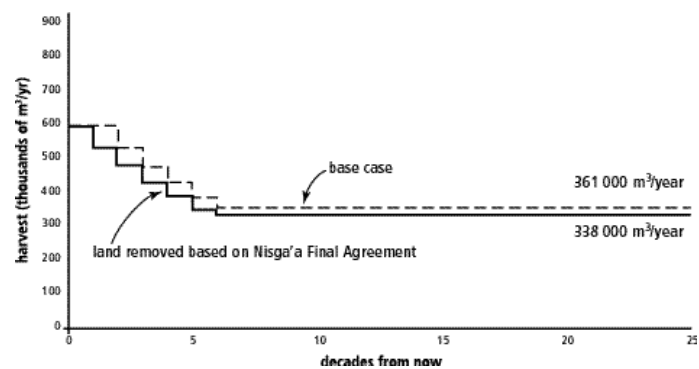


Figure 6.
Potential impact of Nisga'a Final Agreement to timber supply in the North Coast TSA, 1999

The federal government is expected to ratify the treaty in the fall of 1999. When the land claim settlement has been finalized, it will be considered in future timber supply reviews.

The Haisla, Heiltsuk, Gitanyow and Tsimshian are currently negotiating treaties. The impacts of these treaties on the North Coast TSA timber supply are unknown at this time. When the impacts are known, they will be considered in future AAC determinations.

First Nations members are employed in some silviculture and harvesting operations within their territories, and all First Nations have expressed an interest in expanding their involvement in the forest sector.

They have also indicated concern about the management of cultural heritage resources in areas where timber harvesting is occurring. A cultural heritage inventory study has been undertaken and a significant portion of the operable land base has been classified as having a high or moderate potential for existence of archaeological sites or resources.

Updating of the study is required for new areas administered by forest licensees that were not covered by the original study. No data has been compiled to determine the impacts that cultural resources might have on the size of the timber harvesting land base. As well, traditional use studies have begun but are not yet completed. Once archaeological impact assessments and traditional use studies have been completed, more specific information can be considered in future timber supply reviews.

Community Implications

The implication of changes in the AAC for local communities is an important consideration in the Timber Supply Review. The base case harvest forecast for the North Coast TSA suggests the current AAC of 600,000 cubic metres could be maintained for the next 20 years, and then decline over 50 years to 361,000 cubic metres in the long term.

The AAC, if maintained at the current level and fully harvested, would support approximately 330 person-years of direct and indirect/induced employment in the North Coast TSA. Recently, actual harvesting has been closer to 450,000 cubic metres per year. This means that if the AAC is maintained at 600,000 cubic metres as suggested by the base case forecast, the level of forestry activity in the TSA could increase slightly from recent levels.

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 *1999 North Coast TSA Analysis Report* and other issues related to the timber supply in the North Coast 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 January 28, 2000.

You may identify yourself on the response form 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
North Coast Forest District
125 Market Place
Prince Rupert, B.C. V8J 1B9

Phone: (250) 624-7460 Fax: (250) 624-7479 or electronically mail to Vicky.Bosse@gems9.gov.bc.ca

Background Information Regarding TSR

The Chief Forester's Responsibility

Determining the 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 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 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 all sources.