The Forest Industry

Forestry is British Columbia's most important industry. The province's economy rests on its vast forests: this industry still generates more wealth than any other economic activity in British Columbia. Because of this, the strength of the province's economy and the wellbeing of its residents are closely tied to the health of its forest industry.

British Columbia's forests, however, have changed greatly since the time when Native peoples of the Pacific coast cut the tall cedars to build their longhouses and ocean-going canoes. Changing technology has greatly increased the loggers' ability to cut trees, even in the most remote and inaccessible areas of the province. Nearly all first-growth forest in the province has fallen to the axes and saws of the loggers over the past century. These changes have left a lasting mark on both the landscape and the economy of British Columbia. They have also led the government and people of British Columbia, particularly those closely connected with the forests, to ask some important questions about the future of the forest industry. This chapter will explore these questions and their significance to British Columbia's economy. As you go through this chapter, you will examine the history of the British Columbia forest industry, its importance to British Columbia's economy today, and some issues and problems facing the industry as it looks to the future. Among the questions you will examine are:

How have ways of cutting and using British Columbia's forests changed over the past 200 years? What impact have these changes had on British Columbia's forests?

Will there always be a forest industry in British Columbia? Are trees always growing up to replace the ones cut by British Columbia's loggers?

Introduction: British Columbia's #1 Industry

Let us briefly examine the resource on which the province's #1 industry is based—the forest. Over 60 percent of the province is covered with forest, but only half of that forest is commercially valuable. Almost all British Columbia forests are coniferous evergreens rather than deciduous trees.

Variations in climate and soil result in different forest types. The biggest, tallest trees are found on the coast, where the forests consist of western hemlock, Douglas fir and cedar. Trees in interior forests tend to be smaller and to grow more slowly. Interior forests are also more diverse, containing lodgepole, ponderosa and white pine, spruce, larch, interior Douglas fir and true firs. This diversity decreases as you go northward, where the growing season is shorter and the climate is more severe. In much of northern British Columbia, only low elevation forest land is productive enough to grow commercial timber.

The different terrain and tree species found on the coast and in the interior have resulted in two separate forest industries in British Columbia. The giant trees and rough terrain of the coast are logged by a large workforce using chain saws. Here, the loggers face significant challenges in transporting the fallen trees to the sawmills. Logging on the coast is expensive, both in terms of labor costs and the investment in equipment used to haul logs out of the woods. However, the size and quality of the trees makes them very valuable for a wide variety of uses.

In the interior the trees are smaller and more widely separated, and the terrain is flatter. Automated fallers can be used to cut and transport the logs, so fewer workers are required. Processing methods vary too. On the coast, larger logs require a sawing technique that can give each log individual attention. A sawyer can produce several types of lumber, some of it high quality, from one coastal log. The smaller logs that feed
interior mills are often used for “construction” grade lumber. However, the mills can be fully automated to produce great volumes of this lumber at high speed.

Today, most of the giant trees of the coastal forests have gone. If you want to see what they look like, you will probably have to go to a park where the forest has been preserved. Over the years, these old growth forests have been logged, burned or cleared to make room for cities, roads, powerline and pipeline right of ways, farms or hydro dam reservoirs. Now there is less forested land in British Columbia, and most of it consists of second growth timber which has grown up in the past century. Second growth trees are younger and smaller than the towering old growth.

**History: From Muscles to Management**

British Columbia's forests were an important resource for the Native peoples who lived here before the first Europeans arrived. The peoples of the Pacific coast, in particular, developed a culture that made great use of the red cedar. Tall and straight-grained, it was strong, yet easy to work. It split easily to make planks for building large longhouses or making storage boxes. It could be carved into household utensils, pleasing shapes to decorate homes, or ceremonial objects. It could also be worked with stone tools and fire to create the large and graceful ocean-going canoes used by the Natives for whaling and fishing. Even the bark of the cedar was used to make clothing, fish nets, ropes and baby cradles. Much of what the peoples of the Pacific coast used was made of cedar.

British Columbia's commercial forest industry began with the coming of European settlers in the mid-1800s. The biggest trees grew on the south coast and the easiest way to transport a two-tonne log from the forest to the mill was by water. An early logger described the industry this way:

*In those days good timber was plentiful- good timber, on seacoast slopes, that could be felled and shot right down to water-handlogger's timber. The country bristled with opportunities for loggers-opportunities that were the making of men who had the spirit to venture out and seize them.*

Logging history is full of colorful stories about the men who pitted muscle and axe against British Columbia's towering trees. However, there was another side to the early forest industry. WR.Ross, Minister of Lands in the 1910 provincial government, described these early days of lumbering as "an epoch of reckless devastation of the natural resources with which we, the people of this fair young Province, have been endowed by Providence."

Because it took so much work to fell and haul even one tree, it is not surprising that the early loggers wanted only the biggest and best trees. From our perspective today, they were extremely wasteful. They cut just the high-grade timber and left behind a mass of tall stumps and broken, smaller logs. No regulations existed to prevent them from doing so.

**Changing Markets for Forest Products**

Without markets for its logs and sawn lumber, the forest industry would never have gotten off the ground. One early market was the forts and settlements of nearby Vancouver Island. Then the discovery of gold along the Fraser River in the 1850s (see pages 167-1691 opened up a major new market. As thousands of fortune seekers flooded into the Cariboo region of the interior, lumber was required to build the mining towns that housed them. Because it was the jumping-off point for the gold seekers arriving by sea, the residents of Victoria needed lumber to build more saloons and plank sidewalks. Mining booms continued to provide a market for the forest industry through the rest of the nineteenth century.
The construction of the Canadian Pacific Railway during the 1880s gave the young industry a further boost. Wood was needed to make ties and trestles for the track and to build bunkhouses for the railway workers. When the completed railway brought new settlers to the Prairies, they needed wood for homes and fences. To serve this Prairie market, sawmills were built and communities sprang up in the interior of British Columbia, particularly in the East Kootenay area.

The biggest market for British Columbia lumber, however, was not at home but overseas. British Columbia had a reputation for the longest, toughest and most durable spars and masts used on sailing ships. From the early 1850s, a time when the population of British Columbia numbered only a few hundred, spars, masts and lumber were loaded onto sailing ships bound for San Francisco, South America, Australia and the Orient. In 1884, timber from what is now Vancouver's West End was shipped to China to become the huge beams of the Imperial Palace. Although the market for spars and masts disappeared when ships switched from sails to steam power, lumber in varying shapes and sizes continued to be the province's major forest export. Today, most of the province's lumber is still exported, with 25 percent of the lumber used to build new homes in the United States being supplied by British Columbia's forests. British Columbia also became an important producer of pulp and paper products. The first major pulp mills were built after 1910 in coastal locations, such as Swanson's Bay near Prince Rupert, close to the necessary sources of wood, electrical power and fresh water. In 1950, with demand on the wood supplies increasing, it became more economical to locate pulp mills where they could run on wood chips left over from sawmills. In 1961, all but one of the provinces pulp mills were still located on the coast. However, the following decade saw a dramatic increase in pulp and paper manufacturing near sawmills in the interior of the province. By 1971 there were nine pulp mills in the interior, three in Prince George alone. The first paper mills produced mostly newsprint, but the newer mills catered to the growing market for stronger paper used in cartons and packaging. During the 1980s, British Columbia's pulp and paper industry has continued to be export oriented, with 50 percent of its newsprint production going to the western United States.

British Columbia is also the country's largest producer of plywood. The plywood industry started on the coast in the 1930s, after the invention of an effective waterproof glue. It developed rapidly after 1950, soon spreading to the interior of the province. Plywood panels are made by peeling very thin sheets of wood veneer from a spinning log, then pressing them together with glue into a multilayered sandwich. British Columbia has large diameter, straight-grained Douglas fir trees that make excellent "peeler" logs. The market for plywood is mostly in Canada rather than in the United States or overseas. Demand for wood-veneer plywood has been dropping since 1979, as customers switch to the newer, less expensive particleboard made from compressed waste wood products such as chips. Some plywood mills have closed while others are adapting their product for new uses. For instance, specially coated plywood panels are used to make the forms into which concrete is poured.

Changes in Forest Management

Until the early part of this century, British Columbia's timber supply seemed inexhaustible. Rather than limiting the amount of timber that companies could cut on public land, the government gave out permits and encouraged more logging activity. It was hard to imagine the day when there would not be more good logging just over the next hill.

Eventually, the government of the province began to tighten its control over the province's forests. The Forest Act of 1912 laid the groundwork for future management of the resource. In return for cutting rights, companies now had to pay the government a fee called "stumpage," based on the value of the timber. As loggers moved farther northward and inland in search of new forests, concern mounted: could loggers continue to harvest more and more trees without in time running out of good timber? In his 1945 Commission of Inquiry into Forest Policy, Chief Justice Gordon Sloan answered this concern. He recommended a new kind of forest management program called sustained yield.
Under the sustained yield program, the forest was to be managed as a renewable resource, one that should continue to supply wood forever. In theory; no more wood was to be cut in a year than the forest could replace by new growth. Government forest managers would survey the timber growing in each area of the province and set an Allowable Annual Cut for that area.

The sustained yield policy did not entirely live up to expectations. The forests continued to fall faster than they could grow back. To speed up natural growth, reforestation programs were introduced. By the 1970s, government forest managers were worrying about more than just the timber supply. They had to answer a growing public concern that the fish, wildlife, fresh water and recreational opportunities of the forest lands be protected. The government brought in regulations to reduce the environmental damage caused by logging operations. The Forest Act of 1979 emphasized the need for forest managers to consider all resources, not just wood.

Over the past 150 years, British Columbia's forest industry has grown from a few logging camps to a multibillion dollar industry. As the province's largest, and most important industry, forestry is closely tied to all aspects of economic life in British Columbia today, affecting the well-being of everybody. In the next section, we will take a closer look at the impact and importance of this key industry.

A Province Fuelled by its Forests: The Importance and Impact of the Forest Industry

Although British Columbia has only one-fifth of the forest land in Canada, the province's annual forest harvest is nearly one-half of Canada's total. In the early 1980s, the British Columbia industry alone each year, on average, produced goods worth over $7 billion, two-thirds of which were exported. These exports accounted for 60 percent of British Columbia's total export shipments.

To make its products, the industry cuts over 70 million cubic meters of wood annually. The industry employs about 80,000 to 95,000 people, approximately 8 percent of working British Columbians. It generates indirect employment for another 15 percent the industry and its employees pay over $500 million to the British Columbia government in taxes, stumpage fees and other payment.

This contribution represents from 10-20 percent of all money that the government receives. Yet employees of the forest industry are not the only people who benefit from it. The taxes and stumpage fees paid by the industry help pay for public services such as roads, railways, power plants, schools and hospital. If the industry were to shut down tomorrow; British Columbians would definitely feel the effects.

Problems and Issues in the Forest Industry

With the end of the old growth forests in sight, the forest industry will soon be entirely dependent on second growth forests to supply its mills. During the old growth era, trees that had been growing undisturbed for hundreds of years were available for the taking. They were mined, just as gold might be mined from the ground. There was no thought of replacing the resource. In the future, forests will have to be farmed rather than mined. Foresters will have to grow a crop before they can harvest it.

As the forest industry moves into the era of second growth, it faces a number of problems. Some are related to timber supply; others to competition from wood-exporters outside of British Columbia. There is concern about the impact of forest industry booms and busts on communities. There is also concern about the industry's impact on the environment. Finally; there are problems that have to do with conflicting views of how the forest should be used. We will look at each of these five problem areas in turn.
The Problem of Timber Supply: Will the Bounty End?

Although mills may still have sufficient wood for their present needs, future shortages will occur in many areas. Several factors have contributed to the timber supply problem. One such factor is the shrinking of forest lands available for harvesting. This process is known as forest-land alienation. Some areas once covered by forest are now covered by railroads, highways, right of ways for powerlines and pipelines, farms, or Cities. Other areas have been flooded by reservoirs, the lakes formed when rivers are dammed for hydroelectric generating stations. Some forests are protected in parks where logging is not permitted.

Forest fires, pests and disease make up a second factor in the increasing timber shortage. Fires consume roughly 80,000 ha of forest land in an average year. Pests and diseases destroy about five times that volume, amounting to approximately one-third of the annual harvest, enough wood to build one million homes. Scientists are working on techniques to control pests and diseases, but the research is costly and time-consuming. The industry has used chemical pesticides, but questions about the safety and effectiveness of these pesticides has forced it to look for other solutions.

Kelowna Forest Fire of 2003
Pine Beetle and the damage it causes, to see more, [click here](#)

A third factor affecting timber supply is "the fall-down effect." Fall-down, as foresters call it, refers to the decreased volume of wood available to the forest industry from second growth forests, whose trees are smaller than those of the first growth. Foresters believe that the impact of fall-down could be significantly reduced by using silvicultural techniques to increase the amount of wood in these second growth forests.

**Silviculture**, the science of growing trees, is the basis of modern forestry. Silvicultural activities can improve all stages of forest growth, from developing better seedlings for planting to thinning overcrowded stands while they grow. Forest land receiving the complete range of silviculture treatments can produce twice the normal yield. Research in silviculture is being carried out by the government, universities and major forest companies. A 1984 partnership agreement between the province and the forest industry saw the beginning of major silviculture initiatives in British Columbia.

The factor that has probably contributed most to the timber supply problem is our failure to replace forests cut or burned long ago. Roughly 25 percent of the land that could be growing valuable timber is now covered in brush or non-valuable tree species. Not only have we failed to replace the forests cut many years ago; we are not even adequately replanting forests that we log today. Some experts estimate that British Columbia is spending only a fifth of what it needs to spend just in order to maintain the present rate of harvest. But who will pay for reforestation? Perhaps an even more important question is "Can we afford not to reforest?" Since 94 percent of British Columbia's forests grow on provincially owned land, the forests are largely the responsibility of the provincial government. Elected government representatives decide how much public money should be invested in our forests. However, money spent on forests will not show a return for many years. Governments always have other pressing or more immediate demands on public funds. At present, only about five cents of every dollar the province receives from the forest industry is put back into the resource. Experts predict that worldwide demand for wood will increase 82 percent by the year 2000, and 234 percent by 2025. But unless people in British Columbia take action now to solve their potential wood supply problems, they will not be able to take advantage of these market opportunities in the future.

**The Industry's Impact on the Environment:**

Logging operations unavoidably damage and interfere with the natural environment. Removing large numbers of trees upsets the balance of the watersheds and ecosystems in which the forest plays a key role. The cutting of trees also changes the visual quality of the landscape, affecting recreation and tourism.
Trees play an important part in controlling the movement of both water and soil. Much of the rain that falls on the coastal mountains is returned to the air by the trees after carrying nutrients from the soil to the leaves. Tree roots also help to stabilize the soil, preventing erosion by the run-off of surface water. When the trees are removed, run-off is greatly increased, and soil is washed away. Erosion removes soil and nutrients needed to ensure adequate reforestation of logged-off areas. The increase in run-off can also cause severe flooding downstream, possibly washing out rail lines, highways or bridges. The increased silt carried by the streams may affect fresh water supplies to nearby communities, clog irrigation canals and damage salmon spawning grounds. Silt deposited on the spawning beds covers salmon eggs, cutting off the supply of oxygen, and killing them.

In addition to causing increased run-off, logging operations disturb the soil on the forest floor. Heavy equipment such as skidders and bulldozers loosen the soil in some places, and compact it in others. Soil compaction increases run-off, while loose soil is easily eroded by the surface water. Pulp and paper operations also affect water quality. A producing pulp mill uses a quantity of water equivalent to that used by a city the size of Victoria. Unless it is treated, the water that is discharged after the washing of the pulp carries chemicals dangerous to fish.

The disposal of pulp mill industrial wastes is strictly regulated by both the provincial and federal governments and the mills do remove the toxic chemicals from their waste water. However, accidents such as ruptured pipes occasionally lead to major fish kills.

While habitat damage is still a problem, the situation today is much better than it was in the past. Then, logs were floated down rivers and no environmental regulations existed. Today, a section of the federal Fisheries Act states: "No person engaging in logging, lumbering, land clearing or other operations, shall knowingly permit any slash, stumps, or other debris into any water frequented by fish or that flows into such water.” Well managed logging Operations now leave a protective strip of trees along creek banks rather than felling trees right to the water.

British Columbia's forests have important recreational uses for both visitors and tourists. The tourist industry relies heavily on the scenic appeal of the province's landscape. Until they“green up” clearcuts detract from this appeal. Some people enjoy visiting forests to go hiking, skiing or camping, and logging operations detract from their enjoyment. Logging and recreation are not always incompatible, however. Forest companies may leave protective strips of forest along the sides of trails and around campsites. Instead of logging large clearcuts, they may selectively log an area, taking out only some trees and leaving the rest. Snowmobilers and skiers are often grateful to have access to logging roads. Even after an area has been logged, campers and hikers can enjoy the second growth forest.

However, some people enjoy visiting areas that are still undisturbed. After more than a century of logging in British Columbia, there is less and less undisturbed first growth forest, particularly within easy reach of the cities. There is conflict between those who want to log these last remaining wilderness areas and those who
want them preserved as parks. Both, sides in the debate mount strong lobbies to persuade the provincial
government to see their point of view.

The worst environmental abuses of logging occurred in the past. At that time, there was far less planning and
control over what took place in the forest. However many people today are still concerned that we are not
adequately protecting our forest environment. They feel we are still mining our forests for short-term profit.

click here for more on the problems with B.C.'s forestry

**Conflicting Views on How the Forest Should be Used**

Forests have more different values tied to them than probably any other resource. Some values, such as those of the forest to a logging company, can be measured in dollars. Other values, such as those that nature lovers might give to a hike through the forest, are more difficult to measure. Logging is just one use of the forest, and it can often be in conflict with other uses. As the amount of forested land in the province diminishes, there is more pressure on that remaining land.

Some areas of forest can be managed on a "multiple use" basis. Logging operations are carefully planned so that they do not prevent the forest from being used for other purposes. Logging takes place in the Capilano River watershed that supplies the city of Vancouver with its water, for instance. We have been logging for well over a century now. Yet only recently have we started to reforest and practice silviculture. We have to consider the consequences of this shabby treatment of the resource over the long term. As one forester asks, "Have we starved the goose that lays the golden eggs?"

To renourish the goose and ensure the continued health of British Columbia's major industry, people in British Columbia must be prepared to invest in their forests, not just take from them.