

Introduction

The British Columbia Forest Service is required by law to formally review the timber supply* in all timber supply areas* and tree farm licence areas* in the province. A review of each of the areas is completed at least once every five years. The main objectives of the five-year reviews are to:

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

* Throughout this document, an asterisk at the end of a phrase or word indicates that a definition can be found in the margin.

Objective of this document

The objective of this document is to provide an opportunity for public review of the draft data and management assumptions that will be applied in reviewing the timber supply for the Cranberry timber supply area. This document represents the early stages of the timber supply review process and is intended to provide a non-technical overview of the draft data and management assumptions that will be used in the upcoming *Cranberry Timber Supply Area Analysis Report*.

The *Cranberry Timber Supply Area Analysis Report* will be one of the documents that the chief forester will consider in making the allowable annual cut* determination under Section 8 of the *Forest Act*. Public input is encouraged in order to ensure the best information is used in allowable annual cut determinations.

This report contains a general description of the data, assumptions and current forest practices for the Cranberry timber supply area. For the purpose of this timber supply review, current practice can be defined as the set of land-use decisions and forest management practices that are currently implemented and enforced. Future forest management objectives that may be established, but are not currently implemented and enforced, are not included.

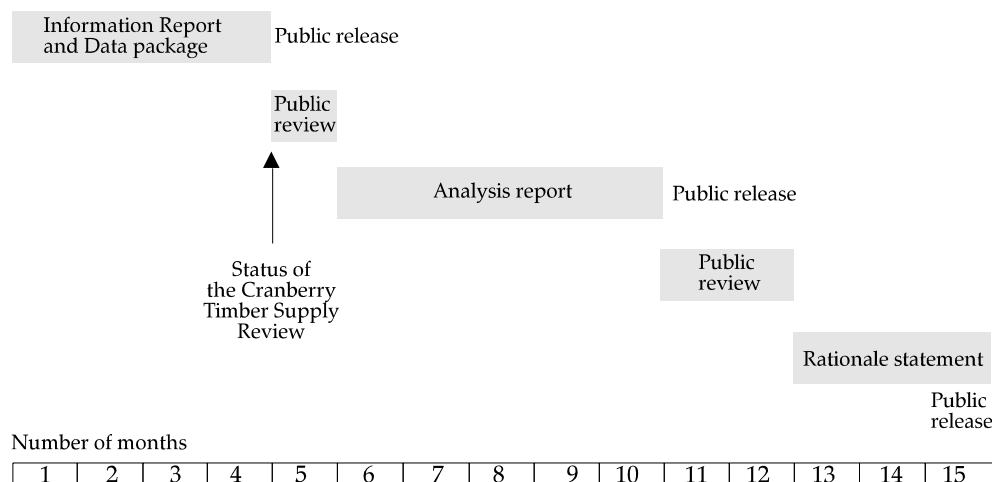
The draft data and management assumptions are summarized on pages 5 - 8. For a more detailed description of the information, please contact the Kispiox Forest District Office and request a copy of the data package. The public will have 30 days to review and comment on the information report and data package. A response form at the end of this document will assist you in providing your comments. Written comments will be accepted until June 6, 1997.

Timber Supply Review Process

In British Columbia, a process of determining allowable annual cuts has been in place since the late 1940s. However, the process has changed significantly since then. More recently, the

process has had some minor revisions designed to improve efficiency and encourage earlier public review through the release of this report.

Figure 1 illustrates the five-step process that has been developed for the Timber Supply Review for timber supply areas. The diagram indicates the current status of the timber supply review for the Cranberry timber supply area, and the estimated time required for each step.



The Cranberry timber supply review is scheduled to be completed over a 15-month period. The average time to complete the review is normally scheduled to take approximately 22 months. The reduced time is due to the legal requirement to complete the Cranberry timber supply review by March 1998.

The process for reviewing the timber supply and establishing the allowable annual cut for tree farm licence areas is based on similar principles (see below); however, the process takes 30 months from start to completion.

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 8 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 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

Some of these factors can be measured and analyzed—others cannot. Ultimately, the chief forester's determination is an independent, professional judgement based on the best information that is available. Information that is relevant to the factors listed above is provided to the chief forester by government agencies, the minister of forests and the public.

One of the objectives of the timber supply review is to incorporate change arising from new information, new practices and new government initiatives that may have an impact on timber supply. In the event of significant change, the allowable annual cut may be reviewed in less than the required five years.

Following the release of the allowable annual cut determination by the chief forester, the minister of forests apportions the cut to the various licensees and programs.

Principles of the timber supply review

In determining allowable annual cuts—in addition to the requirements outlined in Section 8 of the *Forest Act*—the following principles are applied:

- is a decision-making process for establishing the allowable annual cut for tree farm licence areas and timber supply areas by the chief forester on a maximum five-year cycle, as required under Section 8 of the *Forest Act*. **It is not a process for making land-use or management decisions**
- incorporates the best information available including all relevant current practices, and identifies where new information is needed
- reflects the results of implemented plans and land-use decisions, and provides a benchmark for future planning processes
- involves other agencies, affected groups, and the public

Description of the Timber Supply Area

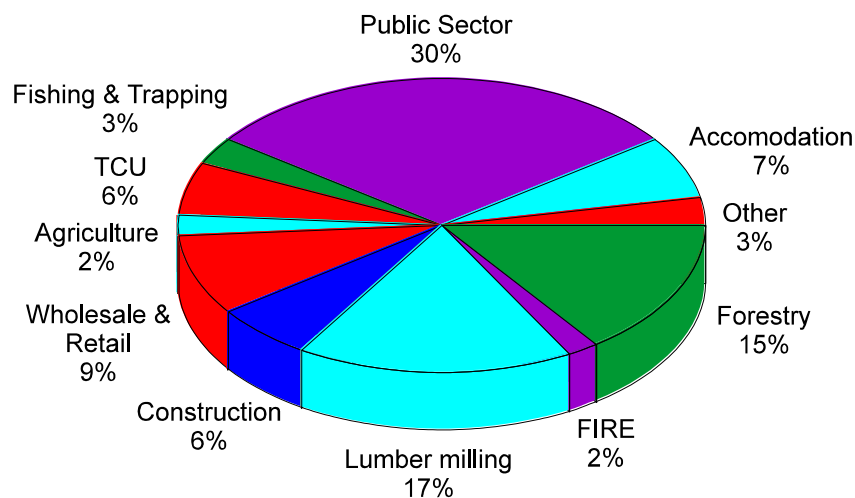
The Cranberry timber supply area is situated in the northwest portion of the province. The unit is located approximately 60 kilometres north of Kitwanga village and is bounded by the Nass timber supply area to the west and Kispiox timber supply area to the south and east. The Cranberry timber supply area is administered by the Kispiox Forest District office located in the village of Hazelton. The Cranberry unit is the smallest provincial timber supply area, covering approximately 77,000 hectares.

The community

There are no settlements located in the Cranberry timber supply area; however, there are rural communities located in the immediate vicinity. These include the communities of Kitwanga, Gitwangak and Gitanyow.

According to the Statistics Canada 1991 Census, the population of these communities and the surrounding area is approximately 1,400. Between 1986 and 1991 the population grew by about two per cent per year; early indications suggest that growth may have slowed to about one per cent per year since then.

The two largest industries in the area are forestry and manufacturing (mostly lumber milling). The village of Hazelton and the New Hazelton district municipality, located about 40 kilometres east of Kitwanga, are the closest commercial, administrative and retail centres for the region. Apart from resource industries and a fishing-based tourism sector, employment opportunities in the area are very limited.



Source: 1991 Census of Canada - Data reflects the general area.

Notes: Forestry consists of harvesting-related activity, but does not include processing. Processing is included in the milling sector. FIRE consists of finance, insurance and real estate, and other business services. TCU consists of transportation, communications, and utilities. Public sector consists of local and provincial government services, health and education.

First Nations

The Cranberry timber supply area is located within overlapping traditional territories of both the Nisga'a Tribal Council and the Gitanyow Nation. At this time, the Nisga'a Tribal Council, the Government of Canada and the Province of British Columbia have signed the *Nisga'a Treaty Negotiations Agreement-in-Principle* and are currently finalizing a treaty. The Gitanyow Nation is actively negotiating an agreement in principle which will lead to a treaty.

C-Ged Forest Products, owned by the Kitwanga band, is the largest licensee operating in the Cranberry timber supply area. The band owns and operates the C-Ged Forest Products sawmill in Kitwanga.

The forest land resources

Numerous natural resources are associated with the forest land base. Wildlife habitat, botanical forest products, recreation and forest products highlight the wide range of values and uses found in the Cranberry timber supply area.

The forest industry provides an important source of revenue and employment to the small communities surrounding the Cranberry timber supply area.

The Cranberry timber supply is mostly smaller dimensional wood with pulpwood comprising up to one-half of the timber volume. The current allowable annual cut for the Cranberry timber supply area is 110,000 cubic metres, with 100,000 cubic metres allocated to one forest licence (C-Ged Forest Products) and the remaining 10,000 cubic metres to the Small Business Forest Enterprise Program, which is administered by the Forest Service.

Recreation and tourism are also important in the Cranberry timber supply area where the rivers and mountainous terrain provide a wide range of recreation opportunities. Hiking, fishing, hunting, mountain biking, backcountry recreation and wildlife viewing are popular activities for residents and tourists in the summer months. In the winter, snowmobile and cross-country skiing are popular. The travel corridor along Highway 37 is a major access route for northern British Columbia and Alaska and is valued for its spectacular scenery. It is expected that recreation and tourism will continue to grow in the Cranberry timber supply area in the future.

The commercial harvesting of pine mushrooms is an important source of economic opportunity in the Cranberry timber supply area. Pine mushrooms are harvested from the forest floor in the fall by local and non-resident pickers who then sell to various commercial buyers. Mushroom-buying stations are often located in the Cranberry timber supply area and in the Kitwanga valley. When the pine mushroom crops are plentiful and the selling prices are high, the commercial harvesting of this product provides a valued economic boost to the local community. However, the management of this resource is currently unregulated and there are many unanswered questions about the appropriate degree of regulation that might be applied in the future.

The environment

The Cranberry timber supply area contains both coastal and interior biogeoclimatic ecosystems. There are also transitional biogeoclimatic zones within these ecosystems. The distinct ecological features as well as the unique nature of the area contribute to high biodiversity values.

Forest management considerations have been identified for important wildlife species such as grizzly bear, fisher and northern goshawk. Other important and abundant wildlife include black bear, kermode bear, moose, marten, raptors, owls, other medium-sized carnivores, and smaller mammals.

The Nass River and its tributaries comprise a highly productive system that supports many fish species. This system provides important spawning habitat and migration routes for chinook, coho, sockeye, and pink salmon. These rivers also provide critical habitat for steelhead fish.

History of the allowable annual cut

Prior to February 1993, the Cranberry timber supply area was designated as Tree Farm Licence 51. At that time, the licence holder — Westar Timber Limited — surrendered the licence and all associated rights back to the minister of forests. Subsequently, the minister of forests designated the area as the Cranberry timber supply area.

Following the new designation, the chief forester determined the current allowable annual cut of 110,000 cubic metres for the Cranberry timber supply area.

Between 1992 and 1996, little harvesting occurred in the area. In 1992, approximately 53,000 cubic metres of timber were harvested from the tree farm licence. During 1994, the Forest Service offered one-year non-replaceable timber sale licences totalling 100,000 cubic metres of which approximately 88,000 cubic metres were sold. In 1996, approximately 40,000 cubic metres of timber were harvested from the Cranberry timber supply area.

Current timber supply review

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

The data and management assumptions that will be used in the timber supply analysis will be based on the existing land-use designations and current resource management practices that are approved and implemented in the Cranberry timber supply area. The chief forester will also consider any new information, based on implemented changes, at the time of the allowable annual cut determination.

The Forest Practices Code* is now law and is being implemented in the timber supply area. The Code will be fully implemented June 15, 1997 and as a result, forest management practices are changing in order to meet the new requirements. These new practices may influence both the short- and long-term timber supply.

Draft data and management assumptions for public review

The public is encouraged to review the data and management assumptions for completeness and accuracy. In determining an allowable annual cut, the chief forester will be considering the assumptions as required by Section 8 of the *Forest Act*. The following general outline contains *some* of the more

pertinent information that will be used in the timber supply analysis and subsequently, in the chief forester's allowable annual cut determination for the Cranberry timber supply area. More detailed information can be found in Appendix A: Data Package. This appendix is available upon request from the Ministry of Forests offices listed at the end of this report.

Land base factors

- **Operable area** - the forested area in the Cranberry timber supply area has been assessed based on physical accessibility and only those areas that are considered operable will contribute to the timber harvesting land base*.
- **Low sites** - in addition to the above, forest types that are not considered available for harvesting due to forest characteristics such as low timber volumes, very high or very low tree density, and/or low growth productivity, are deducted from the timber harvesting land base.
- **Environmentally sensitive areas*** - are areas designated as environmentally sensitive due to soil sensitivity, high avalanche hazard, serious regeneration problems, or which are important for wildlife. For the Cranberry, areas identified as being highly sensitive for soils, and significant regeneration problems will be excluded completely from the land base. Areas identified as highly sensitive for wildlife will be reduced by 75 per cent. Areas identified as moderately sensitive for wildlife and soils will be reduced by 75 and 50 per cent, respectively.
- **Forest roads** - harvesting and road construction follow regional and provincial guidelines. Currently, it is estimated that there are 1,780 hectares of existing roads, trails and landings. Also, it is estimated that an additional 450 hectares of the timber harvesting land base will be lost over time to future road construction.

Inventory factors

- **Forest inventory*** - most of the forested area in the Cranberry timber supply area is covered by dense true firs and hemlock tree species. Other tree species found are redcedar, spruce, lodgepole pine, cottonwood, birch and aspen.
- **Minimum harvestable ages** - the minimum harvestable age is defined as the earliest age at which a forest is estimated to reach a merchantable size before timber harvesting is permitted in the timber supply analysis. It is estimated that this age will be reached when the coniferous forests have achieved a minimum of 200 cubic metres per hectare for spruce, pine, hemlock and true firs trees on poorer quality sites, 250 cubic metres per hectare for pine on medium and good sites, and 300 cubic metres per hectare for spruce, hemlock, true firs on medium and good sites. For forests dominated by deciduous tree species, it is estimated that this criterion will be reached after 80 years.

Forest re-establishment factors

- **Basic silviculture** — British Columbia laws require areas that are harvested and expected to produce timber in the future must be reforested with ecologically acceptable species within a specified time frame.

In the Cranberry timber supply area, reforestation is achieved predominantly by planting a mixture of acceptable coniferous species and retaining a component of deciduous species for wildlife and biodiversity. Although natural regeneration is not relied upon to meet basic reforestation obligations, it is accepted where silviculture standards allow. In the timber supply analysis, future harvesting areas will be assumed to be regenerated within two years of harvesting with planted species and expected natural regeneration.

Timber utilization factors

- **Timber utilization** - volume estimates will be based on the utilization of all trees which meet or exceed the current standards of a minimum 10-centimetre top diameter, a maximum 30-centimetre high stump, and a minimum diameter of 17.5 centimetres at a ground height of 1.3 metres, except pine which is a minimum of 12.5 centimetres.

Infestations, devastations and salvage of timber

- Each year portions of the forests in the Cranberry timber supply area are damaged by natural agents such as fire, wind, insects and disease. It is anticipated that some of the damaged timber will not be salvaged due to road access limitations. The unsalvaged volume is estimated to be 397 cubic metres per year and is attributed to isolated fire occurrence.

Factors to be considered for purposes other than timber production

Forest management guidelines used to manage forest resources such as biodiversity, scenic values, wildlife habitat and water quality will be included in the timber supply analysis through the use of forest cover requirements, volume reductions, and land base reductions. Forest cover requirements specify the minimum proportion of older forests that must be maintained to manage for values such as biodiversity or wildlife habitat and the maximum proportion of young, recently harvested forests that will be allowed and still satisfy management objectives for values such as water quality or visual sensitivity.

- **Forest cover requirements** - under current practices, cutblocks must achieve green-up* before adjacent areas are permitted to be harvested. The timber supply analysis reflects the desired conditions for wildlife, watershed protection, visual quality and other integrated resource management objectives. For example, to account for forest cover requirements in the integrated management area, a maximum of 25 per cent of the timber harvesting land base will be allowed to have forests less than three metres tall, at any time. As well, considerations for maintaining areas of old growth forests will be accounted for in the timber supply analysis. (For more detail see the data package).
- **Visually sensitive areas** - are areas where the maintenance of scenic landscapes is a priority for recreation and tourism management, particularly in areas that are adjacent to major travel corridors and waterways. Road construction and logging within these areas are planned and implemented to minimize visual impacts. Interim visual quality objectives have been established for the Cranberry timber supply area. Limited harvesting activity is permitted in the visually sensitive areas. To reflect this requirement in the timber supply

analysis, a maximum of approximately nine per cent of the productive forest land base will be allowed to have forests less than six metres tall, at any time.

- **Riparian habitat*** - to account for the protection of riparian reserves adjacent to fishbearing streams, lakes and wetlands greater than five hectares (as required by the Forest Practices Code), approximately 3,700 hectares of the forested land base will be considered unavailable for timber harvesting. In addition, current practice limits harvesting activity in the areas adjacent to these riparian reserves. To account for this in the timber supply analysis, a further land base reduction will be applied.
- **Biological diversity** - or biodiversity, is the full range of living organisms, in all their forms and levels of organization, and includes the diversity of genes, species and ecosystems and the evolutionary and functional processes that link them. The Forest Practices Code requires that biodiversity be examined at both the stand- and landscape-level.

Leaving wildlife tree patches for stand-level biodiversity is a current practice in the Cranberry timber supply area. This practice will be accounted for in the timber supply analysis by reducing the average volume per hectare by 2.5 per cent.

Considerations for landscape-level biodiversity will be accounted for by applying the low-biodiversity emphasis option to all areas of the timber supply area. The low-biodiversity option is applied because, at this time, more detailed landscape-level biodiversity objectives have not yet been established in the Cranberry timber supply area.

Implications of alternative rates of harvesting

- **Alternative rates of harvesting** - there are many alternative harvest forecasts that can be produced for a given set of forest conditions and management assumptions. Each alternative usually represents a trade-off between the harvest level in the short term and the subsequent rate of decline to the long-term harvest level. For the projected base case forecast*, the initial harvest forecast will be based on trying to achieve the current rate of harvest in the short term without compromising the long-term harvest level. The implications of alternative short-term rates of harvest will be tested in sensitivity analyses.
- **Implications related to community dependence** - the impact of timber supply adjustments on local communities and the provincial economy is an important consideration in the Timber Supply Review. Based on Ministry of Forests estimates, Figure 3 illustrates the impact of the forest industry associated with the Cranberry timber supply area on both the regional and provincial economies.

Summary of Regional & Provincial Economic Impacts (for harvest level of 110,000 cubic metres per year, based on dollar value in 1996)		
	Regional	Provincial
Direct Employment (person year/ year)	90	90
Total Employment	125	190

Total Net-Tax Income (\$ million/year)	3.5	5.1
Total Income Taxes (to British Columbia)	0.5	0.7
Stumpage Revenues (\$ million/year)	0.9	0.9

To provide an updated description of the socio-economic data for the Cranberry timber supply area, 1996 statistics on employment and wood flow have been gathered from licensees, processing facilities, the British Columbia Forest Service and other stakeholders. Employment multipliers from the Ministry of Finance and Corporate Relations will be used to estimate indirect and other related employment at both local and provincial levels. Employment, wage and salary and government revenue co-efficients, reported per 1,000 cubic metres of harvested timber, will also be developed to provide estimates of the impacts of projected harvest level changes.

Timber processing facilities

The timber harvested from the Cranberry timber supply area is transported outside the timber supply area and has been primarily processed in three timber processing facilities: the C-Ged Forest Products sawmill, the major processing facility, and minor volumes processed at the Kitwanga Lumber Company and the Kispiox Forest Products sawmill.

In 1996, the C-Ged Forest Products sawmill in Kitwanga processed about 40,000 cubic metres of timber harvested from the Cranberry timber supply area. In the same year, the C-Ged sawmill processed an additional 12,500 cubic metres of timber purchased from the Nass and Kispiox timber supply areas.

In December 1996, the C-Ged sawmill shut down. Before that, it was operating at half capacity on a one-shift per day 10-month cycle. At full capacity, the mill is designed to process approximately 250,000 cubic metres of timber on a two-shift operation requiring approximately 100 employees.

Economic and social objectives of the Crown

- The minister of forests has expressed in a letter and a memo to the chief forester, the Crown's economic and social objectives for the province. The harvest flow objectives to be used in the timber supply analysis (see above, "Alternative rates of harvesting") are consistent with the minister's stated objectives.

In addition, economic and social objectives for the area and the general region are derived from public input. The communities adjacent to the Cranberry timber supply area recognize the importance of the timber industry to their economy, and have expressed concern about possible changes in timber supply resulting from this review.

Your input is needed

Establishing the allowable annual cut is an important decision that requires well-informed and thoughtful public input. Feedback is welcomed on any aspect of this *Information Report, the Data Package*

Appendix and other topics related to the timber supply in the Cranberry timber supply area. The response form at the end of this document will assist you in preparing your comments. As well, Forest Service staff would be pleased to discuss questions or concerns that may help you prepare your response.

Please mail the completed response form and your comments to the forest district manager at the address below. Your comments will be accepted until June 6, 1997.

After receiving the public input, the Forest Service will finalize the data and management assumptions that will be applied in the timber supply analysis. The timber supply analysis will be complete and available for public review in the fall of 1997. You may also wish to participate in the second public review period, which will follow the release of the *Cranberry Timber Supply Area Analysis Report*.

Following the second public review period, the chief forester will examine all the information available in order to review the timber supply for the Cranberry timber supply area. The chief forester will then establish the allowable annual cut based on his consideration of the factors as required under Section 8 of the *Forest Act*.

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 copies of the responses are requested, personal identifiers will be removed before the responses are released.

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

District Manager
Kispiox Forest District
P.O. Box 215
Hazelton, B.C.
VOJ 1Y0

Phone: (250) 842-7600
Fax: (250) 842-7676

Cranberry Timber Supply Area Timber Supply Review

Information Report Response Form

The *Forest Act* requires the chief forester to consider the following factors to determine the allowable annual cut for timber supply areas and tree farm licence areas in the province, as follows:

- the rate of timber production that can be sustained from the area;
- the short- and long-term implications to the province of alternative rates of timber harvesting from the area;
- the nature, production capabilities and timber requirements of established and proposed timber processing facilities;

- We welcome your review to ensure the best available information is considered for the Cranberry timber supply area. Please provide your comments on this form, or in another format. Input will be accepted until June 6, 1997.

Please use the space below to provide your comments regarding the economic and social information contained in this report or other information that you believe should be considered in completing the social and economic analysis for the Cranberry timber supply area.

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Please use the space below to provide your comments regarding the draft data and management assumptions contained in this report or other information that you believe should be considered in the timber supply analysis for the Cranberry timber supply area.

Name (optional)

Address (optional)

Mail your comments to:

District Manager
Kispiox Forest District
P.O. Box 215
Hazelton, B.C.
V0J 1Y0

APPENDIX A

Data Package

Description of Data Inputs and

Management Assumptions

This appendix is available upon request from the
Ministry of Forests.

Offices are located at:

Kispiox Forest District
P.O. Box 215
Hazelton, B.C.
V0J 1Y0
(250) 842-7600

Prince Rupert Regional Office
Bag 5000
Smithers, B.C.
VOJ 2N0
(250) 847-7500

Timber Supply Branch
P.O. Box 9512
Stn Provincial Government
Victoria, B.C.
V8W 9C2
(250) 356-5947

Definitions

Allowable Annual Cut

The allowable rate of timber harvest from a specified area of land. The Chief Forester sets AACs for timber supply areas and tree farm licences in accordance with Section 8 of the *Forest Act*.

Alternative silvicultural systems

Systems used to maintain or create forests containing a range of tree ages or sizes.

Base case forecast

The timber supply forecast which illustrates the effect of current forest management practices on the timber supply using the best available information.

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 5.

Environmentally sensitive areas

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

Forest Inventory

Assessment of British Columbia's timber resources. It includes computerized maps, a database describing the location and nature of forest cover, including size, age, timber volume and species composition.

Forest Practices Code

A law which defines forest practices and standards, with heavy penalties for violators.

Green-up

The time required for regenerated forests to reach a desired condition (usually a specific height) after harvesting to meet specific 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.

Person-year

One person working the equivalent of one full year. If someone works full-time for six months, he or she accounts for 0.5 person-years.

Protected Areas Strategy

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

Riparian habitat

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

Sensitivity analysis

Examines how uncertainty in data and management assumptions affect timber supply.

Timber harvesting land base

Crown forest land within the timber supply area that is currently considered feasible and economical for timber harvesting.

Timber supply

A harvest level that is forecasted to be available over time, under a particular management regime.

Timber Supply Area

An integrated resource management unit established in accordance with Section 6 of the *Forest Act*.

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*