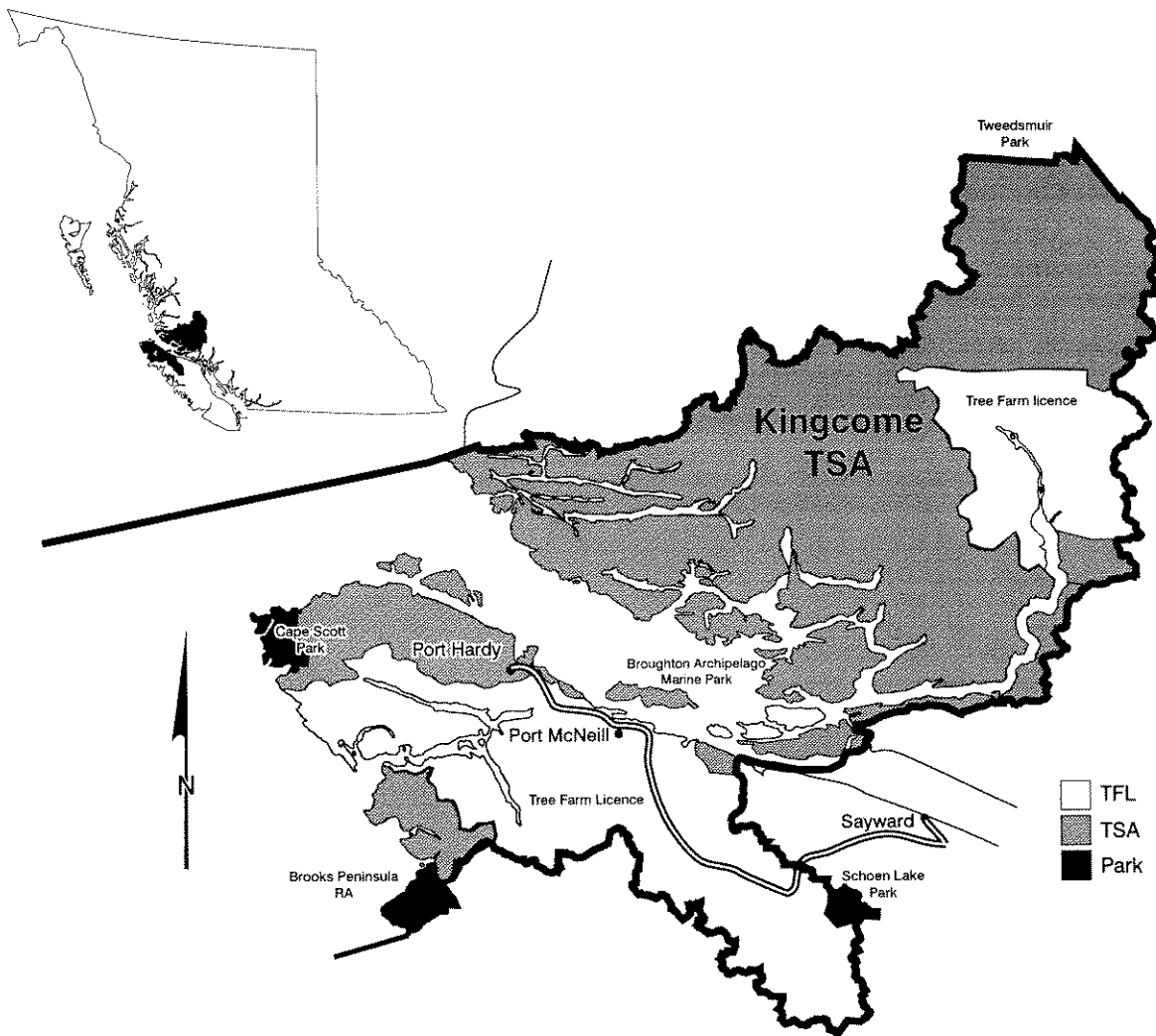




MINISTRY OF FORESTS

Kingcome Timber Supply Area

Timber Supply Review Discussion Paper
July 1995



Province of
British Columbia
Ministry
of Forests

Kingcome Timber Supply Area

Timber Supply Review Highlights

The Timber Supply Review for the Kingcome Timber Supply Area began in late 1993. Consequently, the Vancouver Island Land Use Plan, announced in June 1994, could not be incorporated in this review. The Forest Practices Code, which began being implemented on June 15, 1995, was also not available to be incorporated fully in this review. It is anticipated that it may be possible and necessary to assess the complete timber supply impacts of the Land Use Plan and the Forest Practices Code in the Kingcome Timber Supply Area before the maximum five year period required by the *Forest Act*.

- The British Columbia Forest Service is reviewing the timber supply in all timber supply areas* and tree farm licence* 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 the results of this review, the chief forester may decide to adjust the allowable annual cut* for the Kingcome Timber Supply Area.
- The current allowable annual cut for the Kingcome Timber Supply Area is 1,798,270 cubic metres per year. As the timber supply analysis did not include the 139,500 cubic metres per year allocated for harvesting deciduous stands, low quality sites and woodlots in the timber supply area, an allowable annual cut of 1,658,770 cubic metres per year was used in this review. This is 34 per cent of the total allowable harvest for the Port McNeill Forest District. Seven tree farm licences account for the remainder of the allowable harvest in the district. (page 5)
- During 1992 to 1994, the actual amount of timber harvested in the Kingcome Timber Supply Area has averaged 1,340,000 cubic metres per year, approximately 19 per cent below the current allowable annual cut. (page 5)
- The current allowable annual cut is based on a timber supply analysis completed in 1980. Several minor adjustments have occurred since that time to reflect revisions to the boundaries of the timber supply area and the awarding of several new licences. However, adjustments have not been made to reflect new inventory information or the significant changes in forest management practices, especially in visually sensitive areas, which have been implemented. These factors and others, have resulted in a timber harvesting land base* that is almost half of the area that was estimated in 1980. (pages 5, 10)
- Approximately 90 per cent of the timber harvested from the Kingcome Timber Supply Area is shipped outside of the Port McNeill Forest District for processing. (page 7)
- It is estimated that 1,902 person-years* of direct forestry employment are supported within the province by harvesting and processing the 1992-94 average annual timber harvest from the Kingcome Timber Supply Area—approximately 13 per cent of this employment is generated within the Port McNeill Forest District. Including related spin-off employment, it is estimated that a total of 4,755 person-years of employment are generated provincially. (page 7)
- The base case* timber supply forecast indicates that, based on the forest management practices that were in place when the review was initiated in 1993, avoiding major future disruptions in timber supply would require an immediate reduction in harvests to 1,068,600 cubic metres per year—35 per cent below the current allowable annual cut. The timber supply is then projected to decline by 10 per cent per decade for the next three decades, to a low of 779,000 cubic metres per year—14 per cent below the long-term timber supply level. In 160 years, the timber supply is projected to increase to the long-term sustainable level of 902,600 cubic metres per year. (pages 9-10)
- Potential opportunities to partially offset reductions in short-term timber supply may include:
 - examining the estimates of timber productivity for regenerated forests
 - examining the area that is economical to harvest
 - partial cutting
 - commercial thinning
 - intensive silvicultural treatments (pages 10-12)
- The short-term timber supply depends to a great degree on forest cover requirements such as the estimated green-up* ages and the visual quality management guidelines. Changes in either of these factors could increase or decrease the short-term timber supply. (pages 12-13)
- The short-term timber supply may be even lower than predicted due to the possibility that the amount of mature timber in existing forests is overestimated and the amount of environmentally sensitive areas and wildlife habitats may be underestimated. (page 13)

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- It is estimated that if the allowable annual cut was reduced immediately to the base case forecast, it could result in a reduction of 110 person-years of direct forestry employment and 49 person-years of spin-off employment within the communities of the Port McNeill Forest District, principally in Port Hardy and Port McNeill. (pages 14-15)
- Provincially, the total employment reduction estimated from the projected immediate reduction in the allowable annual cut is 2,094 person-years, including 837 direct forestry person-years. It is expected that the majority of these employment impacts would occur in Campbell River and the South Island/Lower Mainland areas. (page 15)
- Communities have realized the potential economic impacts of the projected reduction in timber supply and are working with the provincial government and the Forest Jobs Commissioner through the Forest Renewal Plan to develop alternative forestry-based employment in the area. (pages 14-15)
- The chief forester must determine an allowable annual cut as part of a strategy to achieve the projected long-term sustainable timber supply level. The base case forecast provides one alternative, but the chief forester may select another harvest level based on his consideration of the factors required under Section 7 of the *Forest Act*.

* Throughout this document, an asterisk at the end of a phrase indicates the phrase is defined in the definition 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 effect of current forest management practices on the timber supply using the best available information.

Commission on Resources and Environment (C.O.R.E.)

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

Current forest management practices

Forest practices that were being approved and implemented in the area when this review was initiated. These practices are described in this paper beginning on page 7.

Environmentally sensitive areas

Areas identified as requiring special management to protect important recreation and scenic values, fish and wildlife resources, sensitive soils and unstable slopes.

Forest Practices Code

A law which requires better forest practices, with heavy penalties for violators. Implementation of the Code began on June 15, 1995.

Green-up

The time required for regenerated forests to reach a desired condition (usually a specific height) after harvesting to meet integrated resource management objectives and allow harvesting to take place in adjacent areas.

Integrated resource management

The identification and consideration of all resource values, including social, economic and environmental needs, in resource planning and 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 unit.

Person-year

For the forest sector, a person-year is defined as the equivalent of one person working full-time for nine to 12 months. For example, one person working full-time for five to six months accounts for 0.5 person-years.

Protected Areas Strategy

A provincial initiative to protect representative ecosystems and special features on a regional basis.

Riparian areas

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

Timber harvesting land base

Crown forest land within the timber supply area that is currently considered feasible and economical for long-term timber harvesting. Harvesting must meet integrated resource management objectives.

Timber supply

The volume of timber available for harvesting over time, under a particular management regime.

Timber supply area

An area of Crown land defined in accordance with the *Forest Act*, primarily 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 defined area of Crown land in accordance with the *Forest Act*.

Kingcome 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
- identify where improved information is required to make reliable forecasts
- 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 for the Kingcome Timber Supply Area and encourages British Columbians to comment on the findings. Public comments will be accepted until October 23, 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 fully account for integrated resource management practices and protection of non-timber values
- procedures were far too time-consuming
- analytical techniques had to be strengthened

As a result of these procedural weaknesses, 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 goals.

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 licences:

- 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

Renewing our forests, securing our future

In British Columbia today, people are wrestling with one of the most complex and compelling issues of our time—the need to protect our environment and, at the same time, sustain our economy for present and future generations.

In addition to the Timber Supply Review, the government has a number of initiatives to create positive change for British Columbia:

- The new Forest Renewal Plan is already creating hundreds of projects across the province to restore and protect the health of British Columbia's forests, create new forest jobs, and increase economic benefits from each tree harvested.
- The Forest Practices Code is ensuring new forestry standards and better management of the resource.
- The Protected Areas Strategy is doubling British Columbia's parks and protected wilderness—expanding parks and preserving pristine wilderness for our children's future.
- Through the work of dedicated British Columbians, the Commission on Resources and Environment and regional Land and Resource Management Plan teams, long-standing land-use debates are being resolved. The government has delivered land-use plans for Vancouver Island, the Cariboo-Chilcotin and the Kootenay-Boundary, and a Land and Resource Management Plan for the Kamloops area which mark important steps towards securing British Columbia's future.

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- constraints on the amount of timber produced from the area due to use of the forest for purposes other than timber production
 - any other information which relates to the capability of the area to produce timber
- 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 from the area due to use of the forest for purposes other than timber production

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, these determinations cannot be inappropriately influenced 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 is 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 Kingcome 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. In the past, tree farm licences have not included specified timelines for licensees to prepare the information needed by the chief forester to determine allowable annual cuts for these areas. To reflect changing forest management standards, replacement tree farm licences specify timelines for preparing information.

A commitment to incorporate change

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. Implementation of major government initiatives such as the Forest Practices Code, the Protected Areas Strategy, land-use recommendations of the Commission on Resources and Environment, and Land and Resource Management Plans may have significant impacts on the timber supply in specific timber supply areas and tree farm licences. In these cases, the chief forester may decide to determine the allowable annual cut more frequently than every five years.

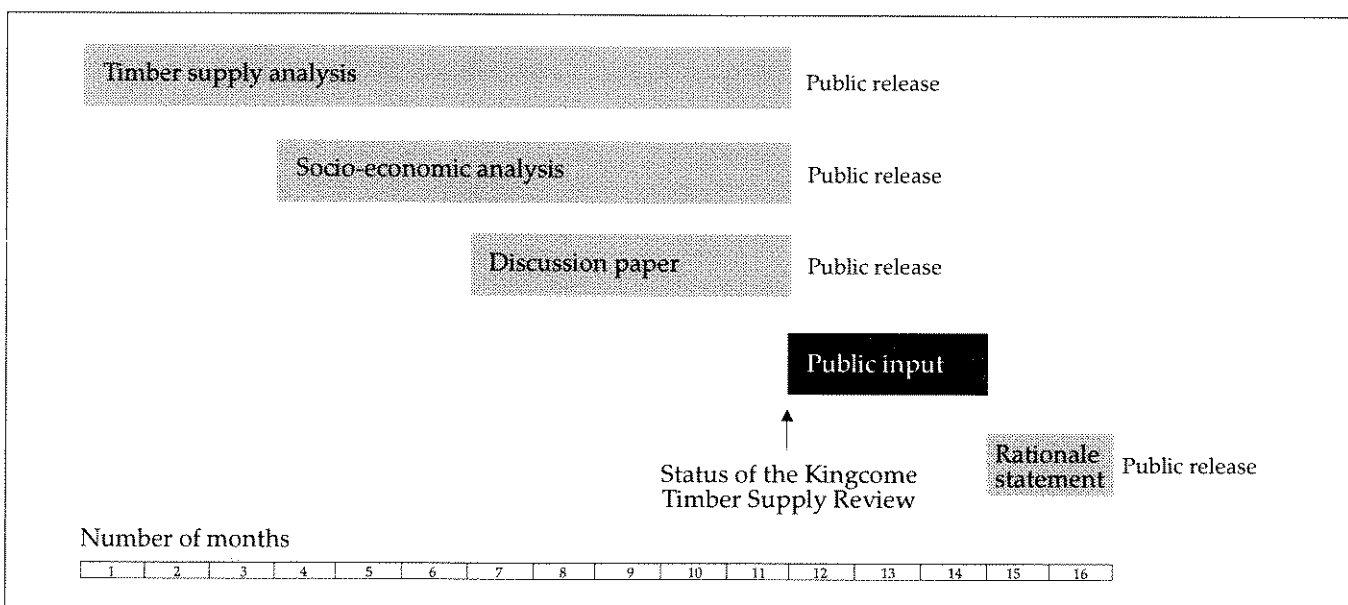


Figure 1 Steps in the Timber Supply Review process

Kingcome Timber Supply Area

Vancouver Island Land-Use Plan

On June 22, 1994, the government announced a Land-Use Plan for Vancouver Island. Several components of this Plan have the potential to affect the timber supply in the Kingcome Timber Supply Area, with economic, social, and environmental impacts for communities:

- several new protected areas have been created and are being designated, and many smaller areas have been identified
- areas have been established for low-intensity forest management, and work is in progress to finalize areas for general and high-intensity forest management
- a new *Forest Land Reserve Act* and a Forest Land Commission will secure the commercial forest land base
- the Forest Jobs Commissioner is working with companies, unions, communities and government to secure stable forest industry employment
- the Forest Renewal Plan will more than offset the employment impacts of the Land-Use Plan through spending on silviculture, research, inventory and watershed restoration

Implementation of the Land-Use Plan has already started. However, until this Plan is fully implemented and practices are adjusted in the field, the actual timber supply impacts of the Plan cannot be measured. This Timber Supply Review will be used as the basis for determining the impacts of the Land-Use Plan as it is implemented. The next Timber Supply Review will be based on actual experience with the Land-Use Plan gained during the implementation period.

If it becomes apparent that the Land-Use Plan has modified the timber supply so that the allowable annual cut is no longer consistent with the Plan, the chief forester is prepared to reassess the timber supply and to redetermine the allowable annual cut. The chief forester is also prepared to investigate the possibility of implementing other procedures under the *Forest Act* to adjust the allowable annual cut if necessary.

Forest Practices Code

The *Forest Practices Code of British Columbia Act* became law on June 15, 1995. The Code requires better forest practices throughout the province, with heavy penalties for violators. As the Code is implemented, forest management practices will be changed to meet its requirements. These new practices may influence both short- and long-term timber supply.

Since the information was prepared for the Timber Supply Review, some practices have been implemented in the Kingcome Timber Supply Area to meet the requirements of the Code. Information about these practices will be provided to the chief forester for consideration in this allowable annual cut

determination. It is expected that further implementation and experience with the Code will be required before all of the timber supply effects of the Code can be properly assessed. Therefore, the timber supply impacts of some of the new practices will be incorporated in future allowable annual cut determinations.

Timber Supply Review in the Kingcome Timber Supply Area

The data used for the timber supply analysis for the Kingcome Timber Supply Area was prepared by the Forest Service and Ministry of Environment, Lands and Parks staff in late 1993. Forest company staff reviewed this information. The Forest Service then conducted a short- and long-term timber supply analysis (*Kingcome Timber Supply Analysis Report*, July, 1995) and contracted a consultant to perform a socio-economic analysis of the timber supply forecast (*Kingcome Timber Supply Area Socio-Economic Analysis*, July, 1995). Both reports are available from the Port McNeill Forest District office and the Vancouver Forest Region office in Nanaimo.

As the Vancouver Island Land-Use Plan and the Forest Practices Code were not finalized when preparation for the timber supply analysis for the Kingcome Timber Supply Area began in 1993, the *Timber Supply Analysis Report* and the *Socio-Economic Analysis* do NOT include the land-use decisions and changes in forest practices resulting from these initiatives. Where possible, the changes in practices resulting from these initiatives are identified in this *Discussion Paper*.

This discussion paper summarizes the results of these two reports and highlights critical factors the chief forester must consider to determine the allowable annual cut for the Kingcome Timber Supply Area. In conjunction with the release of these reports, Forest Service staff will actively solicit public input to ensure the information in the Timber Supply Review for the Kingcome Timber Supply Area is correct and complete. Input will be accepted until October 23, 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 Kingcome Timber Supply Area early in 1996. This determination and a *Rationale Statement* for the determination will be released to the public at that time, along with a *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 *Timber Supply Analysis Report*; *SEA* is the *Socio-Economic Analysis*).

Kingcome Timber Supply Area

Description of the Kingcome Timber Supply Area

The Kingcome Timber Supply Area is within the Port McNeill Forest District, which is located on northern Vancouver Island and the adjacent mainland. Most of the timber supply area is on the mainland, stretching from Knight Inlet in the south to Cape Caution to the northwest and inland to Tweedsmuir Park. Smaller portions of the timber supply area are located at the extreme northern tip of Vancouver Island, and adjacent to Brooks Bay on the west coast of Vancouver Island.

Forest resources

Timber

Figure 2 illustrates that approximately 16 per cent of the total land base is considered to be included in the timber harvesting land base and available for timber harvesting using current practices. Areas that are not included within the timber harvesting land base include: areas not managed by the Forest Service, areas that are not forested, areas that are not considered feasible or economical to harvest and areas with key non-timber resource values (TSAR pages 5-8). As government decisions on protected areas within the Kingcome Timber Supply Area had not been made when the data was prepared for the timber supply analysis, these areas are included in the timber harvesting land base for this review.

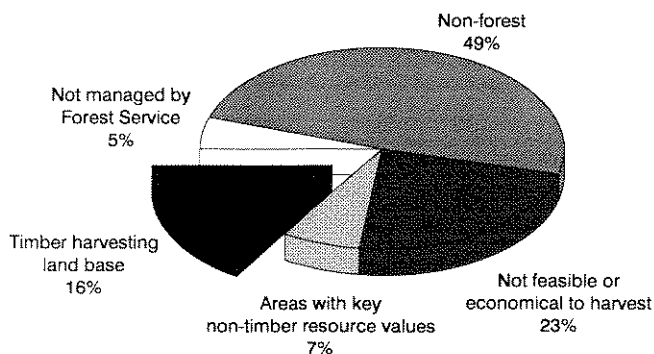


Figure 2 Classification of land within the Kingcome Timber Supply Area

Notes: Total area: 1,126,126 hectares
Areas with key non-timber resource values include environmentally sensitive areas, highly sensitive visual quality areas, and lakeshore and streamside buffers.
Only those areas that were legally described as timber supply area lands were included in the land base. Private and tree farm licence areas were not included.

The Kingcome Timber Supply Area is dominated by forests of hemlock, balsam and western red cedar, with lesser amounts of fir, spruce and yellow cedar.

There is a long history of timber harvesting within the timber supply area, with the majority of this harvesting occurring within the last few decades. As a result, the timber harvesting land base includes a large proportion of regenerated forests that will not be old enough to harvest for several decades, and a declining proportion of mature forests where timber harvesting must occur in the interim. Only a small portion of the land base is covered by forests between 80 to 200 years old. This shortage of middle age classes leads to difficulty in scheduling harvesting over the short and medium term. (TSAR pages 9-11)

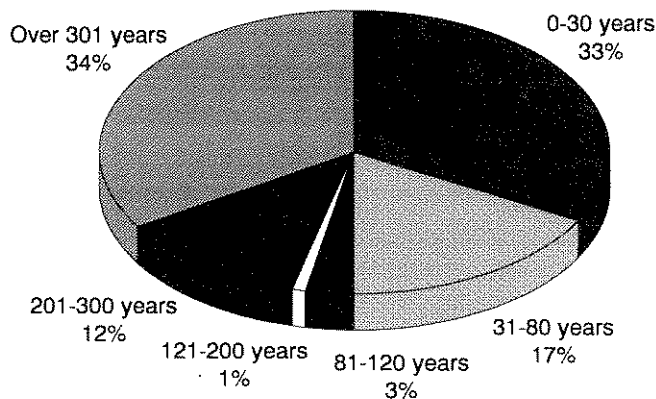


Figure 3 Current forest ages within the timber harvesting land base

In the past, harvesting was concentrated in the better quality stands, either at lower elevations or on better growing sites. As a result, much of the remaining mature forests within the Kingcome Timber Supply Area are growing on poorer sites which are not expected to produce as much timber as the better growing sites. This impacts the short-term timber supply.

Wildlife

The Kingcome Timber Supply Area contains complex ecological conditions which support one of the richest and most diverse arrays of wildlife in Canada. Many species of resident and migratory birds, mammals and amphibians and reptiles are present in the area. (SEA page 21)

Native and migratory birds in the area include several species of management concern such as marbled murrelet, Queen Charlotte Island goshawks, great blue herons and pileated woodpeckers. Adjacent marine habitats and estuaries support populations of species such as Peale's peregrine falcons, bald eagles, trumpeter swans and harlequin ducks. Native mammals in the timber supply area include black-tailed deer, Roosevelt elk, moose, black bear, grizzly bear, mountain goat, wolf, beaver, pine marten, wolverine and short-tailed weasel, as well as other fur-bearing species. (SEA page 22)

Kingcome Timber Supply Area

Fisheries

The rivers, streams and lakes of the Kingcome Timber Supply Area are inhabited by at least 87 species of resident, semi-resident and migratory finfish and shellfish. While many of the rivers and tributaries within the timber supply area are spawning and rearing grounds for all five species of salmon, local stocks do not normally contribute significantly to the local commercial catch, which consists primarily of migratory stocks. The exceptions to this are frequent high volume runs of pink salmon originating from the Kakwiken, Wakeman, Ahnuati and Kingcome river systems on the mainland. Local fish stocks do, however, attract a sizeable and growing commercial and recreational sport fishery. The area's freshwater fishery includes steelhead, rainbow and cutthroat trout and Dolly Varden char, and supports a growing recreational fishery attracting mainly local residents. (SEA pages 28-30)

Tourism and recreation

Commercial tourism within the timber supply area is largely marine-based. Local fisheries support approximately 30 sport fishing lodges and 20 to 25 charter operators which in turn provide considerable business to local government wharves, marinas and helicopter operations. Sailing and kayaking the coastal waterways, whale watching near Robson Bight/Telegraph Cove and scuba diving are other major attractions in the area. In addition, Port Hardy is the southern terminus for British Columbia Ferry Corporation's Inside Passage ferry to Prince Rupert, a popular summer attraction. (SEA pages 29-33)

Land-based recreational opportunities abound, although they provide less commercial business than marine tourism. Three large provincial parks (Cape Scott, Raft Cove and the Brooks Peninsula), numerous trails and a number of world-class caves and limestone features attract people to the area. While the remote wilderness of many parts of the area is attractive to many, difficulty in accessing these areas and distance from large population centres limits the potential for large scale use. (SEA page 31)

Current allowable annual cut

The first timber supply analysis for the Kingcome Timber Supply Area was done in 1980, using inventory information and forest management practices of that time. Because only limited mapping was available of areas considered to be feasible and economic to harvest, broad assumptions were made and applied to the entire timber supply area. Very little consideration was given to resource values other than timber in the 1980 analysis. Based on the substantial amount of mature timber estimated to

exist in the area at the time, in 1981 the allowable annual cut was set at 1,700,000 cubic metres per year.

In 1986, the boundaries of timber supply areas in the Vancouver Forest Region were adjusted to more closely correspond with Forest District boundaries. As a result, the timber harvesting land base within the Kingcome Timber Supply Area was reduced by 44,000 hectares, and in 1987 the allowable annual cut was adjusted to 1,632,500 cubic metres per year to account for this change.

In 1989, the allowable annual cut was increased to 1,769,500 cubic metres per year to accommodate the award of a 15-year non-replaceable forest licence to harvest 112,000 cubic metres per year from low productivity sites which had previously been considered uneconomical to harvest, and two non-replaceable licences to harvest a total of 25,000 cubic metres of deciduous forests per year.

A timber supply analysis completed and released to the public in 1990 by the Forest Service predicted a substantial reduction in timber supply over the next several decades. However, the allowable annual cut was not adjusted at that time. Analyses completed by timber companies operating in the timber supply area provided similar predictions.

In 1993, forest land was transferred from Tree Farm Licence 45 to the timber supply area, leading to an increase in the allowable annual cut to its current level of 1,798,270 cubic metres per year.

Because the timber supply analysis for this review did not assess timber supply from temporary licences or woodlots, a revised allowable annual cut of 1,658,770 cubic metres per year for the timber supply area was used. Approximately 79 per cent of this allowable annual cut is allocated to eight long-term licences. A further 20 per cent is allocated for harvesting through the Small Business Forest Enterprise Program administered by the Forest Service. During 1992 to 1994, the actual timber harvest level has averaged 1,340,000 cubic metres per year, approximately 19 per cent below the current allowable annual cut, principally due in part to limited harvesting in the Small Business Forest Enterprise Program. The remaining one per cent of the allowable annual cut is unallocated. (SEA pages 35-37)

The current allowable annual cut for the Kingcome Timber Supply Area is 35 per cent of the total allowable harvest for the Port McNeill Forest District. Seven tree farm licences account for the remainder of the allowable harvest in the district.

Kingcome Timber Supply Area

Socio-economic profile

Communities

The boundaries of the Port McNeill Forest District coincide closely with those of the Mount Waddington Regional District. The area is sparsely populated, with an estimated 1994 population of 14,809. The majority of residents live within communities on Vancouver Island or on nearby Malcolm and Cormorant Islands. Port Hardy, Port McNeill, Port Alice and Alert Bay are the main communities in the District; a number of smaller, unincorporated settlements also exist. On the mainland there are several small First Nations' settlements.

The economies of all the communities within the Port McNeill Forest District are extremely dependent upon resource-based industries including forestry, mining, fishing, and tourism (Figure 4).

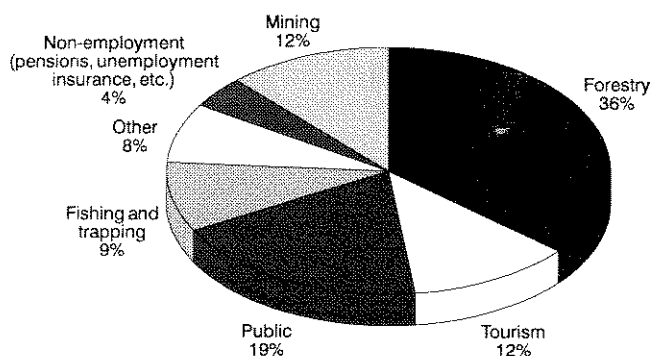


Figure 4 Sources of employment in the timber supply area (1990)

Port Hardy, the area's largest community, is relatively diversified with significant employment in public administration and services in addition to resource-based industries. Some uncertainty exists over the impacts on the community of the impending closure of the Island Copper Mine, scheduled for March 1996. Forestry is also a major employer of Port Hardy residents, accounting for an estimated 500 person-years of employment—many related to operations within the Kingcome Timber Supply Area. (SEA pages 7-9)

Port McNeill's economy is less diversified, with 55 per cent of employment estimated to be generated by timber harvesting. Many local businesses service and supply this industry, however much of this harvesting occurs within tree farm licences, not the timber supply area. (SEA pages 9-10)

Port Alice is most dependent upon the forest industry, with an estimated 76 per cent of local employment attributed to this sector—primarily at one pulp mill, a dryland log sort and in local tree farm licence operations. (SEA pages 10-11)

Alert Bay has limited reliance on the forest sector for employment. The commercial fishing industry is the dominant economic activity, with three fish processing facilities located in the community and approximately 50 resident fishing vessels. (SEA page 11)

First Nations

Eleven First Nations bands have traditional territories or reserves within the Port McNeill Forest District. Six of these bands are affiliated with the Kwakiutl District Council, five are with the Musgamagw Tsawataineuk Tribal Council. The total First Nations' population is 4,044 (1993 Indian and Northern Affairs estimate), of whom an estimated 2,000 reside on band-affiliated reserves within the District. (SEA pages 15-16)

While the traditional territories of several bands are located on the mainland, the majority of the First Nations' population has been relocated to settlements on Vancouver Island or at Alert Bay. The main First Nations' communities are located at Fort Rupert and on the Tsulquate reserve, both near Port Hardy, at the Quatsino reserve near Coal Harbour, and on the Namgis and Whe-la-la-lu reserves on Cormorant Island near Alert Bay. The Quaae reserve on Kingcome Inlet (commonly known as Kingcome Village) is the largest permanent settlement on the mainland with approximately 111 residents; other smaller settlements are located on Gilford and Watson Islands. (SEA pages 15-19)

Commercial fishing is a major source of employment for First Nations people within the District, with bands and/or band members owning or operating a number of fishing vessels. Administration, health and education activities also employ a large number of First Nations members. First Nations' involvement in forestry-related activities varies, but is generally limited to logging, silviculture and environmental restoration. Two of the bands hold woodlot licences. Many of the bands have expressed interest in increasing their involvement in forestry activities in order to increase employment and economic opportunities for their members. Most bands have expressed concern over the impacts of logging on the environment. (SEA pages 15-19)

Kingcome Timber Supply Area

Timber harvesting and processing sector

A very limited amount of timber processing occurs in the Kingcome Timber Supply Area. It is estimated that 90 per cent of the timber harvested from the Kingcome Timber Supply Area is shipped to mid or south Vancouver Island and the Lower Mainland for further processing.

The pulp mill at Port Alice is the District's largest timber processing facility, however wood from the timber supply area represents only approximately five per cent of this mill's total fibre requirements. As a result, only approximately 20 person-years of employment at this facility can be attributed to harvesting at the current level.

A milling operation, located near Port Hardy is the District's only other large timber manufacturing facility. It includes a sawmill, a shake and shingle mill, a pole and post mill and a chipper. This operation mills timber harvested from non-replaceable licences that are not included in this review.

There are also a few small sawmills and value-added enterprises located within the District, however employment levels at these operations are low. There is substantial interest in expanding the timber processing and value-added sectors in the area.

It is estimated that 1,902 person-years of direct forestry employment are generated through harvesting and processing the 1992-94 average annual timber harvest from the timber supply area. Figure 5 illustrates the nature and distribution of this employment. (SEA page 46)

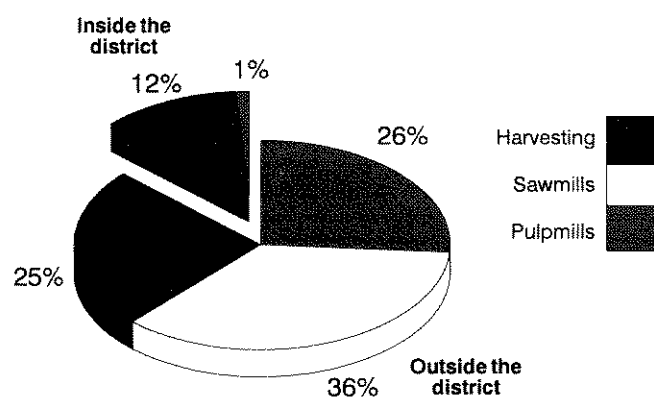


Figure 5 Direct employment generated by harvesting and processing timber from the Kingcome Timber Supply Area

As the majority of wood processing employment occurs outside of the District, direct employment occurring in the District is primarily related to timber harvesting operations. However, because many forestry workers in the timber supply area reside

outside of the District, it is estimated that only 13 per cent (250 person-years) of direct employment occurs locally.

It is estimated that for every person-year of direct forestry employment in the area, an additional 0.44 person-years of additional, local employment are created by company and employee spending. This amounts to 111 person-years of spin-off employment within the District.

Provincial economy and revenues

Provincially, a total of 4,755 person-years of employment are generated by harvesting and processing the average annual timber harvest from the Kingcome Timber Supply Area. This includes direct employment in harvesting, transportation and processing (1,902 person-years), as well as additional employment created by the provision of goods and services to the forest sector and by the spending of its employees (2,853 person-years). This estimate is based on the assumption that each direct person-year of forestry employment in the province creates 1.5 person-years of spin-off employment both within and outside the area. (SEA page 57)

It is estimated that approximately \$55.5 million in provincial government revenues are generated annually by timber harvesting in the Kingcome Timber Supply Area. This figure is based on fees of \$17.1 million for harvesting public timber in the area, estimated personal income taxes of \$10.1 million, plus other tax revenues of \$28.3 million. These estimates are based on 1994 information and include the increased stumpage revenues being generated to fund the Forest Renewal Plan. (SEA page 59)

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 wildlife, water and parks, and shares responsibility for fisheries resources with the federal Department of Fisheries and Oceans. These 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 existing land-use designations and current management practices—practices actually being approved and implemented in the Kingcome Timber Supply Area in late 1993 when the analysis was initiated. These practices are briefly described below. Readers are encouraged to review the *Timber Supply Analysis*

Kingcome Timber Supply Area

Report (pages 5-14 and Appendix A) for more detailed information.

- **Basic silviculture** — British Columbia laws require harvested areas that are expected to produce timber in the future to be reforested with ecologically acceptable species within a specified time frame. The typical silvicultural practices are to harvest, site prepare if necessary, reforest by planting a mix of species or by relying on natural regeneration, and control competing vegetation where needed. It is assumed that areas will be restocked within three to six years of harvesting.
- **Forest health and unsalvaged losses** — Timber losses due to wildfire, insects, diseases and wind damage are minimized as much as possible, and damaged timber is harvested where and when feasible. Unsalvageable losses of timber to wildfire have been estimated at 16,365 cubic metres per year. No significant losses have been attributed to forest insects, disease or wind damage.
- **Timber utilization** — Within areas being harvested, all coniferous trees greater than 17.5 centimetres in diameter at chest height are considered merchantable and must be used.
- **Harvestable ages** — Minimum harvestable age is defined as the time it takes for forests to grow to harvestable size. The minimum harvest ages used in the timber supply analysis for existing forests range from 58 to 140 years, depending on tree species, site productivity and age. Minimum harvestable ages for forests which will be harvested and regenerated in the future range from 83 to 126 years.
- **Environmentally sensitive areas** — Many areas in the Kingcome Timber Supply Area have been identified as being environmentally sensitive due to their soils, recreational, water or wildlife values. Areas rated as highly sensitive were considered unavailable for timber harvesting, while moderately sensitive areas were considered partially available. A total of 70,825 hectares was deducted from the timber harvesting land base for the timber supply analysis to protect these sensitive areas.
- **Fish and wildlife** — Riparian* areas along streams and lakes are protected and maintained under the Coastal Fisheries/Forestry Guidelines. About 4,071 hectares were deducted from the timber land base to account for these areas.

Detailed wildlife habitat mapping is currently unavailable for the Kingcome Timber Supply Area. As a result, specific wildlife management practices have not been considered in the timber supply analysis. Reductions to the timber harvesting land

base for wildlife habitat areas are partially accounted for by the deductions made for environmentally sensitive and riparian areas described above.

- **Klinaklini supply block** — Located at the extreme northern end of the mainland portion of the timber supply area, this remote, mountainous area is not considered to be available for timber harvesting due to its inaccessibility and steep, irregular terrain. The timber harvesting land base was reduced by 35,923 hectares to reflect this situation.
- **Roads and landings** — An area of 3,840 hectares was deducted from the timber harvesting land base for existing roads and landings that will not produce timber in the future. To account for future roads and landings, the remaining timber harvesting land base was reduced by 7,370 hectares.
- **Viewscapes** — Maintenance of scenic landscapes is a recreation and tourism management priority, particularly for viewscapes along the numerous marine travel corridors located within the timber supply area. Road construction and logging are planned and implemented to minimize visual impacts. Recent studies have shown that trees on harvested areas must reach a height of at least five metres before they appear "greened up" to the average person.

Forty-three per cent of the timber harvesting land base has been classified into one of three visual quality management zones, each with a corresponding forest cover requirement:

- retention (5,392 hectares) - highly visually-sensitive areas where generally no more than four per cent of the timber harvesting land base can have trees less than five metres tall at any time
- partial retention (56,239 hectares) - moderately-sensitive areas where generally no more than 14 per cent of the timber harvesting land base can have trees less than five metres tall at any time
- modification (15,148 hectares) - low-sensitivity areas where generally no more than 24 per cent of the timber harvesting land base can have trees less than five metres tall at any time.

A fourth classification, preservation, was assigned to extremely visually-sensitive areas within the timber supply area where no visible alteration to the landscape is permitted. The timber harvesting land base was reduced by 7,702 hectares to account for the fact that harvesting is not currently permitted in these areas.

Kingcome Timber Supply Area

- **Integrated resource management zone** — This zone (57 per cent of the area) includes all the timber harvesting land base outside the visual quality management zones described above. Harvesting is dispersed to create a diversity of forest ages and to minimize impacts of harvesting on non-timber resource values. Current practices stipulate that a given area cannot be harvested until the regenerated forest on adjacent, previously harvested areas is at least three metres tall. In addition, at any given time, a maximum of 25 per cent of the timber harvesting land base within this zone is permitted to have trees less than three metres tall. Progressive clearcutting is not permitted.

Timber supply forecasts and critical factors

It is important to understand that the timber supply forecasts presented in the analysis report and in this paper do not represent either a short-term allowable annual cut determination or a long-term strategy to adjust harvest levels. The base case forecast and the critical factors described below are part of the information the chief forester will use to determine the allowable annual cut for the next five years.

Base case timber supply forecast

To complete the timber supply analysis for the Kingcome Timber Supply Area, a computer model was used to generate a base case* timber supply forecast using the following principles:

- maintain the current allowable annual cut, or if this was not possible, find the maximum initial harvest level
- if the predicted long-term sustainable timber supply was lower than the initial harvest level, reduce the timber supply within a defined range of eight to 12 per cent per decade, until the long-term level was reached
- if possible, maintain the timber supply level at or above the predicted long-term sustainable level at all times

If a timber supply forecast could not be generated that met all these principles, the conditions were adjusted until a feasible forecast could be produced. Several of these conditions had to be adjusted to create a base case timber supply forecast for the Kingcome Timber Supply Area, given current management practices and the best available information at the time.

Initial attempts to generate a forecast which met the above principles showed there is not enough mature timber to maintain the current allowable annual cut for 10 years and meet integrated resource management objectives. The analysis indicated that, no matter what strategy was used to phase in the long-term timber supply level, the immediate timber supply was inevitably limited. Figure 6 shows the implications of attempting to maintain timber supply at or near the current allowable annual cut. The maximum timber supply level is 10 per cent below the current level for the first decade, followed by a dramatic 59 per cent decline in timber supply in the second decade and several significant timber shortages in the future. This forecast indicates a decline in timber supply is imminent. (TSAR page 26)

In the timber supply analysis, tests were also completed to examine the impacts of allowing a more rapid rate of decline after an initial reduction, than the eight to 12 per cent per decade normally used. Unfortunately, increasing the rate to 15 or 20 per cent per decade did not substantially change the initial timber supply reduction resulting from a 10 per cent decline per decade (TSAR page 27).

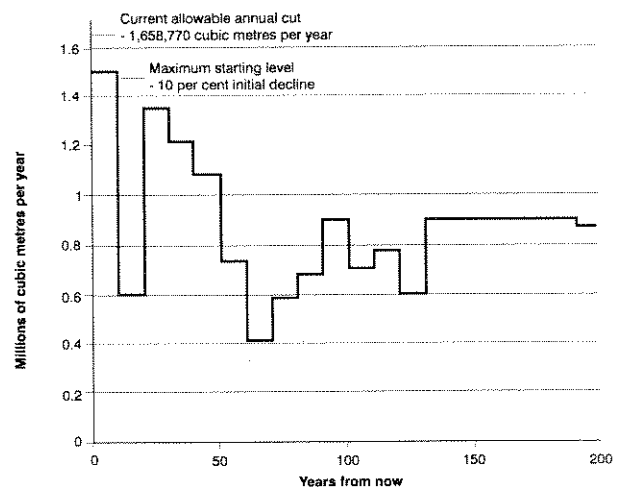


Figure 6 Initial timber supply forecasts

Based on the information from these initial forecasts and the modelling principles described above, a base case timber supply forecast was developed that balanced the short- and long-term impacts of the required timber supply adjustments (Figure 7). The base case forecast indicates the current allowable annual cut must be reduced immediately by about 35 per cent or 590,000 cubic metres per year to 1,068,600 cubic metres per year. This is followed by 10 per cent reductions each decade for the next 30 years, to a low of 779,000 cubic metres per year—approximately 14 per cent below the long-term timber supply level. In 160 years, the timber supply is projected to increase to the long-term level of 902,600 cubic metres per year. (TSAR pages 16-17)

Kingcome Timber Supply Area

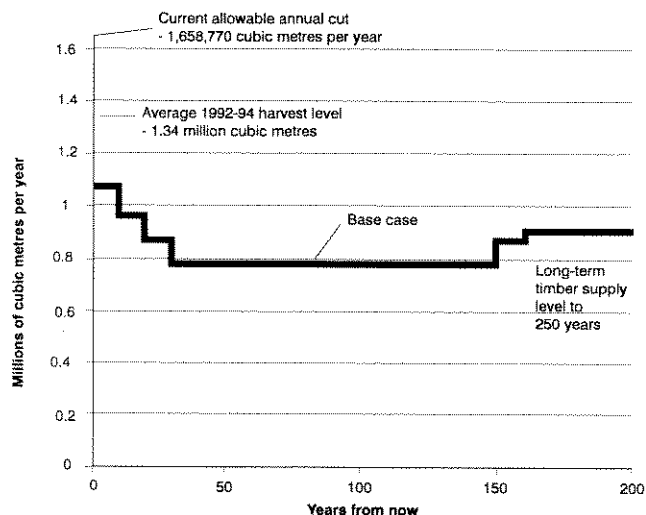


Figure 7 Base case timber supply forecast

The predicted need for an immediate, substantial reduction in the allowable annual cut is the result of better information about current practices in the area including:

- **the size of the timber harvesting land base**
Several factors have reduced the size of the timber harvesting land base including: changes in the boundaries of the timber supply area, improved resource inventories and mapping of uneconomical timber, and creation of parks and recreation areas prior to the Land Use Plan process. The timber harvesting land base is now approximately half the area used in the 1980 timber supply analysis which provided the basis for the current allowable annual cut.
- **integrated resource management objectives**
Integrated resource management objectives for non-timber resources, including viewscapes, restrict the availability of mature timber in the short term by limiting the amount that can be harvested at any time. Table 1 shows that past levels of harvesting have created conditions which substantially exceed the recently established objectives in some areas, particularly within visually sensitive zones. This precludes further harvesting in these areas in the short term.

Zone	Maximum per cent of area allowed below green-up age	Current per cent of area below green-up age
Visual zone		
Highly sensitive (retention)	4	9.5
Moderately sensitive (partial retention)	14	8.6
Low sensitivity (modification)	24	52.0
Integrated resource management zone		
	25	16.4

It is important to note that even if these management objectives were changed, the timber supply forecast would still predict an immediate decline in the initial harvest level due to limited availability of merchantable timber. (TSAR page 18)

- **reduced amount of mature forests**
A historical estimate of abundant mature forests resulted in harvest rates well above the long-term level. Harvest levels must now be adjusted towards the long-term sustainable level.

Examining critical factors

Since late 1993 when the data were prepared for the timber supply analysis, Forest Service staff have been collecting more information for some of the factors in the analysis. Also, tests completed during the timber supply analysis identified which factors had the greatest influence on the timber supply forecasts. These critical factors are discussed in this section. Other factors in the analysis were tested and are discussed in the *Timber Supply Analysis Report* (see TSAR pages 25-50) but were not considered critical to this review and therefore have not been 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.

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

- **Examining estimates of timber growing productivity for regenerated forests**
The timber productivity estimates used in the timber supply analysis for both existing and regenerated forests are based on existing forests. In some cases, particularly for areas where the existing forests are very old, these estimates may not be accurate for regenerated forests. Forest Service staff are concerned that the timber productivity of regenerated forests may be underestimated in the timber supply analysis.

Higher site productivity can influence timber supply by reducing the minimum harvestable age and increasing the timber produced from an area when it becomes harvestable. However, Figure 8 illustrates that increased estimates of timber productivity for regenerated forests do not increase the predicted timber supply in the short term (TSAR pages 37-38). The impact of higher productivity estimates on green-up ages is discussed later in this paper.

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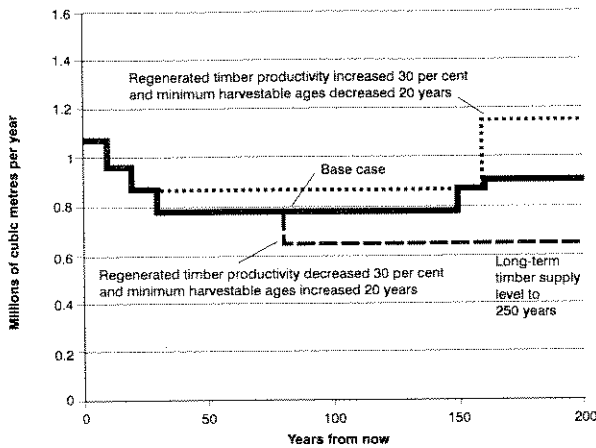


Figure 8 Impacts of changes in timber productivity for regenerated forests

- **Examining the area currently considered uneconomical to harvest**

The timber harvesting land base includes sites that are environmentally feasible to harvest using current technology and where the cost of harvesting and reforestation is less than the value of the timber extracted.

In the Kingcome Timber Supply Area, there are approximately 345,000 hectares of forests that currently are not considered feasible or economical to harvest and were deducted from the timber harvesting land base. They include:

- **areas not economically feasible to harvest** (201,288 hectares) - areas identified from existing harvesting plans provided by timber companies, that were reviewed and generally agreed to by the timber companies. Areas where helicopter logging is proposed were included in the timber harvesting land base.
- **environmentally sensitive areas** (70,825 hectares) - areas where protection of non-timber resources restricts timber harvesting. In the Kingcome Timber Supply Area, these areas are primarily those with sensitive soils where harvesting using existing techniques is not environmentally feasible.
- **Klinaklini supply block** (35,923 hectares) - an area at the extreme north of the Kingcome Timber Supply Area which is not considered accessible.
- **low timber production sites** (25,478 hectares) - areas where timber productivity is low, and timber harvesting has been uneconomical in the past. The Forest Service is currently assessing the amount of timber within areas classified as low productivity sites in the timber supply area to define whether the current temporary harvesting licence in these areas can be continued, or whether further harvesting opportunities may exist.

- **non-merchantable forests** (11,451) - primarily deciduous and pine forests that have not been merchantable in the past.

Alternative harvesting systems and a possible increase in timber values as wood supplies become limited may make some of these areas economical and feasible to harvest. This may lead to an increase in the timber harvesting land base and may possibly offset some of the projected reduction in the timber supply. Economical and operationally feasible practices for harvesting these areas must be developed before they can be included in the timber harvesting land base.

- **Partial cutting**

In some timber supply areas, partial cutting systems, where some trees within a forest are harvested in each entry, provide opportunities to increase the short-term timber supply. Although use of partial cutting practices has been very limited in the Kingcome Timber Supply Area in the past, cooperative efforts are underway to evaluate the potential of these practices, particularly in visually sensitive zones. It is recognized that implementing these practices will be difficult because most of these areas are located along inlets and coastal areas which are subject to high winds, creating the potential for substantial wind damage following harvesting. Also, felling individual, large trees in very old forests is extremely dangerous, and removing these large logs must be done by helicopters or with skyline systems, which may not be economical.

- **Commercial thinning**

Approximately 17 per cent of the forests in the Kingcome Timber Supply Area are between 30 and 80 years old and may be candidates for commercial thinning. Many of the forests are located on steep slopes where commercial thinning is difficult to accomplish. Further analysis is required to identify candidate forests for commercial thinning, to examine the feasibility of a commercial thinning program, and to assess the impact of this practice on the projected short- and long-term timber supply.

- **Intensive silvicultural treatments**

In some circumstances, intensive silvicultural treatments such as juvenile spacing and fertilization, which can increase individual tree growth and the long-term timber supply, can also increase short-term timber supply. However, a test which assumed a 25 per cent increase in growth of regenerated forests did not show an increase in timber supply until after 30 years (TSAR pages 33-34). However, intensive silviculture programs may provide economic benefits and employment opportunities in the short term.

Kingcome Timber Supply Area

Because the Timber Supply Review was designed to assess the timber supply impacts of current practices, the range of intensive silvicultural treatments that might be implemented in the Kingcome Timber Supply Area were not examined. Further analyses are required to examine the potential opportunities for intensive silvicultural treatments and the implications of these treatments on timber supply and other resources.

Factors which may increase or decrease the short-term timber supply

The timber supply is very sensitive to any changes in the forest cover requirements, in particular green-up ages and visual quality objectives.

- **Green-up ages**

Green-up age is the estimated time required for regenerated forests to reach a specified condition, usually defined as a minimum height, to meet integrated resource management objectives and permit further harvesting in an area. Three factors influence the green-up age:

- **regeneration delay**

This is the time required to re-establish a commercial tree species following harvesting. In the timber supply analysis, regeneration delays were defined ranging from three years for planted areas to six years where natural regeneration was planned, based on current practices. Approximately 40 per cent of the harvested areas are regenerated naturally. The regeneration delay on these areas could be reduced by planting these sites. The delay for plantations could be reduced by planting sites more promptly following harvesting. On most sites, however, planting is already being used wherever it is feasible, and planting is accomplished as soon after harvesting as possible.

- **the rate at which regenerated forests are predicted to grow**

As discussed earlier, the estimates of timber productivity used in the timber supply analysis define how fast regenerated forests are predicted to grow. Therefore, under or overestimating timber productivity may affect the estimated time it takes for regenerated forests to reach greened-up conditions. Practices which promote early increased tree growth, such as fertilization and juvenile spacing, also influence the estimated rate of growth.

- **the minimum height estimated to meet the resource management objectives**

In the timber supply analysis, green-up ages were based on regenerated forests being at least five metres tall in the visual management zones, and three metres tall in the integrated resource management zone. It is possible that these minimum heights will not create the conditions required to meet environmental, wildlife or scenic resource management objectives.

Figure 9 illustrates that the short-term timber supply in the Kingcome Timber Supply Area depends very much on the estimated green-up ages. (TSAR pages 45-47)

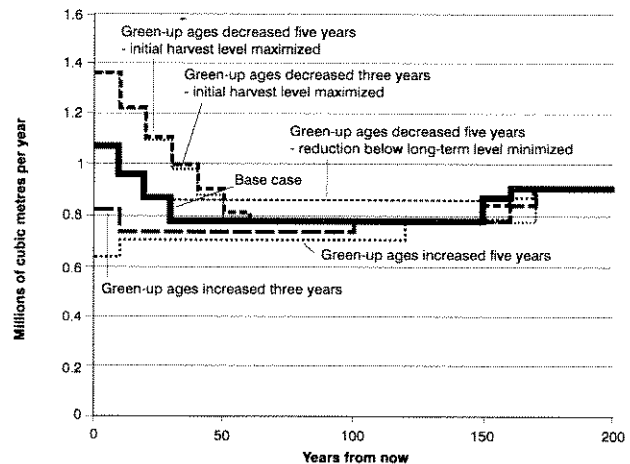


Figure 9 Impacts of changes in green-up ages

- **Visual quality objectives**

Approximately 43 per cent of the timber harvesting land base in the Kingcome Timber Supply Area is managed for scenic values. Visual quality objectives have been established by the Forest Service that define the maximum proportion of area within a landscape that can be disturbed and occupied by trees less than five metres tall. Once the maximum level of disturbance occurs, additional harvesting is not permitted until the required proportion of the regenerated forests in the disturbed areas are five metres tall.

It is possible that changes to either the visual sensitivity of particular areas or the amount of area permitted to be disturbed at any time to maintain scenic values may occur. Figure 10 illustrates the impacts of changing the visual quality objectives in the visual management zones (TSAR pages 42-43).

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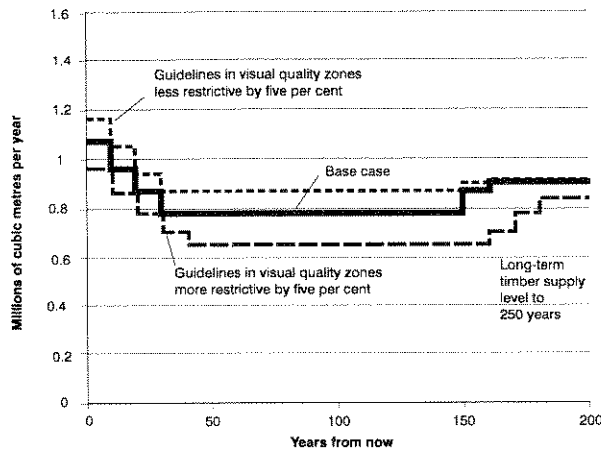


Figure 10 Impact of changes to visual quality objectives

Factors indicating possible reduction in the short-term timber supply compared to the base case

- Estimates of mature timber in existing forests**
 The timber supply analysis estimated an average timber volume of 750 cubic metres per hectare could be available for harvesting over the next 20 years (TSAR page 23). Local Forest Service staff are concerned that much lower timber volumes have historically been harvested from older forests within the timber supply area. In addition, timber harvesting in the next several decades will be concentrated on poor growing sites where timber yields are lower than have historically been harvested. Figure 11 illustrates the timber supply impacts of reduced estimates of mature timber in the existing mature forests. Additional research is being conducted by the Forest Service to clarify these estimates.

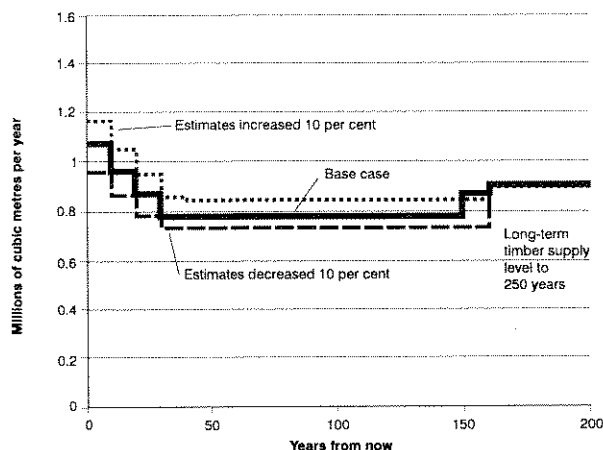


Figure 11 Impacts of changes to the estimates of mature timber in existing forests

Environmentally sensitive areas and wildlife habitat

Ministry of Environment, Lands and Parks staff are concerned that they were unable to review all of the mapping of environmentally sensitive areas before this information was used in the timber supply analysis. In particular, they are concerned that critical habitats for threatened species, especially grizzly bear and marbled murrelet, have not yet been formally identified. Forest Service staff recognize that this information needs refinement, particularly for wildlife habitat and sensitive soils. The available information used in the analysis is broad-based and may not adequately reflect species or site specific requirements.

Improved mapping of environmentally sensitive areas or application of guidelines to protect wildlife habitat may result in either additional deductions from the timber harvesting land base, particularly from areas with mature forest, or additional constraints on timber harvesting. Figure 12 illustrates the timber supply impacts of adding a requirement that 10 per cent of the timber harvesting land base in each zone have forests older than 140 years at all times. (TSAR page 48)

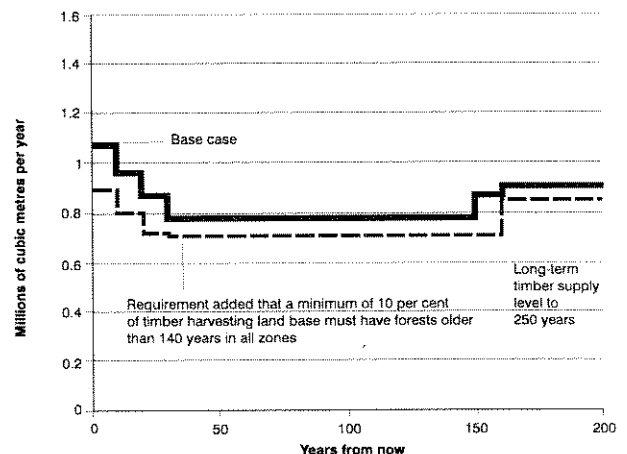


Figure 12 Impact of adding a requirement to maintain older forests

Vancouver Island Land-Use Plan and the Forest Practices Code

It is expected that implementation of the Vancouver Island Land-Use Plan and the Forest Practices Code will impact the timber supply in the Kingcome Timber Supply Area through management practices such as:

- reductions in the timber harvesting land base for protected areas
- reduced harvesting to meet management objectives for important non-timber values
- establishing networks of forest ecosystems where harvesting is restricted to provide old-growth habitats and to conserve biodiversity

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- increasing streamside buffers to protect fish habitat and water quality
- maintaining trees within cutblocks to provide wildlife habitat
- ensuring forest practices meet watershed management objectives

Employment reductions resulting from these changes are expected to be offset by more labour intensive harvesting practices and Forest Renewal Plan programs including watershed restoration, value-added manufacturing and increased silviculture, inventory and research programs.

Environmental and socio-economic implications

Environmental concerns

Seventy-one per cent of the forested land in the timber supply area (368,579 hectares) was not included in the timber harvesting land base for the timber supply analysis. Of this, 82,598 hectares was reserved for protection of specific environmentally sensitive areas such as those with sensitive soils, wildlife habitat, or recreational features, as well as fisheries and aesthetic values. The remaining area was not included in the timber harvesting land base because it is unfeasible or uneconomical to harvest with current methods. However, these areas provide biodiversity, old-growth, wildlife and fisheries habitat, water, and scenic and recreational values. (SEA pages 71-76)

Within the timber harvesting land base, operations must be conducted in accordance with management guidelines designed to protect the environment from unacceptable negative impacts. The timber supply analysis reflects the guidelines which were in place when the timber supply analysis was initiated. Additional requirements of the Forest Practices Code will reinforce and enhance current protection of non-timber values.

As discussed in previous sections, concern has been expressed by Ministry of Environment, Lands and Parks staff about the absence of detailed habitat mapping for threatened species within the Kingcome Timber Supply Area. As more information is gathered, particularly on grizzly bear and marbled murrelet habitat, management objectives may be applied to timber harvesting within the timber supply area which may reduce the timber supply.

It is difficult to predict specific environmental impacts which may be associated with different timber supply forecasts. In general, a larger, immediate reduction in the level of timber harvesting will maintain more old-growth forests within the

timber harvesting land base, particularly habitat for old-growth dependant species, for longer periods than would occur with a smaller initial reduction. (SEA pages 72-74)

First Nations implications

In recent years, the First Nations population in the Port McNeill Forest District has been growing faster than the district average. The increase in population has lead to an emphasis on generating new economic opportunities for First Nations. Forestry-related activities are seen by many First Nations as important means of improving current employment and income levels. A number of initiatives have been proposed or are currently underway within the district which emphasize increased levels of First Nations participation and responsibility. (SEA page 70)

There are varying opinions, however, on how and when economic development goals should be achieved. Some First Nations members believe they are best pursued through land claims negotiations. In addition, First Nations emphasize resource sustainability, the protection of traditional fishing and hunting rights and concerns about ecological damage resulting from timber harvesting. (SEA pages 69-70)

Others in the First Nations community would prefer more tangible and immediate economic benefits. Maintaining the allowable annual cut at the highest possible level would provide the most potential for economic development linked to timber harvesting and processing. Small initial reductions in the allowable annual cut would also involve less risk of job loss to First Nations people who are currently employed in the forestry sector. (SEA pages 69 -70)

Local community implications

The ability of the communities to adapt to changes in the timber supply is one of the factors considered by the chief forester in the allowable annual cut determination.

To calculate the economic impacts of timber supply adjustments, it was assumed in the *Socio-Economic Analysis* 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 change in the timber supply would result in a 10 per cent change in employment). Based on this assumption, it is estimated that if the chief forester adjusted the allowable annual cut to conform to the base case timber supply forecast, the initial 35 per cent reduction could result in an immediate reduction of 110 person-years of direct forestry employment and 49 person-years of spin-off employment within the Port McNeill Forest District. The *Socio-Economic Analysis*, which is based on the average annual

Kingcome Timber Supply Area

harvest level, estimates that if the allowable annual cut was reduced to conform with the base case forecast, this would represent an 18 per cent reduction from the average harvest level and may result in a reduction of 50 direct and 21 spin-off person-years of employment in the Port McNeill Forest District.

Employment losses are expected to occur mainly in Port Hardy, with lesser amounts in Port McNeill and minor amounts in Port Alice, Holberg and other smaller communities. Some of the necessary employment adjustment may have already occurred in these areas because the actual harvest level has been below the allowable annual cut for the past three years. (SEA page 56)

Other factors may also result in reduced timber industry employment in the Port McNeill Forest District including:

- timber supply reviews for the seven tree farm licences within the district
- timber supply impacts of the Vancouver Island Land Use Plan and the Forest Practices Code that were not possible to incorporate in this review

Projected employment reductions do not take into account jobs that may be created through the Forest Jobs Commissioner or the Forest Renewal Plan. Through these initiatives, local regional and municipal governments are working with the provincial government to develop alternative forestry-based employment in the area. A variety of options have been suggested including local woodlots or Community Forest Licences, improved access for local value-added wood manufacturing operations to Small Business Forest Enterprise Program sales, and creating a local forestry training centre.

Provincial implications

Provincially, total employment reductions resulting from a 35 per cent reduction in the allowable annual cut are estimated to be 2,094 person-years, including the reductions in the Port McNeill District. This estimate includes 837 person-years of direct forestry employment and 1,257 person-years of spin-off employment. The *Socio-Economic Analysis* estimates a reduction in timber supply from the current average harvest level to the base case forecast would result in the loss of 385 direct and 576 spin-off person-years of employment. (SEA page 58)

It is expected that the majority of these employment impacts would occur in Campbell River and the South Island/Lower Mainland, and that they would not occur simultaneously. As within the local area, some employment adjustments may also have already occurred as a result of the reduced actual harvest level. (SEA page 58)

Although the *Socio-Economic Analysis* predicts that employment impacts will be directly related to timber supply changes, impacts may be greater or less depending on industrial adjustments such as changes in the number of shifts in a mill, or closure of a an operation. The timber supply 'thresholds' that prompt these changes are difficult to predict because of the many factors that influence these business decisions. Although the predicted reduction in the allowable annual cut is equivalent to the timber supply for one or two sawmills, the impacts of this reduction may be dispersed among a number of the mills in the South Island and Lower Mainland areas which process most of the timber from the Kingcome Timber Supply Area.

Most of the job impacts from an allowable annual cut reduction in the Kingcome Timber Supply Area would occur outside the Port McNeill Forest District because much of the harvesting is done by non-local crews and about 90 per cent of the timber leaves the timber supply area for processing elsewhere. Of the estimated provincial forest sector employment loss of 837 person-years, about 19 per cent would occur mainly in the Campbell River area, and 68 per cent would occur in the South Island and Lower Mainland area. Although communities in these areas are generally larger, more diversified, and faster growing than those in the North Island, a large number of individuals and their families could be affected. This impact could be even more pronounced when spin-off employment is considered, because there are relatively more of these jobs created outside the timber supply area (SEA pages 63-67). Initiatives to restabilize employment through other sources of income or new jobs will be created through the Forest Jobs Commissioner and the Forest Renewal Plan.

Provincial government revenues, including stumpage and taxes, are projected to decline by \$24.5 million per year if the allowable annual cut is reduced by 35 per cent, consistent with the base case forecast. The *Socio-Economic Analysis* estimates a \$11.1 million per year reduction in revenues with this reduction compared to the average annual harvest level. (SEA page 60)

Chief forester's determination

The chief forester must determine an allowable annual cut as part of a strategy to achieve the projected long-term sustainable timber supply level. The base case forecast provides one alternative, but the chief forester may select another harvest level based on his consideration of the factors required under Section 7 of the *Forest Act* which are listed on pages 1 and 2 of this paper.

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Your input is needed

The allowable annual cut is an important determination 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 you feel are relevant. If you prefer, additional comments or a detailed submission may be written on separate pages.

Feedback is welcomed on any aspects of this *Discussion Paper*, the *Timber Supply Analysis Report* and the *Socio-economic Analysis Report* and other topics related to the timber supply in the Kingcome Timber Supply Area. Forest Service staff would be pleased to discuss questions or concerns that would 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 October 23, 1995.

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

A summary of public comments will be available from the district manager when the allowable annual cut determination is announced.

For more information contact:

District Manager
Port McNeill Forest District
2291 Mine Road Place
Box 7000
Port McNeill, British Columbia
V0N 2R0
Phone: (604) 956-5000

Discussion Paper Response Form

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Please use the space below to provide any information which you believe may assist the chief forester in considering the technical factors to determine the allowable annual cut for the Kingcome Timber Supply Area. Further information on the critical factors outlined on pages 10 to 14 in this paper would be most helpful.

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☐ local business ☐ timber industry
☐ outdoor tourism ☐ environmental conservation
☐ general public ☐ other (please define) _____
☐ First Nation ☐ government agency (please identify) _____

Address (optional) _____

District Manager
Port McNeill Forest District
2291 Mine Road Place
Box 7000
Port McNeill,
British Columbia, V0N 2R0
Phone: (604) 956-5000

