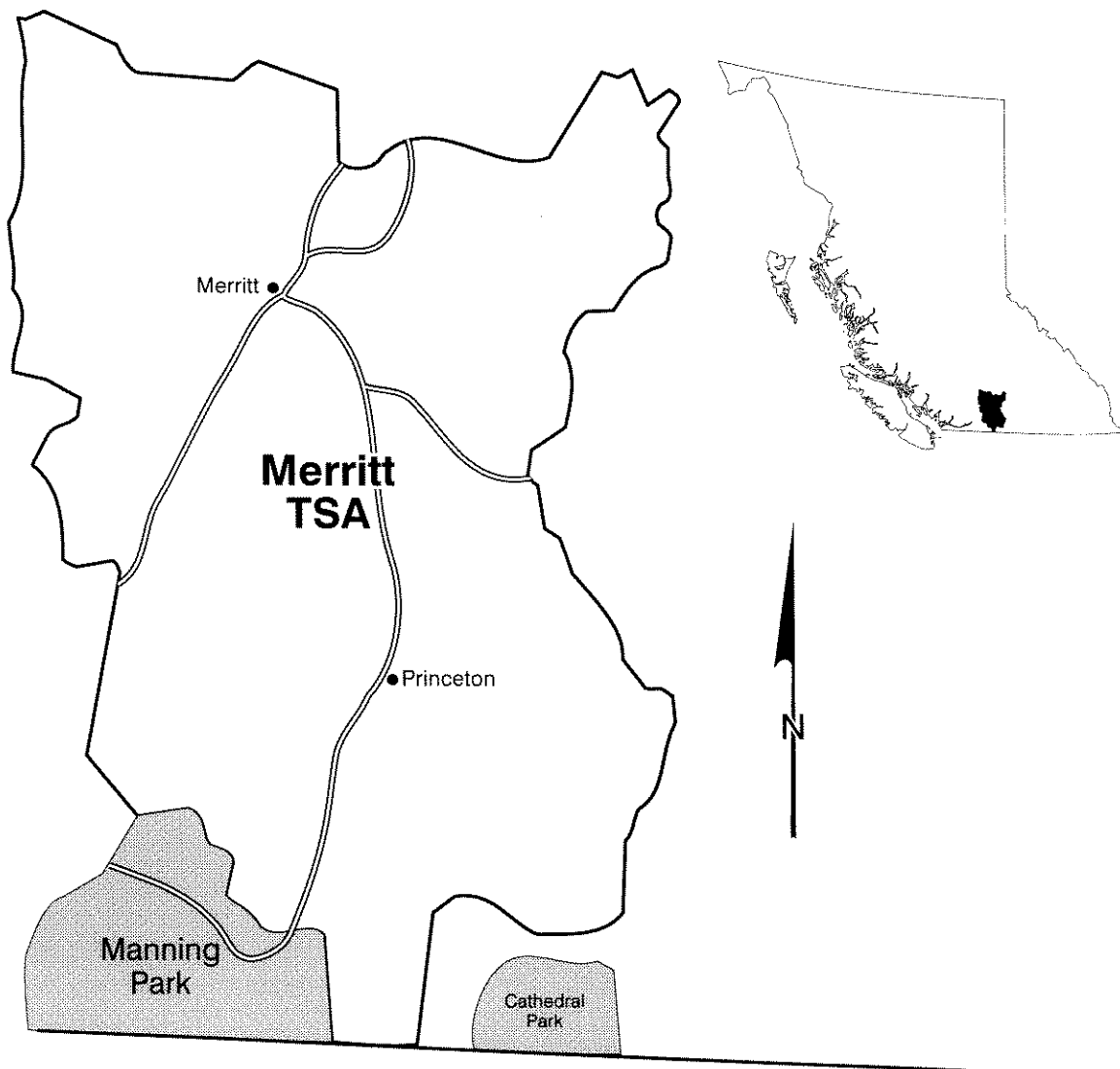




MINISTRY OF FORESTS

Merritt Timber Supply Area

Timber Supply Review Discussion Paper
January 1995



Province of
British Columbia
Ministry
of Forests

Merritt Timber Supply Area

Timber Supply Review Highlights

- The British Columbia Forest Service is reviewing the timber supply in all timber supply areas* and tree farm licence* areas in the province. The review examines the impacts of current integrated resource management* practices on the timber supply*, economy and environment of the local area and the province. Based on the results of this review, the chief forester may decide to maintain or adjust the allowable annual cut* for the Merritt Timber Supply Area.
- The current allowable annual cut, 1 204 250 cubic metres per year provides 84 per cent of the timber supply for local mills. The remainder comes from timber harvested from private land or sources outside the timber supply area. (page 4)
- Approximately 927 person-years* of direct forestry employment and 325 person-years of indirect employment are created within the timber supply area from the current allowable annual cut. An additional 1 578 person-years of employment are created outside the timber supply area from the current harvest. (page 5)
- The timber supply analysis indicates that the present allowable annual cut can be maintained for 110 years with current integrated resource management practices. Following this, the timber supply is projected to decline over a 30-year period to a long-term sustainable level of 925 000 cubic metres per year. (page 7)
- Several factors suggest that the short-term timber supply may be less than initially predicted because:
 - new information indicates the area that is feasible and economical to harvest may be two to three per cent smaller than originally estimated (page 8)
 - the timber in older lodgepole pine forests may deteriorate before it can be harvested, creating higher unsalvageable timber losses than predicted (page 8)
 - demands for forest-based recreation may lead to removal of areas from the timber harvesting land base (page 8)
 - in sensitive areas such as wildlife habitats, timber harvesting may be more restricted than was expected (page 8)
 - an assessment of community watersheds may indicate the need for less harvesting to maintain water flow patterns (page 8)
- A recent inventory of the small-diameter pine forests in the area indicates that an additional 8 250 000 cubic metres of timber in these forests, which was not included in the timber supply analysis, is suitable for harvesting and milling using current technology. (page 8)
- Reductions in the timber supply may be partially offset by:
 - increasing the area estimated to be economical to harvest (page 8)
 - reducing the unsalvaged timber lost to fire, insects and disease (page 9)
 - changing harvesting methods to reduce the amount of land that becomes main roads, skid roads and landings (page 9)
 - implementing intensive silviculture treatments (page 9)
- While this review indicates the current allowable annual cut can be maintained for some time in the Merritt Timber Supply Area, the communities of Merritt and Princeton have initiated the development of a transition strategy to minimize the negative impacts of the predicted long-term reduction in timber supply. (page 9)
- Several alternatives exist for the chief forester to adjust the short-term allowable annual cut as part of a strategy to achieve the long-term timber supply level:
 - a relatively small rate of decline could be implemented now and continue until the long-term timber supply level is reached
 - the allowable annual cut could be maintained for as long as possible, followed by reductions until the long-term level is reached
 - the allowable annual cut could be increased, followed by greater reductions until the long-term level is reached
- The timber supply in the Merritt Timber Supply Area could be impacted in the future through other government initiatives such as the Forest Practices Code*, the Protected Areas Strategy* or First Nations treaty negotiations, none of which are fully accounted for in this review. Integrated resource management objectives and current practices in the timber supply area will also be evaluated in a future Land and Resource Management Plan*. (page 10)
- The allowable annual cut will be re-assessed within five years to reflect decisions from other processes and the choices made in the future Land and Resource Management Plan, as well as changes in economic conditions, available information and analytical techniques.

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

Merritt Timber Supply Area

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 harvest forecast that illustrates the effects of current forest management practices on the timber supply using the best information that was available when the timber supply analysis was completed.

Current management practices

Forest practices that were being approved and implemented in the Timber Supply Area when this review was initiated. These practices are described in this paper starting on page 6.

Forest Practices Code

A law which requires better forest practices, with heavy penalties for violators. Present plans call for the Code to be implemented in the coming months.

Integrated resource management

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

Kamloops Regional Integrated Resource Management Timber Harvesting Guidelines

Guidelines that specify management zones where certain resource values such as water, wildlife or timber are particularly important. Within these zones, special management practices are required to ensure the particular resource values are protected.

Land and Resource Management Plan

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

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 area

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

Selection management

A silvicultural system used to maintain or create areas containing a wide range of tree ages or sizes. The time interval between harvests in such areas is fairly short (usually less than 30 years) and during these harvests, either single or scattered trees or small groups of trees are removed from across the entire area.

Timber harvesting land base

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

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 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.

Merritt 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 from the Timber Supply Review in the Merritt Timber Supply Area and encourages British Columbians to comment on the findings. Public comments will be accepted until April 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 take into account integrated resource management practices and protection of non-timber values
- the procedures were far too time-consuming
- analytical techniques had to be strengthened

As a result 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

Towards a sustainable future

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

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

Merritt Timber Supply Area

- 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 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 was designed to stimulate public discussion through the release of reports and this discussion paper, and to

accommodate new information, techniques and ideas. Figure 1 illustrates the five-step process that has been developed for the Timber Supply Review in timber supply areas. The diagram also indicates the estimated time required to complete each step in the process and the status of the Timber Supply Review for the Merritt Timber Supply Area.

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

A commitment to incorporate change

A *Forest Practices Code Act of British Columbia* was passed in the Legislature in July, 1994. This law requires better forest practices throughout the province and establishes heavy penalties for violators. When the Code is fully implemented, forest management practices will be changed to meet its requirements. These new practices may influence both short- and long-term timber supply.

Practices which have recently been implemented based on current understanding of the intentions of the Code are identified in this discussion paper. Information will be provided to the chief forester on the timber supply impacts of these practices for consideration in this allowable annual cut determination. In most cases, however, further implementation and experience with the Code will be required before the timber supply effects of new practices can be properly assessed, making it necessary to incorporate these factors in future allowable annual cut determinations.

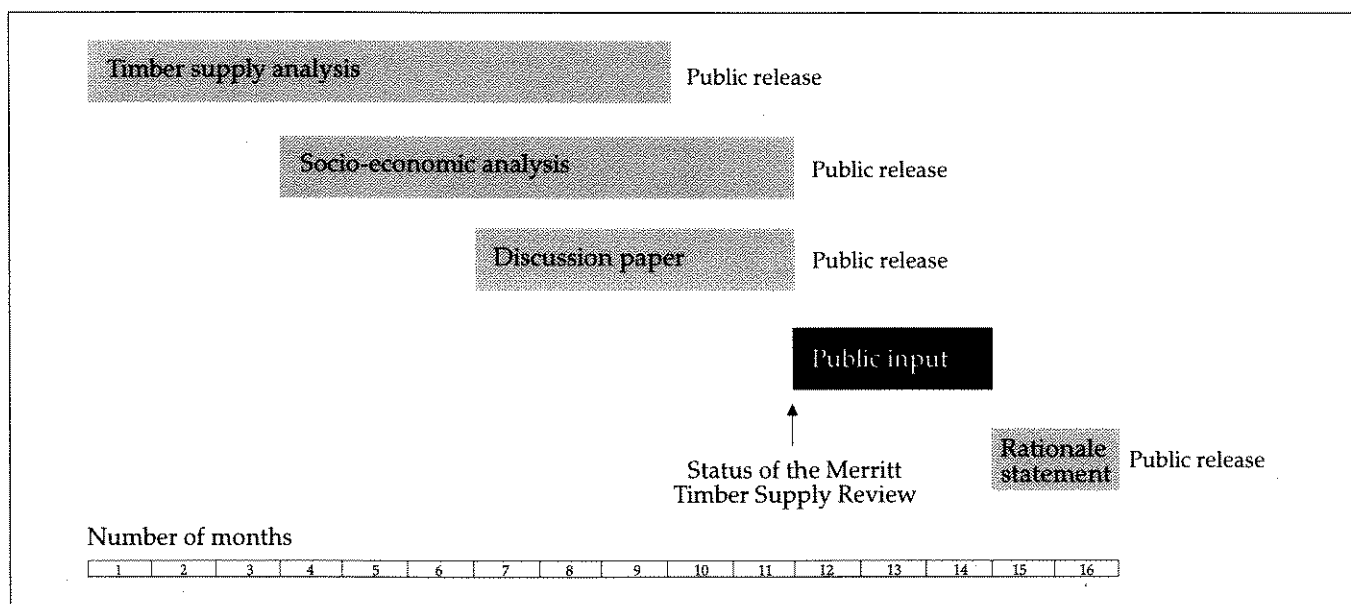


Figure 1 Steps in the Timber Supply Review process

Merritt Timber Supply Area

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 government policies. Major government initiatives such as the Protected Areas Strategy, 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 cuts more frequently than every five years.

Timber Supply Review in the Merritt Timber Supply Area

The data package used for the Timber Supply Review in the Merritt Timber Supply Area was finalized in May, 1994. This package was reviewed by Forest Service and Ministry of Environment, Lands and Parks staff, First Nations and local timber tenure holders. The Forest Service conducted and released a short- and long-term timber supply analysis (*Merritt Timber Supply Analysis*, September, 1994) and a consultant completed a socio-economic analysis of the timber supply forecasts (*Merritt Timber Supply Area Socio-Economic Analysis*, January, 1995). Both reports are available from the Merritt Forest District office, the Princeton field office and the Kamloops Region office.

This *Discussion Paper* summarizes these two reports and highlights critical factors that the chief forester must consider to determine the allowable annual cut for the Merritt Timber Supply Area. In conjunction with the release of this *Discussion Paper* and the *Socio-Economic Analysis*, Forest Service staff will actively solicit public input to ensure the information in the Timber Supply Review for the Merritt Timber Supply Area is correct. Input will be accepted until April 23, 1995 and will be summarized in a report to the chief forester and the minister of forests.

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

Throughout this discussion paper the page numbers from the technical reports are provided so you can refer to them for additional information (TSAR is the *Timber Supply Analysis Report*; SEA is the *Socio-Economic Analysis*). Both reports are available from the Merritt Forest District office, the Princeton field office and the Kamloops Region office.

Description of the Merritt Timber Supply Area

The Merritt Timber Supply Area is located in the southwestern interior of British Columbia and covers approximately 1.12 million hectares, of which approximately 19 per cent is private land or parks. The area is characterized by the mountainous terrain of the Cascade Mountains to the west and the Thompson Plateau to the east. Approximately nine per cent of the area is not forested, including many lakes and alpine areas. The main river systems are the Tulameen and Similkameen in the south and the Nicola and Coldwater in the north. (TSAR page 3)

Forest resources

There are seven ecological zones within the Merritt Timber Supply Area, including grasslands at the lower elevations through to alpine tundra at higher elevations. These conditions create a diversity of forests with a wide range of timber, recreation and other values.

Timber

Figure 2 illustrates that approximately 65 per cent of the productive forest land is suitable and available for timber harvesting using current methods. This area has been included in the timber harvesting land base where harvesting can occur provided integrated resource management objectives are met. (TSAR page 6)

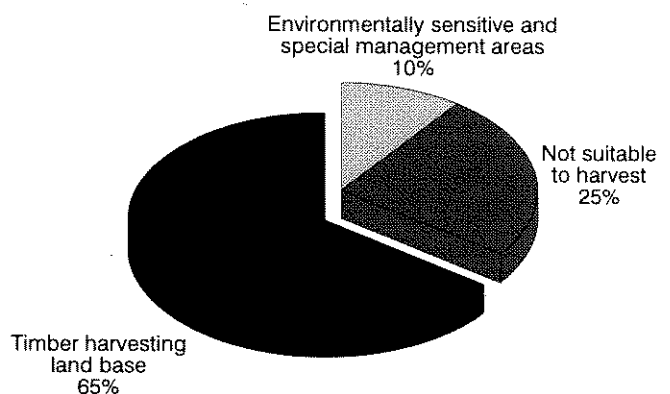


Figure 2 Classification of productive forest land in the Merritt Timber Supply Area

Notes: Total productive forest area: 812 512 hectares.
Areas under consideration as areas of interest or study areas for the Protected Areas Strategy have been included in the timber supply analysis as final decisions have not been made on these areas.

Merritt Timber Supply Area

The environmentally sensitive and special management areas that were deducted from the data base for this analysis include:

- lakeshore management areas - the forested area around all upland lakes. A Local Resource Use Plan is currently underway to classify these lakes. Once this is completed it may be possible to harvest a small amount of timber from some of these areas.
- heritage and recreation trails - forested areas adjacent to the 107 kilometres of heritage and recreation trails. The length and width of the buffer areas where harvesting is not permitted varies with each trail.
- Pennask Local Resource Use Plan - forests adjacent to four lakes that were reserved from harvesting in the Pennask Local Resource Use Plan to protect the recreational use of these lakes.
- Stoyoma Mountain - a special management area surrounding Stoyoma Mountain and a portion of the adjacent visible areas. This area has particular significance to aboriginal people and local resource users. The exact land base is expected to be defined more accurately through a future Local Resource Use Plan.
- riparian areas* - 75 per cent of the area within streamside buffers extending 30 metres on each side of streams with high fisheries habitat values, where timber harvesting is not permitted. Other streams have varying sizes of buffers.

The diverse forests within the Merritt Timber Supply Area include a variety of tree species (Figure 3). The frequent and large forest fires that have occurred in the past have created large areas of lodgepole pine forests. (TSAR page 8)

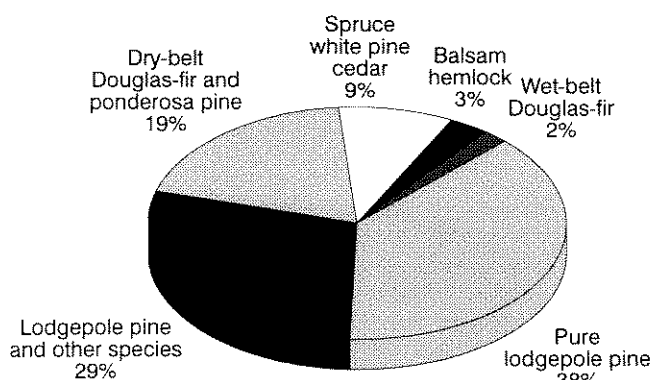


Figure 3 Commercial tree species in the timber harvesting land base

As Figure 4 shows, 78 per cent of the forests on the timber harvesting land base are considered mature and available for harvesting. Many of the lodgepole pine forests are in the age range where they become susceptible to the mountain beetle which can kill individual trees and, in the longterm, make the timber unsuitable for lumber products. (TSAR page 9)

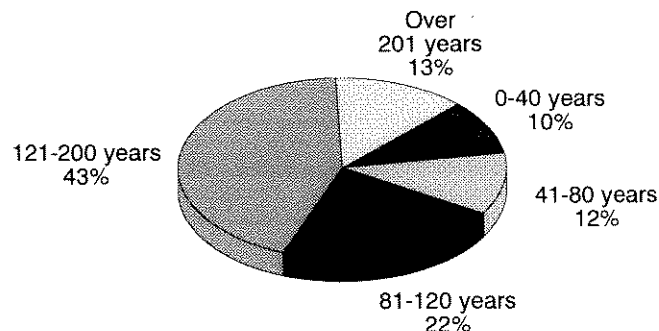


Figure 4 Forest ages within the timber harvesting land base

Wildlife

A wide range of wildlife species inhabit the diverse forests of this timber supply area including white tailed deer, mule deer, moose, mountain goats, cougars, black bears, grizzly bears and other small mammals. A population of elk spend spring and summer ranging from Manning Park north to Pike Mountain, and spend winter in the lowlands near Princeton. There is also a great diversity of bird species. (SEA page 29)

Fisheries

Fish species present in the long river systems and lakes within the timber supply area include rainbow trout, kokanee, burbot, mountain whitefish and eastern brook trout. Many lakes are stocked annually, and numerous lakes are home to wild rainbow trout. Salmon reside in the Nicola and Coldwater systems, but are not present in the Tulameen or Similkameen rivers. (SEA page 28)

Recreation

The Merritt Timber Supply Area offers a range of recreational activities enjoyed by residents as well as a vast number of visitors from the Lower Mainland. Six relatively small provincial parks and 87 recreation sites are located within the Merritt Timber Supply Area, while the larger Manning and Cathedral Parks and the Cascade Recreation Area either border the timber supply area or are in close proximity to it. Upland lakes are abundant and provide opportunities for fishing, wildlife viewing and camping. In addition, the timber supply area has 107 kilometres of recreational hiking and heritage trails. (SEA page 25)

Current allowable annual cut

The allowable annual cut for the Merritt Timber Supply Area was last set in 1981. The current allowable annual cut is 1 204 250 cubic metres per year. Approximately 85 per cent of the harvest is

Merritt Timber Supply Area

allocated to five major timber tenure holders. Twelve per cent is harvested through the Small Business Forest Enterprise Program administered by the B.C. Forest Service, and the remaining three per cent is unallocated. In addition to the harvest of the allowable annual cut, approximately 11 500 cubic metres of timber is harvested annually from woodlot licences. Temporary licences currently permit harvesting of approximately 65 000 cubic metres annually from small-diameter lodgepole pine stands that were not included in the previous determination of the allowable annual cut. (SEA page 38)

Socio-economic profile

The Merritt Timber Supply Area has a population of 14 940. The two largest communities, where 62 per cent of the population resides, are Merritt and Princeton. Smaller communities exist throughout the timber supply area.

First Nations

Six aboriginal bands reside within the timber supply area. The Upper Nicola, Lower Nicola, Coldwater, Nooaitch and Shackan bands comprise the Nicola Valley Tribal Council located in Merritt. The Upper Similkameen band resides in the southern portion of the timber supply area. Four additional bands — the Lower Similkameen, Cook's Ferry, Nicomen and Westbank—have communities outside the timber supply area but have historical areas of interest within it. (SEA page 8)

Forest sector

The forest industry provides an important source of revenue and employment for communities in the area. The current allowable annual cut in the Merritt Timber Supply Area provides 927 person-years of direct forestry employment in the timber supply area (Figure 5) and an additional 325 person-years of employment through expenditures in the local area by forestry employees and forest-based businesses. The total net employment income generated from this harvest level is \$38.5 million annually within the timber supply area. (SEA Table 4-1)

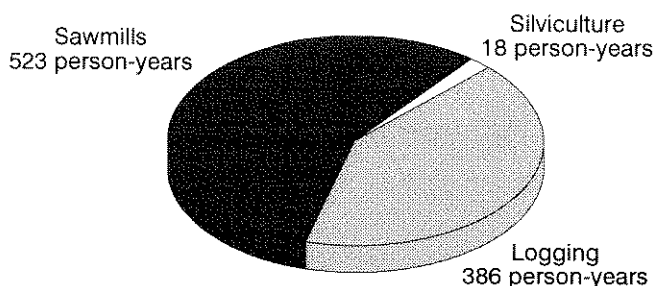


Figure 5 Forest sector employment

The forest sector in the Merritt Timber Supply Area includes a range of types of businesses, from individuals to independent companies and multinational corporations. Five major forest companies are licensed to harvest timber from the area. Four of the five companies have mills within the timber supply area, while one processes the timber it harvests outside of the timber supply area at a mill in Kelowna (SEA page 10). The sawmills in the timber supply area use 1.5 million cubic metres of wood per year, of which 84 per cent is supplied from public land within the Merritt Timber Supply Area. Nine per cent is supplied by private or Native Reserve lands and seven per cent comes from other timber supply areas. (SEA page 40)

The figures given above do not include the timber requirements of the numerous secondary manufacturers producing firewood, utility poles, fencing products, housing components, shakes and speciality boards. These mills are usually in critical need of wood, and the Small Business Forest Enterprise Program administered by the Ministry of Forests provides opportunities for wood supply through competitive timber sales.

Other businesses provide a variety of forestry services including building forest roads, planning, stand tending such as juvenile spacing, and other silvicultural activities. Small forestry consultants also specialize in timber cruising, logging layout and other forestry activities.

Agricultural sector

Approximately 117 ranches with 47 000 cattle are located within the Merritt Timber Supply Area. Currently, 94 per cent of the Crown land in the timber supply area is covered by grazing permits and licences that authorize grazing of roughly 28 000 animals. Virtually all of the public rangelands within the Merritt Timber Supply Area are currently committed, and demand exceeds the supply. (SEA page 21)

Tourism and outdoor recreation sector

The Coquihalla Highway system has improved access to the timber supply area from the heavily populated Okanagan and Lower Mainland areas. There are approximately 500 000 visitors annually to the Merritt area who are primarily interested in outdoor recreation including fishing, camping, hunting, golfing, sailing, mountain biking, hiking, horseback riding, cross-country skiing and snowmobiling.

Both Merritt and Princeton have recognized the potential impact an expanded tourism industry could have. Strategies for further developing this and other industries have been discussed at economic summits held in both communities. (SEA pages 6-7)

Merritt Timber Supply Area

Mining sector

Three mining operations are active within the timber supply area and significant economic activity is also generated by a large copper mine on the north boundary. Mining is an important source of regional employment for both Princeton and Merritt.

Provincial economy and revenues

The timber harvested in the Merritt Timber Supply Area supports 1 578 person-years of provincial employment (205 direct) outside the area. Added to the employment generated in the timber supply area, this results in an estimated total of 2 830 person-years of employment (1 132 direct) within the province. The employment income generated by these jobs is \$77.1 million per year. (SEA page 46)

Provincial government revenues generated from harvesting and processing timber from the Merritt Timber Supply Area (from taxes, stumpage, etc.) are approximately \$26.3 million annually. These estimates were developed before the new Forest Renewal Plan was announced and do not include the increased stumpage revenues that are being generated through this plan. On a provincial basis, stumpage revenues are expected to increase by as much as 80 per cent, but it will not be possible to accurately estimate the impact of this change until the new policy has been in place for a period of time.

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 recreational resources on public lands. The Ministry of Environment, Lands and Parks is responsible for the management of fish, wildlife and water resources. Both agencies subscribe to the principle of integrated resource management, where all resource uses are considered before management decisions are made.

The timber supply analysis was based on current management practices — practices that were actually being approved and implemented in the Merritt Timber Supply Area when this analysis was initiated in 1993. These practices were based on the *Kamloops Regional Integrated Resource Management Timber Harvesting Guidelines** and the professional opinions of Merritt Forest District staff. Readers are encouraged to review Appendix A of the *Merritt Timber Supply Area Timber Supply Analysis Report* or review the information used for the timber supply analysis for more detailed information.

Management zones

The timber harvesting land base has been divided into management zones where forestry practices have been developed to reflect the resource values in each zone. They also reflect the increasing public awareness and demand for more ecologically-based forest management.

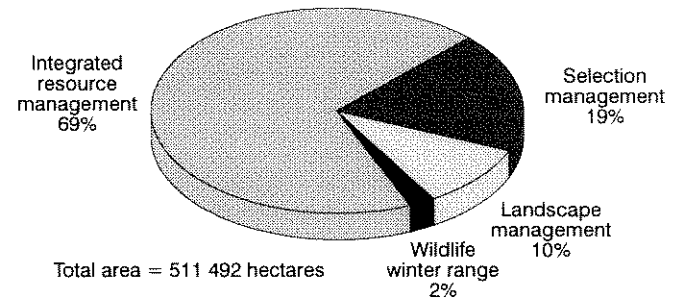


Figure 6 Management zones within the timber harvesting land base

- **Selection management zone** (97 598 hectares) - includes areas of ponderosa pine and interior Douglas-fir forests that are managed with a selection silvicultural system* to ensure that a wide range of forest ages is present in these forests at all times.
- **Wildlife winter range zone** (12 376 hectares) - includes areas in addition to the selection management zone that are managed to ensure adequate cover is provided for deer during the winter. In this zone, no more than 20 per cent of the area is permitted to have forests less than three metres tall at any time, and at least 7.5 per cent of the area must have forests at least 20 metres tall at all times.
- **Landscape management zone** (50 724 hectares) - includes important views from the eight highways within the timber supply area and from the viewing area of the Three Brothers hiking trail in Manning Park. In this zone, no more than 11.2 per cent of the area may have forests less than 5.5 metres tall at any time, and at least 13.4 per cent of the area must have forests at least 20 metres tall at all times.
- **Integrated resource management zone** (350 794 hectares) - includes the remainder of the timber harvesting land base where integrated resource management is practised. No more than 36.4 per cent of an area may have forests less than three metres tall at any one time, and at least 13.5 per cent of the forests must be at least 20 metres tall at all times.

Merritt Timber Supply Area

Current practices

The following practices apply throughout the timber harvesting land base in the Merritt Timber Supply Area:

- **Basic silviculture** - British Columbia laws require that areas that are harvested and expected to produce timber in the future must be reforested with ecologically acceptable species within a specified time frame. The typical silvicultural practice is to harvest; site prepare (if necessary); reforest by planting a mix of species or by relying on natural regeneration; and control competing vegetation if required. It is assumed that harvested areas will be restocked within three to six years (TSAR page 56). Depending on ecological requirements, 79 per cent of the harvested areas are clearcut, followed by planting or natural regeneration; 21 per cent is managed using a selection silvicultural system.
- **Forest health and unsalvaged losses** - Timber losses due to wildfire, insects, diseases and wind damage are minimized as much as possible. Losses that cannot be salvaged or recovered are estimated to total 116 910 cubic metres per year:
 - insects - 52 630 cubic metres
 - fire - 38 715 cubic metres
 - wind - 18 565 cubic metres
 - miscellaneous - 7 000 cubic metres
- **Harvest ages** - The minimum harvest age is defined as the time it takes for trees to grow to a harvestable size. The minimum age at which a forest may be harvested in the Merritt Timber Supply Area ranges from 80 to 100 years, depending on the tree species and the quality of the growing site.
- **Timber utilization** - Within cutblocks, timber that meets or exceeds the following size limits and is suitable for manufacturing lumber or pulp chips is considered merchantable and must be utilized:
 - diameter at stump: lodgepole pine - 15 centimetres; other species - 20 centimetres
 - diameter at top: cedar older than 141 years - 15 centimetres; other species - 10 centimetres
- **Soil conservation** - Harvesting layout follows provincial and regional guidelines. For the timber supply analysis, 11.4 per cent of the timber harvesting land base with forests less than 21 years old was deducted for existing roads, landings, and major debris piles that have become non-productive due to harvesting. To account for future roads, landings and major debris piles, the remaining land base was reduced by 7.7 per cent.

Timber supply forecasts and critical factors

It is important to note 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 harvests to sustainable levels. The base case forecast and the critical factors described below are part of the information that will be used by the chief forester to determine the allowable annual cut for the next five years.

Base case timber supply forecast

To complete the timber supply analysis for the Merritt Timber Supply Area, a computer model was used to produce a base case* timber supply forecast that met all of the following conditions:

- the current allowable annual cut was maintained for as long as possible, or if this was not possible, the highest initial harvest level was defined, then
- the timber supply level was reduced by a defined range each decade, usually between eight and 12 per cent, until the long-term sustainable level was reached, and
- the timber supply was maintained at or above the predicted long-term sustainable level

Using the best information that was available when the analysis was conducted in 1994 and meeting the conditions described above, the base case forecast for the Merritt Timber Supply Area indicates that the present allowable annual cut can be maintained with current management practices for 110 years. As Figure 7 indicates, after 110 years the timber supply is projected to decline by seven per cent per decade for 30 years to a long-term timber supply level of 925 000 cubic metres per year. (TSAR page 15)

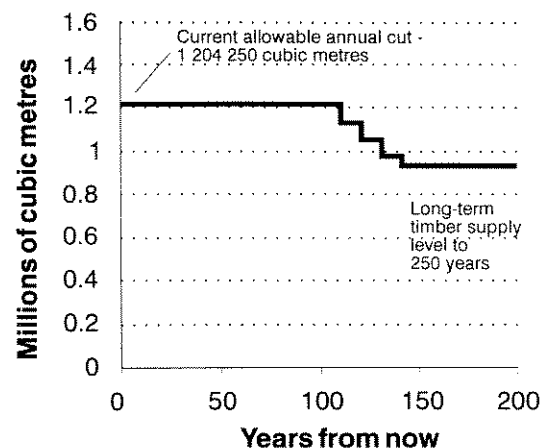


Figure 7 Base case timber supply forecast

Merritt Timber Supply Area

The timber supply analysis also indicates that there may be adequate timber available in the short term to increase the allowable annual cut, followed by reductions in the future (TSAR page 23). The chief forester must consider this opportunity in light of the critical factors discussed below, and the possible future impacts of other processes such as the Protected Areas Strategy, the Forest Practices Code and Land and Resource Management Planning

Examining critical factors

Since 1994 when the data was 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 effect on the timber supply forecasts. These critical factors are discussed in this section.

The chief forester must carefully evaluate this information when assessing the allowable annual cut and identifying where improved information is needed. We encourage you to do the same.

Critical factors that indicate a reduction in available timber

- **Reduced area that is feasible to harvest**
Information on the technical feasibility of harvesting all of the timber within the timber harvesting land base using current harvesting methods was not available when the timber supply analysis was completed. This information is currently being collected, but it will not be available for some time. It is expected that when this assessment is completed, approximately two to three per cent of the area that is currently included in the timber harvesting land base will not be considered feasible to harvest with current methods. This will result in a corresponding reduction in the timber supply. (TSAR page 31)
- **Timber values in older lodgepole pine forests**
More than 50 per cent of the mature timber in the timber supply area is lodgepole pine, a species that is susceptible to attack and damage by mountain pine beetle and disease. If this timber is reserved from harvesting for long periods of time after it is mature, it is likely that the timber values will decline and these forests may not be economical to harvest at a later date. This could result in higher than predicted unsalvageable timber losses and reduced timber supply.
- **Increased recreation use**
The proximity of the timber supply area to the large urban centres of Vancouver, Kelowna and

Seattle makes it highly popular for forest-based recreational activities. This has lead to increasing demands for preservation of more forest land for recreation purposes. A reduction in the size of the timber harvesting land base to meet these demands would reduce the timber supply.

- **Establishing wildlife corridors**
Forest Service and Ministry of Environment, Lands and Parks staff are currently working together to identify networks including important wildlife habitats and corridors between these habitats. Timber harvesting will be reduced in these areas, which is expected to reduce the timber supply.
- **Management practices in community watersheds**
Planning processes and assessments are currently underway to identify the area within community watersheds in the Merritt Timber Supply Area and to develop appropriate forest management practices for these areas. In this part of the province, maintaining acceptable water flow patterns is an important factor because of the naturally dry conditions. Future practices within community watersheds may limit the amount of timber harvesting that is permitted, which would lead to a reduced timber supply.

Possible opportunities to increase the timber supply

- **Increasing the area that is economical to harvest**
Approximately 175 000 hectares with poor timber quality or low timber volume which cannot be economically harvested with current methods were not included in the timber harvesting land base for this review. Increased timber values may make some of these forests economical to harvest. Two types of forests require special consideration in the Merritt Timber Supply Area:
 - **relatively short, small-diameter lodgepole pine forests**
A Small Wood Inventory Project was recently completed to update and evaluate the timber inventory for approximately 107 000 hectares of relatively short, small-diameter lodgepole forests that was deducted from the timber harvesting land base. (TSAR page 66).

This study found that approximately 8 250 000 cubic metres of timber within these forests are suitable for harvesting and milling using the current technology. It is estimated that this timber can be harvested without compromising integrated resource management guidelines. This indicates a potential substantial opportunity to increase the allowable annual cut in the short term, or to offset projected reductions in the long term. Copies of this report are available from the Merritt Forest District

Merritt Timber Supply Area

office, the Princeton field office and the Kamloops Forest Region office.

- **previously harvested Douglas-fir forests**

Large areas of Douglas-fir forests that were selectively logged approximately 40 years ago were not included in the timber harvesting land base because of the estimated poor timber quality and low timber volume in these forests. Through the *Forest Renewal Plan*, these forest types will be assessed to determine areas where forest management treatments can enhance the value of these forests so they can be returned to the timber harvesting land base.

- **Reducing unsalvaged timber losses**

It is currently estimated that 116 910 cubic metres of timber are damaged each year by insects, fire, wind damage and other agents and are not salvaged, creating a significant annual timber loss. It may be possible to improve protection methods to minimize this damage, or to increase salvaging to reduce the final loss. Either of these approaches would increase the projected timber supply.

- **Reducing the non-productive area created by harvesting**

For the timber supply analysis, it was estimated that the main roads, skid roads and landings that will be created by harvesting in the future will occupy 7.7 per cent of the timber harvesting land base, leading to an equivalent reduction in the long-term timber supply. It may be possible to change harvesting methods, or to implement additional treatments to reduce the area that becomes non-productive through harvesting, which would increase the long-term timber supply.

- **Intensive silviculture**

Intensive silviculture treatments, including spacing, pruning, and fertilization, can help improve long-term timber supply levels. The timber supply analysis indicates that the benefits of intensive silviculture treatments can increase the long-term timber supply levels. However, there is little direct impact on short-term timber supply.

Environmental and socio-economic implications

Environmental concerns

Environmental concerns about the rate of harvesting relate to the rate of change in natural ecosystems and the consequences of that change. The timber supply analysis assumes that older stands will be harvested first, which means there will be fewer older forests in the future. As these older forests are harvested, the

populations of wildlife species that depend on mature forests may decline, while the population of species dependent on younger forests may increase.

In general, environmental values, such as protecting fish and wildlife habitat, biodiversity and visual aesthetics, benefit from a more gradual harvesting of older timber and by maintaining important or representative old-growth forest areas. (SEA pages 54-56)

First Nations implications

First Nations involvement in forestry activities in the Merritt Timber Supply Area is increasing. In addition, First Nations within the timber supply area look to forestry as an avenue for future economic development and employment. The First Nations organizations have expressed an interest in both economic development and sound forest management. (SEA page 51)

Community implications

The impact of adjustments in timber supply on local communities is an important consideration in the Timber Supply Review. While the base case timber supply forecast for the Merritt Timber Supply Area predicts the current allowable annual cut can be maintained for some time, the communities of Merritt and Princeton have recognized the need to plan for the projected timber supply reductions and have initiated the development of transition strategies. Expansion of the timber manufacturing sector (e.g. value-added processing of wood from the timber supply area) and the tourism industry could help offset future economic impacts.

Chief forester's determination

The base case timber supply forecast is not the only way the chief forester could choose to adjust the short-term allowable annual cut as part of a strategy to achieve the long-term timber supply level.

Alternatives include the following:

- a relatively small rate of decline could be implemented now and continue until the long-term timber supply level is reached
- the allowable annual cut could be maintained for as long as possible, followed by reductions until the long-term level is reached
- the allowable annual cut could be increased followed by greater reductions to the long-term level

Merritt Timber Supply Area

Factors to be examined in other processes

Other processes underway or planned for implementation in the future may affect the timber harvesting land base or forest management practices in the Merritt Timber Supply Area. Although these processes could not be considered in this Timber Supply Review because final decisions have not been made, they are listed here for information purposes:

- **Forest Practices Code** - The *Kamloops Regional Integrated Resource Management Timber Harvesting Guidelines* identify forest management objectives and practices that guide harvesting operations. The Forest Practices Code, which will replace these guidelines, will result in increased environmental protection and tougher standards, possibly impacting the timber supply.
- **Protected Areas Strategy** - The goal of the Protected Areas Strategy is to protect 12 per cent of the province by the year 2000. If new protected areas are designated within the Merritt Timber Supply, the timber harvesting land base wshort-term timber supply. These designations will be made by government after public review processes.
- **First Nations treaty negotiations** - The Merritt Forest District is currently working with 10 aboriginal bands that have recognized aboriginal rights over traditional territories within the Merritt Timber Supply Area. It is not known when treaty negotiations will be resolved nor to what extent the process will impact the timber supply in the Merritt Timber Supply Area.
- **Land and Resource Management Plan** - A Land and Resource Management Plan process will be implemented in the Merritt Timber Supply Area sometime after this Timber Supply Review is completed. The Land and Resource Management Plan provides an opportunity for the public and interest groups to work with government agencies to make choices about future management objectives for public forest land in the area.

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 Merritt 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 April 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 chief forester's allowable annual cut determination is announced.

For more information contact:

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Discussion Paper Response Form

- the rate of timber production that can be sustained from the area
- the short- and long-term implications for the province of alternative rates of timber harvesting from the area
- the timber requirements of established and proposed timber processing facilities
- the economic and social objectives of the Crown, as expressed by the minister, for the area, the general region, and the province
- abnormal pest infestations in the timber on the area and major salvage programs that are planned

A. Economic and social objectives

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

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 Merritt Timber Supply Area. Further information on the critical factors outlined on pages eight to nine 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)

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