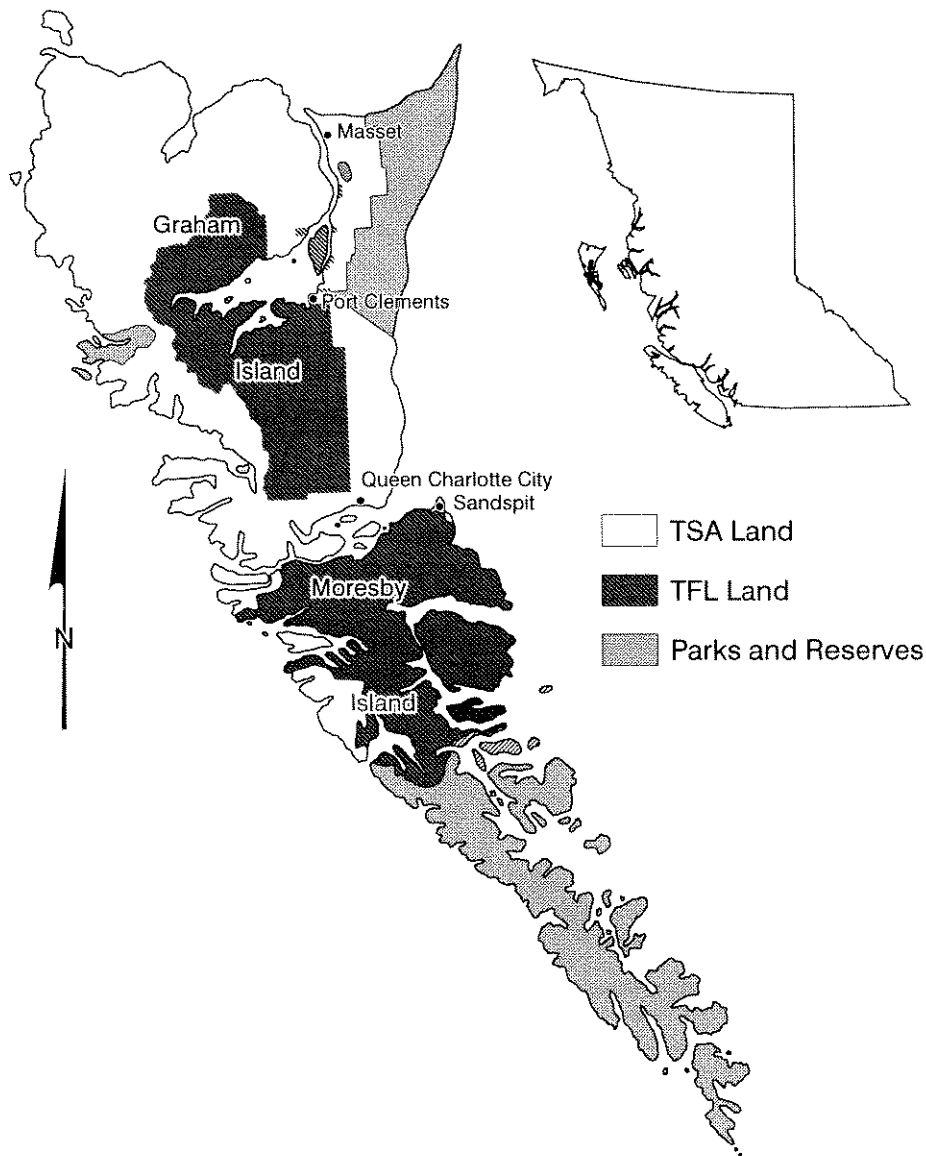




Queen Charlotte Timber Supply Area

Timber Supply Review Discussion Paper
December 1994



Queen Charlotte Timber Supply Area

Timber Supply Review Highlights

- The British Columbia Forest Service is reviewing the timber supply* in all timber supply areas* and tree farm licence* areas in the province. The review examines the impacts of current integrated resource management* practices on the timber supply, economy and environment of the local area and the province. Based on the results of this review, the chief forester may decide to adjust the allowable annual cut* for the Queen Charlotte Timber Supply Area.
- The current allowable annual cut for the Queen Charlotte Timber Supply Area is 514,335 cubic metres per year which includes 60,000 cubic metres of temporary licences which expired in June, 1994. (page 4)
- A total of 221 person-years* of direct and indirect employment is generated within the timber supply area by the current allowable annual cut. This represents eight per cent of the Islands' workforce. Provincially, the timber harvest supports a total of 1,672 person-years of employment. Only 14 per cent of this employment accrues to residents of the timber supply area because most of the harvest occurs in remote camps employing non-resident workers and most of the timber is shipped south for processing. (page 5)
- The present allowable annual cut in the Queen Charlotte Timber Supply Area cannot be maintained with current integrated resource management practices without causing severe timber supply shortfalls in the future. The base case* timber supply forecast indicates an immediate reduction of 14 per cent in the timber supply level, to 422,000 cubic metres per year. That level can be maintained for 10 years, followed by a projected decline of 12 per cent per decade for the following 60 years to 205,000 cubic metres per year (17 per cent below the long-term timber supply level). The timber supply is projected to remain at that level for 100 years before rising over 20 years to the long-term timber supply level of 248,000 cubic metres per year. (page 7)
- Several factors contribute to this timber supply forecast:
 - the current allowable annual cut is much higher than the long-term timber supply level indicating the allowable annual cut must decline
 - a large proportion of the remaining mature forest is on poor growing sites, yielding less volume per hectare than the better sites which have already been harvested
 - the requirements of integrated resource management limit the amount of area within the timber harvesting land base* which can be harvested at any time
- not enough regenerated forests will have matured in time to avoid the drop in timber supply below the long-term timber supply level (page 7)
- The following critical factors indicate the short-term timber supply may be lower than forecast:
 - some uncertainty exists around the estimates of timber volume in existing mature forests (page 8)
 - approximately 35 to 40 per cent of the timber harvesting land base is currently deferred from harvesting due to unresolved land use issues (page 8)
 - the area required to protect non-timber resource values may be underestimated in the analysis (page 8)
- Intensive silvicultural treatments (juvenile spacing, fertilization, etc.) in the Queen Charlotte Timber Supply Area are unlikely to increase the short-term timber supply, although they could increase the timber supply in the long term. (page 9)
- Opportunities may exist to partially offset reductions in the short-term timber supply by expanding the area within the timber harvesting land base through increasing the harvest of lower value forests and through the use of alternative harvest systems, such as helicopters, to harvest steep and sensitive sites or sites currently not economically feasible to harvest. Alternatively, these forests could be harvested in the future to offset the timber supply reductions that are projected in the long-term. (page 9)
- Opportunities exist in the forestry sector to reduce the employment impacts of timber supply reductions within the timber supply area. Encouraging value-added manufacturing by issuing more small-scale licences is an option. Additional opportunities may be created through the Forest Renewal Plan*. (page 11)
- Several alternatives exist for the chief forester to adjust the short-term allowable annual cut as part of a strategy to achieve the long-term timber supply:
 - the allowable annual cut could be maintained at the present level, requiring severe declines in the future
 - small reductions could be implemented now, with larger declines in the future
 - a consistent level of reduction could occur over the next 60 years

Queen Charlotte Timber Supply Area

- larger reductions could be made now, with smaller declines in the future (page 11)
- The *Forest Act* requires the chief forester to consider current management practices* and land-use decisions when determining allowable annual cuts. Because a number of government initiatives which may affect timber supply in the future are ongoing, it may not be possible to fully consider these impacts in this review. These initiatives include the Forest Practices Code*, the Protected Areas Strategy*, and the Forest Renewal Plan.
- Another review of the timber supply in the Queen Charlotte Timber Supply Area will be completed within five years to incorporate decisions from land-use planning processes and new information on the impact of different forest management practices.

* Throughout this document, an asterisk at the end of a phrase indicates the phrase is defined in the definitions section on this page.

Definitions

Allowable annual cut

The rate of timber harvest permitted each year from a specified area of land, usually expressed as cubic metres of wood per year.

Base case forecast

The timber supply forecast that illustrates the effects of current forest management practices on the timber supply using the best information that was available when the data package was prepared.

Commission on Resources and Environment (CORE)

An independent commission established to develop and test land-use planning processes in consultation with stakeholders.

Culturally modified trees

Trees and remnants of trees which have been intentionally altered by native people as part of their traditional use of the forest.

Current management practices

Forest practices that were being approved and implemented in the timber supply area when this review was initiated. These practices are described in this paper starting on page 5.

Forest licence

A licence which grants the licensee the right to harvest a specific volume of wood each year from land within a timber supply area.

Forest Practices Code

A draft Forest Practices Code for British Columbia Act was recently introduced in the B.C. Legislature. The final code will be proclaimed into law in early 1995.

Forest Renewal Plan

The Forest Renewal Plan is a partnership of all the forest interests, working together to invest in increasing the value of the forest and strengthening the forest sector economy.

Integrated resource management

The identification and consideration of all resource values, including social, economic and environmental needs, in land use and development decision-making.

Land and Resource Management Plan

A consensus-building process involving a cross section of the public, interest groups and government agencies to establish resource management objectives and strategies for a management area (usually a timber supply area).

Partitioned cut

Specific portions of an allowable annual cut assigned to a particular type of timber or terrain.

Person-year

One person working the equivalent of one full year. If someone works full time for six months, he or she accounts for 0.50 person-years.

Protected Areas Strategy

A provincial government initiative to protect representative areas within each ecological region of the province. This may result in some areas in the Queen Charlotte Timber Supply Area being protected from timber harvesting.

Riparian area

The stream bank and flood plain adjacent to streams or water bodies.

Timber harvesting land base

Crown forest land which is economical and environmentally feasible to access and harvest.

Timber supply

The volume of timber available for harvesting over time, using particular management practices.

Timber supply area

An area of Crown land defined by an established pattern of wood flow from the forest to the primary timber-using industries.

Tree farm licence

An agreement entered into with the provincial government which provides for the establishment, management and harvesting of timber by a private interest on a described area of Crown land.

Queen Charlotte Timber Supply Area

Introduction

The British Columbia Forest Service is reviewing the timber supply in all timber supply areas* and tree farm licence* areas in the province. The objectives of this three-year review are:

- to identify the economic, environmental and social consequences of existing forest management practices including their impacts on the short- and long-term timber supply
- to identify where improved information is required to make reliable forecasts
- to provide the chief forester with information to make necessary adjustments to the allowable annual cuts for the next five years

This discussion paper summarizes the technical reports from the Timber Supply Review in the Queen Charlotte Timber Supply Area and encourages British Columbians to comment on the findings. Public comments will be accepted until March 19, 1995. You will find a response form at the end of this paper to help you provide input.

Background to the Timber Supply Review

For at least 20 years, governments have known that British Columbia's timber supply would decline in the future—we could not keep cutting at the rate we've been going. Now there is an urgent need for up-to-date information to review the timber supply and allowable annual cuts throughout the province.

A 1991 study completed by the Forest Service, *A Review of the Timber Supply Analysis Process for British Columbia*, examined the procedures which led to the determination of allowable annual cuts, and confirmed the need for change.

The study found that:

- existing allowable annual cuts were based on outdated information and management practices
- procedures failed to take into account integrated resource management practices and protection of non-timber values
- the procedures were far too time consuming
- analytical techniques had to be strengthened

As a result, very few timber supply analyses had been completed since the early 1980s with few allowable annual cut adjustments.

The Forest Service acted quickly on the study's recommendations. The Timber Supply Review was initiated to assess short- and long-term timber supplies in light of current forest practices and integrated resource management.

The chief forester's responsibility

Determining the allowable annual cuts for Crown forest lands in British Columbia is the responsibility of the province's chief forester. It is one of the chief forester's most important responsibilities since it affects the local and provincial economy and environment—now and in the future. Section 7 of the *Forest Act* requires the chief forester to consider the following factors to determine allowable annual cuts for timber supply areas and tree farm licence areas:

- a) 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
 - silvicultural treatments, including reforestation
 - standards of timber utilization
 - constraints on the amount of timber produced from the area due to non-timber resource management objectives
 - any other information which relates to the capability of the area to produce timber

Towards a sustainable future

British Columbians agree there is a need for sustainable resource management to ensure a strong forest economy, viable communities and a healthy environment—today and always. The Timber Supply Review is one of several government initiatives designed to help achieve sustainability:

- The *Forest Renewal Plan* is a partnership of all the forest interests, working together to invest in increasing the value of the forests and strengthening the forest sector economy.
- The *Forest Practices Code* creates a single enforceable law to require better forest practices, with heavy penalties for violators.
- The *Timber Supply Review* is providing the information needed to adjust allowable annual cuts to ensure the sustainability of British Columbia's forests.
- The *Commission on Resources and Environment*, the *Protected Areas Strategy*, and *Land and Resource Management Plans* are moving to integrate all values into land-use planning in an effort to end confrontation and valley-by-valley battles.
- The *B.C. Treaty Commission* is moving us towards fair and equitable settlement of treaties which can create long-term social and economic stability for aboriginal and non-aboriginal British Columbians.

Queen Charlotte Timber Supply Area

- b) the short- and long-term implications to the province of alternative rates of timber harvesting from the area
- c) the nature, production capabilities, and timber requirements of established and proposed processing facilities
- d) the economic and social objectives of the Crown, for the area, the region and the province, as expressed by the minister of forests
- e) 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 information that is available. By law, the chief forester is independent of the political process and is not directed by the minister of forests when determining allowable annual cuts. In these determinations the chief forester considers relevant information from any source, including interest groups. However, the chief forester cannot be inappropriately influenced in these determinations by the advocacy efforts of any group.

Timber Supply Review process

The Timber Supply Review is an improvement over past methods, with better information and superior analytical techniques. The process was designed to stimulate public discussion through the release of reports and this discussion paper, and to accommodate new information, techniques and ideas. Figure 1 illustrates the five-step process that has been developed for the Timber Supply Review in timber supply areas. The diagram also indicates the status of

the Timber Supply Review for the Queen Charlotte Timber Supply Area and the estimated time required to complete each step in the process.

As the legal mandate for allowable annual cut determinations for tree farm licence areas is the same as for timber supply areas, the Timber Supply Review process for tree farm licences is based on similar principles, but it has been designed to reflect the management role of these licensees.

A commitment to incorporate change

A *Forest Practices Code Act* for British Columbia was passed in the Legislature in July, 1994. This law requires better forest practices throughout the province, and establishes heavy penalties for violators. When the Code is fully implemented, forest management practices will be changed to meet its requirements. These new practices may influence both short- and long-term timber supply. Practices which have recently been implemented based on current understanding of the intentions of the Code are identified in this discussion paper.

Where possible, information will be provided to the chief forester on the timber supply impacts of the actual and expected changes in practices resulting from the Code for consideration in this allowable annual cut determination. In most cases, further implementation and experience with the Code will be required before the timber supply effects can be properly assessed, making it necessary to incorporate these factors in future allowable annual cut determinations.

Other major government initiatives such as the Protected Areas Strategy, the Commission on

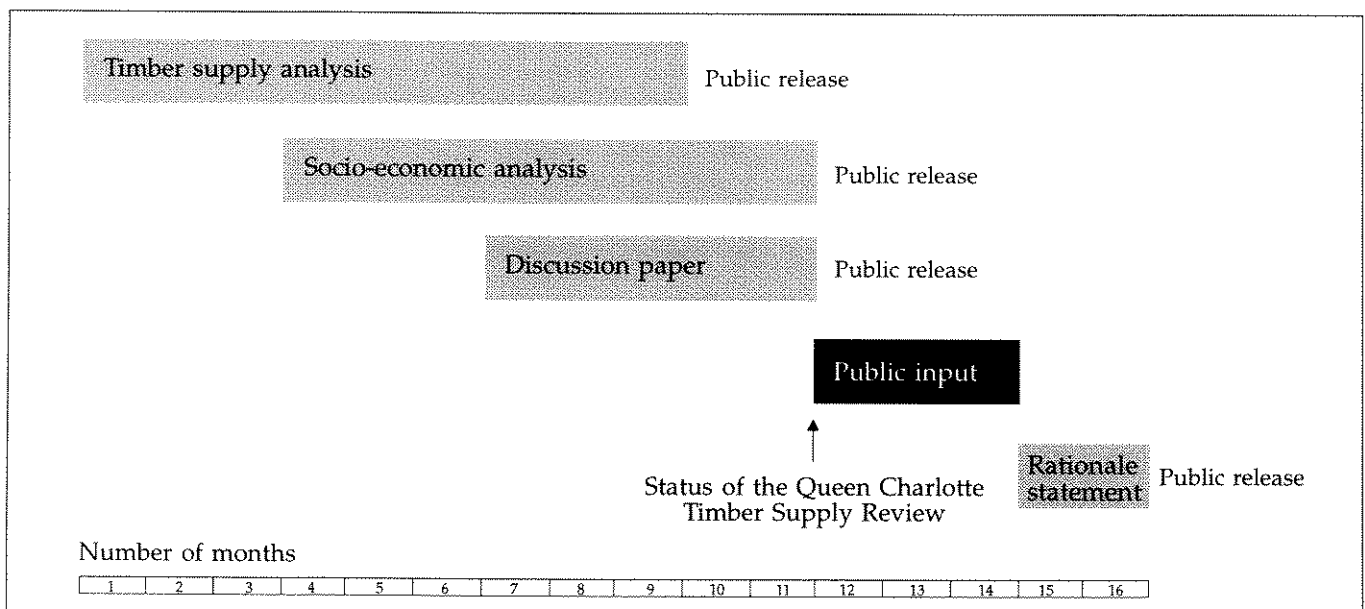


Figure 1 Steps in the Timber Supply Review process

Queen Charlotte Timber Supply Area

Resources and Environment (CORE) and Land and Resource Management Plans may also have significant impacts on timber supply in specific timber supply areas and tree farm licence areas. The *Forest Act* requires the chief forester to reassess the allowable annual cut for each timber supply area and tree farm licence area at least every five years after this review is completed to incorporate new information, new practices and new government policies. Where the timber supply impacts of these initiatives are significant the chief forester may decide to determine the allowable annual cut more frequently than every five years.

Timber Supply Review in the Queen Charlotte Timber Supply Area

Forest Service staff in the Queen Charlotte Forest District finalized the data used for the timber supply analysis in September 1993. The Forest Service then conducted and released a short- and long-term timber supply analysis (*Queen Charlotte Timber Supply Analysis*, July 1994) and a socio-economic analysis of the timber supply forecasts (*Queen Charlotte Timber Supply Area: Socio-Economic Analysis*, December 1994). The information used in the timber supply analysis and both reports are available from the Queen Charlotte Forest District office in Queen Charlotte City and the Vancouver Forest Region office in Nanaimo.

This discussion paper summarizes these two reports and highlights critical factors that the chief forester must consider to determine the allowable annual cut for the Queen Charlotte Timber Supply Area. In conjunction with the release of this discussion paper, Forest Service staff will actively solicit public input to ensure the information in the Timber Supply Review is correct. Input will be accepted until March 19, 1995 and will be summarized in a report to the chief forester and the minister of forests.

After considering all of the available information, the chief forester will determine the allowable annual cut for the Queen Charlotte Timber Supply Area in early 1995. This determination and a *Rationale Statement* explaining the determination will be released along with the *Summary of Public Input*.

Throughout this discussion paper the page numbers from the technical reports are provided so you can refer to them for additional information (*TSAR* is the *Queen Charlotte Timber Supply Analysis Report*; *SEA* is the *Queen Charlotte Timber Supply Area: Socio-Economic Analysis*). Both reports are available from the Queen Charlotte Forest District office and the Vancouver Forest Regional office.

Description of the Queen Charlotte Timber Supply Area

The Queen Charlotte Timber Supply Area lies entirely within the Queen Charlotte Islands, a group of about 150 islands located roughly 70 kilometres off the coast of mainland British Columbia (see map on the cover). The two largest islands, Graham in the north and Moresby to the south, account for about 90 per cent of the land base.

The total area of the Islands is about 1,018,000 hectares. Parks and reserves account for 229,000 hectares (22 per cent), tree farm licence areas for 324,000 hectares (32 per cent), and the timber supply area for the remaining 465,000 hectares (46 per cent).

The timber supply area is mainly located on the east and west sides of Graham Island with a much smaller portion on northwest Moresby Island. The east side of Graham Island is dominated by the relatively flat and poorly drained Queen Charlotte Lowlands. Towards the centre of the island, the land rises to the rolling uplands of the Skidegate Plateau. The Queen Charlotte Ranges dominate the west coast of the island, producing a rain shadow effect; annual precipitation on the west coast averages more than 4,000 millimetres while on the east coast it averages about 1,300 millimetres.

Forest resources

Timber

Figure 2 illustrates that 86 per cent of the land base in the Queen Charlotte Timber Supply Area is not available for timber harvesting either because it is private land, lacks forest cover or is unsuitable for timber harvesting because of steepness, poor quality timber or environmental sensitivity. In total, only 64,000 hectares (14 per cent) is considered suitable for timber harvesting using current methods. (*TSAR* page 8)

Queen Charlotte Timber Supply Area

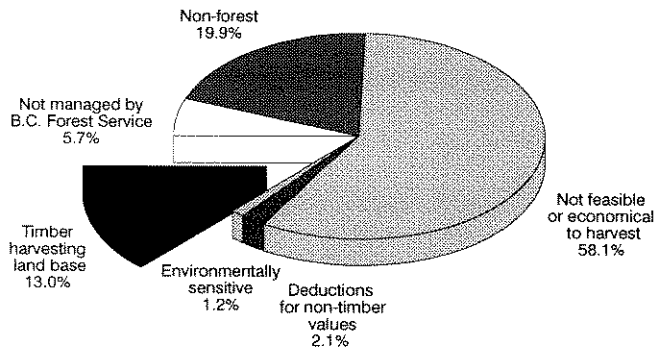


Figure 2 Classification of land within the Queen Charlotte Timber Supply Area

Notes: Total area: 465,000 hectares (does not include Naikoon Provincial Park, Gwaii Haanas National Park Reserve, ecological reserves or tree farm licences).

In Table 1 (page 8) of the TSAR, areas that are not feasible to harvest are called inoperable areas (127,943 hectares); areas that are not economical to harvest are called problem forest types (142,085 hectares).

Deductions for non-timber values include streamside riparian areas, highly visually sensitive areas, Skidegate reserve expansion and areas with culturally modified trees.

District staff have identified that approximately 880 hectares of the timber harvesting land base was inadvertently deducted from the data base for the timber supply analysis. It is estimated that this error may have resulted in a one per cent decrease in the timber supply forecasts.

The main tree species present in the timber supply area are western redcedar, western hemlock, sitka spruce and yellow-cedar. Spruce and yellow-cedar are the most valuable species.

Figure 3 shows that approximately 25 per cent of the timber harvesting land base has been logged in the last 40 years. A further 13 per cent, located along the east coast of Graham Island, originates from a fire in the 1870s, while the remaining 62 per cent is older than 150 years. (TSAR page 11)

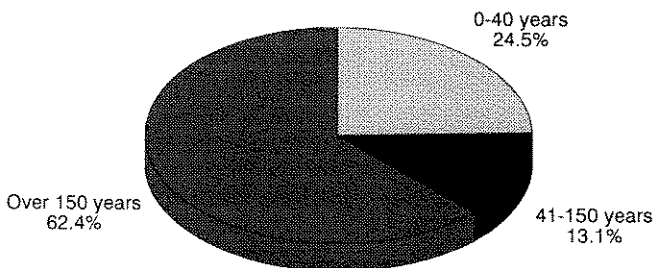


Figure 3 Current forest ages within the timber harvesting land base

Fish and wildlife

Due to the history of glaciation and the Islands' isolation from the mainland, many species of plants and animals found on the adjacent mainland do not naturally occur on the Islands; 11 unique subspecies of mammals make their home here. The Islands also lie along an important flyway for migratory birds and are one of the more important seabird nesting areas in the north Pacific Ocean. Nine bird species and two mammals which are considered to be threatened or endangered are dependent on old-growth forest habitats on the Islands. Island streams support significant spawning runs of salmon, steelhead and cutthroat trout. (SEA page 12)

Recreation

During the debate over the future of South Moresby Island, the Islands have received international recognition for their tourism and recreation potential. Recreational activities based upon the natural environment of the Islands have shown steady growth in recent years. (SEA page 32)

Current allowable annual cut

The last timber supply analysis in the Queen Charlotte Timber Supply Area was completed in 1982. The allowable annual cut was most recently set in 1991 at 514,335 cubic metres per year. Figure 4 illustrates how the harvest is allocated between long-term licences*, the Small Business Forest Enterprise Program (administered by the Forest Service), two temporary licences (both expired in June 1994) and woodlot licences.

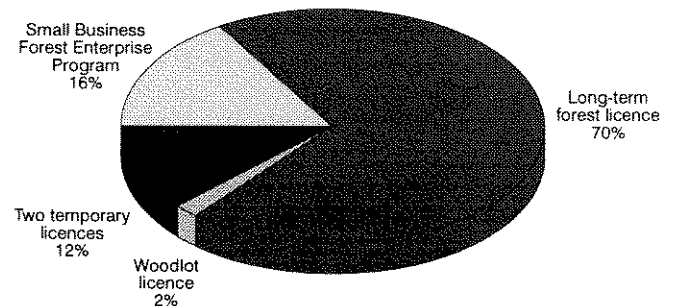


Figure 4 Current allocation of the Queen Charlotte Timber Supply Area allowable annual cut

Community profile

In 1991, the population of the Islands was approximately 5,300 people. Most people live on the two largest islands, Graham and Moresby. Graham,

Queen Charlotte Timber Supply Area

the more northerly of the two, has three principal settlement areas at Masset/Old Masset Village, Port Clements/Tlell and Queen Charlotte City/Skidegate. Moresby Island has one main settlement area at Sandspit. (SEA page 20)

First Nations

The Haida consider the entire land base of the Islands to be their traditional territory, known to them as Haida Gwaii. The 1991 population within the villages of Old Masset and Skidegate was 1,100 people, the majority being of Haida origin. A number of Haida also live in various other communities within the Islands and in other locations in British Columbia and Alaska.

Local employment

It is estimated that a maximum of approximately 2,482 full- and part-time jobs exist on the Islands. Roughly 22 per cent of these jobs are directly supported by timber harvested from tree farm licence areas; approximately eight per cent of the total employment on the Islands is due to timber harvested from the timber supply area.

The harvest from the timber supply area represents 25 per cent of the total allowable annual cut on the Islands and generates a total of 221 person-years* of local employment. This is only 13 per cent of the total employment estimated to be generated by harvesting and processing timber from this timber supply area. Most of the harvesting is carried out from remote camps which primarily employ non-residents and the majority of the timber is shipped to processing facilities in the southern coast areas of British Columbia.

Of the total employment related to forestry on the Islands (221 person-years), 149 person-years are direct forest sector jobs and 72 person-years are generated by activities that supply goods and services to forest companies and their employees (SEA page 54). This employment is distributed throughout the island communities although the majority occurs within the Port Clements/Tlell and Queen Charlotte City/Skidegate areas.

Two sawmills in Masset/Old Masset and Port Clements/Tlell were previously allocated 10-year, non-replaceable licences which expired in June 1994. The future of these mills, which provided up to 44 person-years of local employment, is uncertain due to a lack of secure access to timber.

Provincial economy and revenues

On a provincial level, forest activities in the timber supply area support a total of 1,672 person-years of employment both within and outside the timber supply area. Of this total, 669 person-years are direct forest sector jobs, while 1,003 person-years are generated by activities that supply goods and services to forest companies and their employees. (SEA page 54)

Approximately \$16.8 million in provincial revenues is generated annually by timber harvesting in the Queen Charlotte Timber Supply Area. This figure is based on fees of \$7.4 million for harvesting public timber in the area, estimated personal income taxes of \$4.8 million, corporate taxes of \$3.1 million, plus other tax revenues of \$1.5 million. These estimates were developed before the new Forest Renewal Plan was announced and do not include the increased stumpage revenues that will be generated through this plan. While stumpage rates are expected to increase by as much as 80 per cent, it will not be possible to accurately estimate the impact of this change until the new policy has been in place for a period of time. (SEA page 66)

Current management practices

Public forest lands in British Columbia provide recreational enjoyment, fish and wildlife habitat, water supplies, timber resources and many other benefits. The Forest Service manages the timber, range and recreation resources on public lands. The Ministry of Environment, Lands and Parks is responsible for management of fish, wildlife and water resources. Both agencies subscribe to the principle of integrated resource management, where all resources are considered before management decisions are made.

The timber supply analysis was based on the existing land-use designations and current management practices which were being approved and implemented in the Queen Charlotte Timber Supply Area when the data package was completed in September 1993. Future changes in management practices resulting from initiatives such as the Forest Practices Code or changes in land-use designations resulting from the Protected Areas Strategy or the Land and Resource Management Plan will be considered when the timber supply impacts of these changes can be assessed.

The key current integrated forest management practices implemented in the timber supply area are briefly described below. Readers are encouraged to read the *Timber Supply Analysis Report* (page 7 and Appendix A) for more details.

Queen Charlotte Timber Supply Area

- **Basic silviculture** - British Columbia laws require that areas harvested and expected to produce timber in the future must be reforested with ecologically appropriate species within a specified time frame. (*TSAR* page 57). The most common silvicultural practice is to clearcut harvest, reforest by planting with a mix of species or by relying on natural regeneration and to control competing vegetation in the plantation. It is assumed that harvested areas will be restocked within three years of harvesting.
- **Forest health and unsalvaged losses** - Forest losses due to wildfire, insects, diseases and blowdown are minimized. The annual loss of timber to insect and wind damage is estimated to be 7,137 cubic metres. This is timber that cannot be salvaged or recovered. No significant loss of timber is expected to occur as a result of either fire or forest diseases.
- **Minimum harvest ages** - Minimum harvest age is defined as the time it takes for stands to grow to harvestable size. In this timber supply area, a minimum average tree diameter of 45 centimetres and a minimum timber volume of 350 cubic metres per hectare were used to define minimum harvest age. The resulting minimum harvest ages range from 100 to 150 years and vary by tree species, site productivity and management regime. Although the minimum harvest age defines the lower limit for harvesting, actual harvest age depends on many factors including ages of other stands, limits on overall harvest level and forest cover requirements.
- **Protecting fisheries habitat** - The potential for adverse impacts of logging on fish habitats in this timber supply area is high due to steep slopes, unstable soils and high rainfall levels. The *Coastal Fish/Forestry Guidelines* provide guidance for maintaining fisheries habitat when harvesting operations occur near rivers, lakes and streams. In the timber supply analysis it was estimated that 20-metre-wide riparian buffers where timber harvesting is not permitted are required along both sides of all fish-bearing streams. A total of 3,471 hectares (approximately one per cent of the productive forest land) was deducted from the land base for fisheries habitat.
- **Protecting key recreational features** - Timber harvesting is restricted in some areas to protect key recreational features within the timber supply area. A total of 5,893 hectares which are classified for preservation on recreation maps (approximately 1.7 per cent of the productive forest land) were deducted from the land base for this analysis.
- **Protecting culturally modified trees*** - A total of 250 hectares were excluded from the timber harvesting land base to represent protection of culturally modified trees* A local policy is being developed to guide harvesting operations when culturally modified trees are found within areas proposed for harvest. It is possible that additional area may be excluded from the timber harvesting land base for this purpose.
- **Managing viewscapes** - Maintaining the visual quality of the forest landscape is an important management objective, particularly in viewscapes along major travel corridors in the Queen Charlotte Islands such as Skidegate Channel and Rennell Sound. Road construction and logging are implemented in these areas in a manner which minimizes visual impacts.

Twenty-one per cent of the total timber supply area land base (93,034 hectares) has been classified into two levels of visual sensitivity:

 - highly sensitive (retention): 25,831 hectares where no more than five per cent of the land base is permitted to have trees less than five metres tall at any time
 - moderately sensitive (partial retention): 67,203 hectares where no more than 15 per cent of the land base is permitted to have trees less than five metres tall at any time
- **Maintaining biodiversity** - Maintenance of wildlife habitats and biodiversity is accomplished by defining the forest conditions that are acceptable across the landscape. Throughout the timber harvesting land base, harvesting is not permitted until the regenerated forest on adjacent, previously harvested areas is at least five metres tall. In addition, in areas not classified as visually sensitive, no more than 25 per cent of the timber harvesting land base may have forests less than five metres tall at any time. To promote biodiversity and maintain some old-growth values, at least six per cent of the timber harvesting land base must be 150 years old at any time.

Queen Charlotte Timber Supply Area

and are discussed in the *Timber Supply Analysis Report* (see pages 24 - 39) but were not considered critical to this review and therefore are not included in this discussion paper.

The chief forester must carefully evaluate this information to determine the allowable annual cut and identify where improved information is needed for the next timber supply review. We encourage you to do the same.

Critical factors which may influence the short-term timber supply

- **Estimates of mature timber**

The estimates of mature timber used for the timber supply analysis are not certain for a number of technical reasons. Figure 6 illustrates that the short-term timber supply is strongly affected by changes in estimates of merchantable timber in existing mature forests.

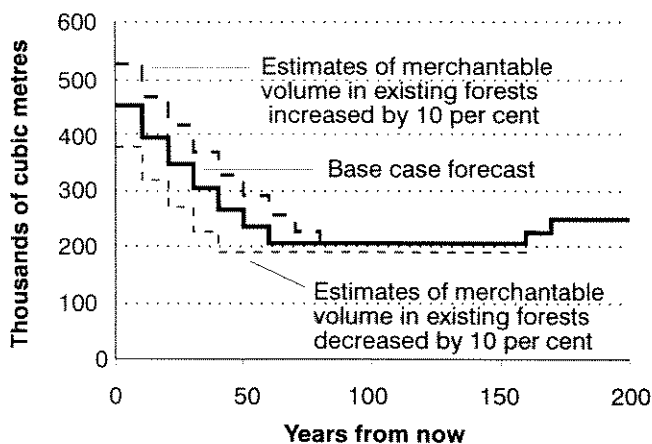


Figure 6 Impact of changing the estimates of merchantable timber in existing mature forests

- **Planning delays**

There are two significant areas within the Queen Charlotte Timber Supply Area which were included in the timber harvesting land base for the timber supply analysis but where harvesting is currently deferred:

- **Tlell River drainage** - Until a Local Resource Use Planning process is completed no harvesting may occur in the portion of the Tlell River drainage within the timber supply area (approximately 7,500 hectares of the timber harvesting land base). As well, the Council of the Haida Nation has requested a moratorium on resource extraction within this area.

- **Duu Guusd Haida Tribal Park Proposal** - The Council of the Haida Nation has also requested a moratorium on resource extraction within the Duu Guusd area (approximately 14,000 hectares of the timber harvesting land base).

Approximately 35 to 40 per cent of the timber harvesting land base is within these two areas. Timber companies have experienced difficulty locating timber outside the two areas to meet the current allowable annual cut.

In addition, the Protected Areas Strategy has identified a gap in the representation of ecosystems within the Skidegate Plateau. Some opportunities exist within the timber supply area to fill this gap which may result in a removal of land from the timber harvesting land base.

The potential impact of changing the area of the timber harvesting land base is shown in Figure 7. (TSAR pages 38-39)

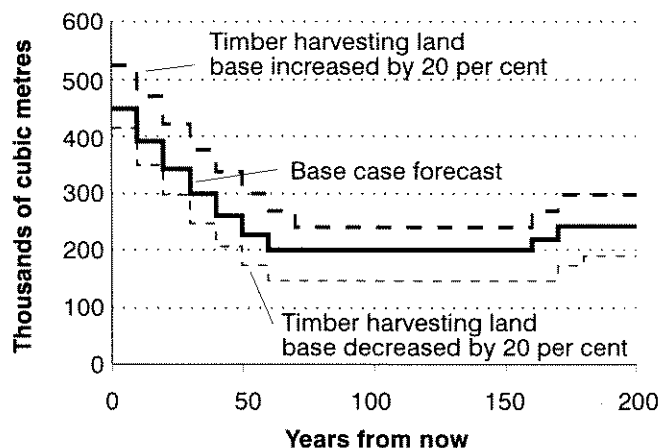


Figure 7 Impact of changing the area within the timber harvesting land base

- **Protection of areas for non-timber resource values**

For this analysis, it was estimated that approximately three per cent of the productive forest land in this timber supply area is occupied by riparian* areas, areas with culturally modified trees and key recreational features. Timber harvesting is restricted in these areas so they were deducted from the data base for the timber supply analysis.

Since the data was prepared for the analysis, it has become evident that wider riparian management zones will frequently be required to provide habitat for wildlife species using these areas and to ensure that trees left standing in buffer strips are windfirm. It is also expected that more area may be required to protect culturally modified trees.

Queen Charlotte Timber Supply Area

Current trends in forest management indicate that more land is likely to be reserved from timber harvesting than was estimated in the data package. This may impact short-term timber supply.

- **Harvest ages**

Timber from the Islands is of high quality, and because of this it currently holds a highly competitive position in world markets. Future second-growth forests might not be as competitive if they are managed to maximize volume production at the expense of sawlog value. In the timber supply analysis, minimum harvest ages ranged from 100 to 150 years based upon the age when various forest types were predicted to reach sawlog size.

Figure 8 illustrates the impact of changing the minimum harvest ages in the timber supply analysis.

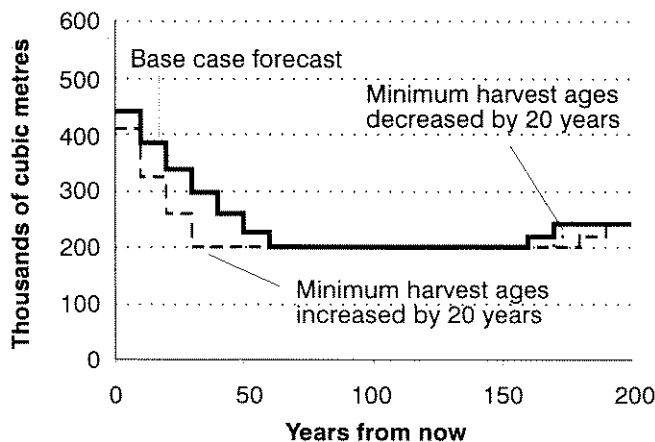


Figure 8 Impact of changing the minimum harvest ages

Possible opportunities to partially offset reductions in short-term timber supply

- **Increasing the area within the timber harvesting land base**

The timber harvesting land base includes sites where it is environmentally feasible to harvest and reforest using current harvesting methods and technology, and where the cost of harvesting and reforestation is less than the value of the timber extracted. In the Queen Charlotte Islands, timber value and logging costs greatly influence the area within the timber harvesting land base.

The timber harvesting land base was estimated to include 64,000 hectares in this analysis, 20 per cent more than the 53,400 hectares estimated in the 1982 analysis. This increase is due to improved timber markets and new harvest technologies

(such as logging with helicopters and backhoes) which more than offset reductions in the land base due to the withdrawal of the South Moresby area (approximately 2,400 hectares) and removal of areas where harvesting is not permitted such as streamside management zones, recreational features, and areas with culturally modified trees.

Several alternatives have been suggested to expand the size of the timber harvesting land base:

- **harvesting lower value forests**

The major timber companies operating in this timber supply area have suggested that the timber harvesting land base should be increased by at least an additional 25 per cent above what was added in the timber supply analysis, to include many forests with low timber volume and forest types that are difficult to access. The Ministry of Forests is concerned that if these areas were included in the timber harvesting land base, incentives would be required to ensure harvesting occurred in lower value forests as well as in higher value (typically valley bottom) forests. One alternative is to partition* the allowable annual cut by defining separate harvest levels for specific forest types, in addition to the regular allowable annual cut for the better quality forests in the timber supply area.

- **helicopter logging**

Helicopters have been used in recent years to harvest timber on unstable slopes. Studies are ongoing to develop systems for logging unstable slopes which focus on maintaining slope stability while meeting biological requirements. Provided these two conditions can be met, helicopters offer a feasible method for harvesting these sites, which occupy approximately 750 hectares within the timber harvesting land base. Additional areas with unstable slopes outside the timber harvesting land base could also be harvested if acceptable practices can be developed.

- **harvesting patches of high value timber**

An additional opportunity may exist to increase the short-term timber supply by using helicopters to harvest patches of high value timber that is otherwise classed as economically inaccessible. Although these high value stands could be accessed by roads, typically these roads must be constructed through timber currently considered uneconomical to harvest. If the highest value timber is removed, there will be reduced incentives to invest in roads to access the lower value forests in the future.

Queen Charlotte Timber Supply Area

Maintaining the current allowable annual cut by increased harvesting in these forest types may be an option. Alternatively, these forests could be harvested in the future to offset the timber supply reductions that are projected in the long-term.

- **Intensive silvicultural treatments**

In some circumstances, intensive silvicultural treatments (juvenile spacing, fertilization, etc.) which increase tree growth and long-term timber supply can also increase the short-term supply. This timber supply analysis indicates that short-term supplies cannot be increased through intensive silviculture because very few intensively managed stands will reach the minimum harvest age in the short term. (TSAR pages 36-37)

- **Commercial thinning**

Although logging has been going on in the Islands for many years, only about two per cent of the existing forests are 40 to 110 years old and may be candidates for commercial thinning. Terrain conditions and limited market opportunities further limit the feasibility of commercial thinning in this timber supply area. Thinning is not considered a viable option to increase the short-term timber supply in this timber supply area.

Environmental and socio-economic impacts

Environmental impacts

Ministry of Environment, Lands and Parks staff support current management practices used in the Queen Charlotte Timber Supply Area to protect fish and wildlife habitats. However, they are concerned that the timber supply review may not adequately reflect fish and wildlife habitat requirements within the timber supply area because of a lack of adequate inventory information. Ministry of Environment, Lands and Parks staff will be updating their inventories in preparation for the next timber supply review, particularly to address the habitat requirements of old-growth-dependent species.

Old growth is currently reserved from harvest in areas designated for streamside management and for complete protection of visual quality, as well as areas needed to meet the six per cent old-growth forest cover requirement. In addition, significant amounts of old growth are excluded from the timber harvesting land base because of environmental sensitivity,

physical inaccessibility or economics. However, fragmentation of existing wildlife habitat has been identified as a management issue and management practices are being developed to address these issues.

The shift in the age of forests in the timber harvesting land base from mature old-growth to younger second-growth forests will reduce habitat for old-growth-dependent species. However, projected reductions in timber supply levels will slow the rate of change, resulting in less impact on wilderness landscapes and wildlife habitat.

Community impacts

The timber supply analysis indicates the current allowable annual cut for the Queen Charlotte Timber Supply Area cannot be maintained in the short or long term given current management practices. The rate and timing of an allowable annual cut reduction is in part dependent on the ability of the communities in the area to adapt to this change.

The *Socio-Economic Analysis* assumes that a change in the timber supply would create economic impacts directly related to the size of the timber supply reduction or increase (i.e. a 10 per cent increase in the timber supply would result in a 10 per cent increase in employment). Based on this assumption, if the allowable annual cut is adjusted to conform with the base case forecast, the initial 14 per cent reduction in the timber supply is projected to reduce 31 person-years of local employment. While it is very difficult to forecast how employment would change far into the future, using the same estimate a total of 114 person-years of local employment may be lost as the timber supply declines to the projected long-term, sustainable level. (SEA page 61)

While the majority of job losses will affect off-Islands residents, social impacts related to job loss may affect any worker faced with this loss. These possible social stresses could place increased pressure on and possibly exceed the capacity of existing local services. (SEA pages 71-72)

Local opportunities may exist to maintain or increase employment, primarily through re-allocation of the timber supply to encourage increased local processing of harvested from the timber supply area. The recently announced Forest Renewal Plan, funded by stumpage revenues, may help fund additional job opportunities within the Islands' communities.

Queen Charlotte Timber Supply Area

Concerns of the Council of the Haida Nation

Haida communities are seeking access to a secure wood supply to provide employment and economic development opportunities. Any reduction in the timber supply may reduce the volumes available for such initiatives.

The Council of the Haida Nation has identified 14 areas (eight of which are within the Queen Charlotte Timber Supply Area) where they have requested a moratorium on resource extraction. These areas are included in the timber harvesting land base until final decisions are made by government on their use.

Provincial impacts

On the provincial level, the direct and indirect employment loss resulting from the base case timber supply forecast is projected to be 234 person-years in the first decade. Over the long term, as the timber supply further declines to the projected long-term level, a total of 865 person-years of direct and indirect employment may be lost. (SEA page 63)

The majority of the lost employment from timber supply reductions would be experienced off the Islands as many of the employees engaged in harvesting activities commute from south coast communities. As well, the majority of the timber processing occurs in the lower mainland and Vancouver Island.

Provincial government revenues, including stumpage and taxes, attributable to the harvest within this timber supply area are currently estimated to be \$16.8 million. These revenues are projected to decline by approximately \$2 million per decade for the first two decades, reaching \$8.1 million annually when the long-term timber supply is reached 180 years from now. As discussed earlier, these estimates do not include expected increases in stumpage revenues from the recently announced Forest Renewal Plan.

Chief forester's determination

Several alternatives exist for the chief forester to adjust the short-term allowable annual cut as part of a strategy to achieve the long-term timber supply reduction:

- the allowable annual cut could be maintained at the present level, requiring severe declines in the future
- small reductions could be implemented now, with larger declines in the future

- a consistent level of reduction could occur over the next 60 years
- larger reductions could be made now, with smaller declines in the future

Your input is needed

The allowable annual cut determination is an important decision requiring well-informed and thoughtful public input. We ask you to answer the questions on the response form at the back of this paper. We encourage you to add any additional comments that you feel are relevant.

If you prefer, additional comments or a detailed submission can be written on separate pages. Feedback is welcomed on any aspects of this discussion paper, the *Timber Supply Analysis Report*, the *Socio-Economic Analysis* and other topics related to the timber supply in the Queen Charlotte Timber Supply Area. Forest district staff would be pleased to discuss questions or concerns that you may have to help you prepare your response.

Please mail the completed questions and your comments to the forest district manager at the address below. Your comments will be accepted until March 19, 1995.

You can identify yourself on your 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 requested, personal identifiers will be removed before the responses are released. A summary of public comments will be available from the district manager.

Terry Dyer
District manager
Queen Charlotte Forest District
P. O. Box 39
Queen Charlotte City, B.C. V0T 1S0
Phone: (604) 559-8447

