

Sawmills

Abstract

Sawmilling is an important Canadian industry. Its plant locations are widely scattered across Canada, predominantly in the coniferous forest region. This map shows sawmills whose production exceeds 10 000 cubic metres of lumber per year. The map symbols indicate the size of the mill and the type of lumber it produces.

The forest industries have always been an important part of the Canadian economy, and (along with mining) were the impetus for the settlement of large parts of Canada. Today, the forest industries remain the basis of the economy for much of Canada outside of the larger cities. Sawmilling is perhaps the most significant forest industry: not only is it a major employer, it is also significant in employing people at a large number of locations. Sawmills large and small are found across Canada.

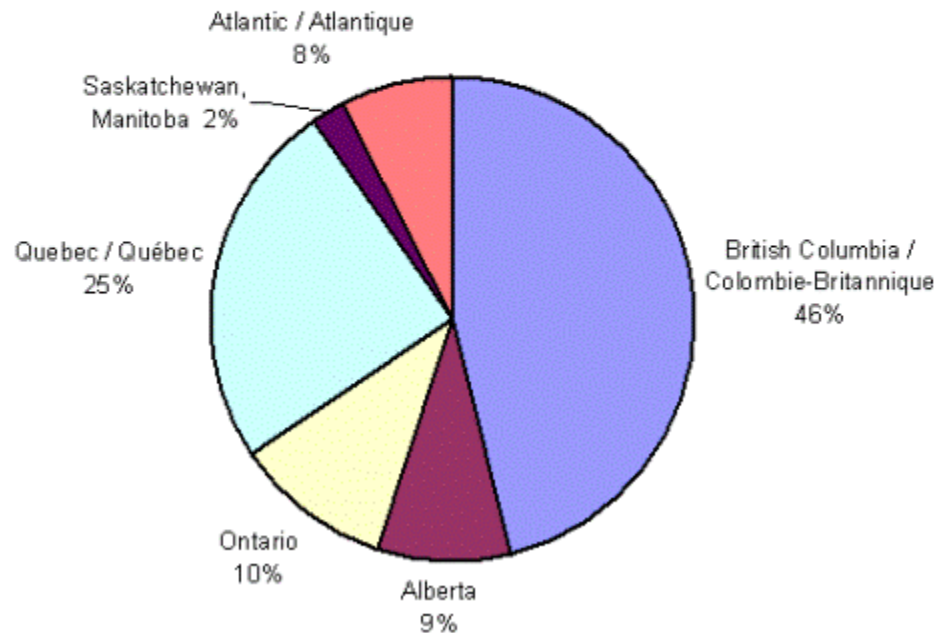
Figure 1 shows that production is dominated by British Columbia and Quebec - together, they produced 70% of Canada's lumber in 2002. Ontario and Alberta each produced about 10% of the total, and the combined production of the four Atlantic provinces was also about 10% of the total.



Figure 1:

Canadian Production of Lumber by Region, 2002 / Production canadienne de bois d'œuvre par région, 2002

Source: Statistics Canada / Statistique Canada



Nearly all of Canada's lumber production in 2002 was softwood: of the 73.0 million cubic metres of lumber produced, 98.6% was softwood, and only 1.4% was hardwood (1.0 million cubic metres). The major types of softwood trees used were spruce, pine, fir, hemlock, and various types of cedar.

This map contains two types of data: area data to show the extent of various forest types, and point data to show the locations of individual sawmills. The relationship of the extent of forest to sawmills is complex; simply stated, sawmills are usually found in the southern part of the coniferous forest region.

There are two widely-separated concentrations of sawmills (and, thus of lumber production). Slightly over half of total production comes from the far West (British Columbia and Alberta), and most of the rest is from a zone stretching from North-eastern Ontario to Nova Scotia.

Technical Note

This note gives definitions of concepts and the procedures for handling data. The topics are:

1. Defining, Selecting and Measuring Sawmills

This map defines a sawmill as a manufacturing facility that converts logs into lumber. Therefore, mills that remanufacture lumber into other products are not considered to be sawmills.

Canada has over a thousand sawmills. In order to provide a good visual distribution without overwhelming the map user, it was determined that a threshold of production capacity of 10 000 cubic metres of lumber per year would work well. This threshold size ensures some mills are shown for each of the provinces, yet also ensures the total number of mills shown is not excessive.

The following table shows the number of mills in each size category by province. There are 548 mills shown on the map. Each of British Columbia and Quebec has about one-third of this total, and there are between 30 and 60 mills in each of Ontario, Alberta, New Brunswick and Nova Scotia. Most of the mills in the largest size class (300 000 cubic metres of lumber per year or more) are found in British Columbia. There are at least two mills shown for each province, but no mills are shown for the Territories. There are few mills in both Yukon and Northwest Territories, but none of these meet the size threshold.

Table 1. Distribution of Sawmills by Size, 2002

Size of Mill (cubic metres of lumber produced annually)

Province	10 000 to 29 999	30 000 to 99 999	100 000 to 299 999	More Than 300 000	Province Total
British Columbia	49	34	42	60	185
Alberta	12	9	11	8	40
Saskatchewan		3	2	1	6
Manitoba		2	1		3
Ontario	13	20	11	16	60
Quebec	81	53	33	8	175
New Brunswick	9	14	7	4	34
Nova Scotia	21	3	7	1	32

Prince Edward Island	9	1	1		11
Newfoundland & Labrador	9	1	1		11
Canada total	195	139	116	98	548

Source: Natural Resources Canada, Earth Sciences Sector, Atlas of Canada, 2003.

The size measure used is "annual production of lumber or annual output capacity of lumber". This fairly complex definition of size is necessary because data were either provided as annual production or as a measure of production capacity. The "Data Quality" statement below gives more details on size concepts for sawmills.

The map uses metric units as the basis for size measure. However, non-metric units (board feet) are very widely used in the industry. The size classes given in both units are as follows:

Table 2. Mill Size Categories Based on Output Capacity of Lumber Per Year

Mill Size Categories

Cubic Metres of Lumber Per Year	Millions of Board Feet Per Year
10 000 to 29 999	4.24 to 12.69
30 000 to 99 999	12.70 to 42.37
100 000 to 299 999	42.38 to 126.9
more than 300 000	more than 127.0

The conversion formulas are:

1 cubic metre = 424 board feet

1000 board feet = 2.36 cubic metres

2. Sawmill Operator Names

The "Get Statistics" on the map cites the name of the company as the main identifier for any particular mill. Often there are two or more possible company names because there might be a local operating company for a mill, and also a larger company which owns the local firm. The data suppliers indicated which company should be used (usually the larger company).

Many mills also have a name. However, these are only listed when a company has more than one mill in a single locality. This frequently happens in British Columbia, notably at Prince George.



3. Type of Lumber Produced

Mills were classified as specializing in any of three types of lumber: softwood, hardwood, or as producing a mix of softwood and hardwood. These terms are defined as follows:

- **Softwood lumber:** comes from trees that have needle leaves, and are commonly referred to as coniferous.
- **Hardwood lumber:** comes from trees that have broad leaves, and are commonly referred to as deciduous (or broadleaf).
- **A mixed:** mill produces relatively large amounts of both hardwood and softwood lumber. Mills were termed as mixed when they met one of the two following criteria:
 - Data suppliers specified that a mill produced both types of lumber.
 - In other cases, if data were available showing the proportion of each tree species used, and if each of hardwood and softwood made up 10% or more of the total volume of input, the mill was classed as mixed.

4. Positioning of Sawmills on the Maps

Mills are normally assigned to a town (or equivalent), and are placed at the geometric centroid for the town. When there are several mills in one town, the mapping software has stacked all of the symbols either at or near the town centroid, with some care being used to prevent symbols from concealing one another. The rules followed were as follows:

- The smallest symbols were stacked on top.
- When there are two or more symbols in one size group, these symbols are offset slightly so that they do not to completely overlap one another.

This procedure results in a more realistic portrayal for places with many mills, and also assists the user in identifying any one of the symbols used at a particular town.

5. Data Quality

Selection of mills: The original data sets were provided by provincial forest agencies, and were then reviewed by provincial or regional associations and grading bodies. The data were also compared to data in Madison's Canadian Lumber Directory.

Size of mills: A considerable amount of effort was needed to ensure all size data fitted a common set of classes. Size data was provided in many formats: there are different concepts of output (production or capacity), various ways of specifying output (production on an annual basis or production per shift), and various ways of specifying total production (either as a single figure or as a data range). As well, many mills specified data in board feet, while others used cubic metres. The map

authors checked as many sources as necessary and feel they have assigned every mill to the correct size class used on the map.

Year of data: Data are based on the period 1999 to 2002.

Mill status: Mills recorded on this map were those in operation in 2002.

Municipal status: The location names are municipalities, which are almost always towns (or their equivalent). If a well-known location is found within a town having a different name, both names are included. Thus, a mill in Upper Musquodoboit, Nova Scotia, is listed as being at Halifax (Upper Musquodoboit). Municipal status is as of December 2002.

Map Sources

Forested Areas

All of Canada is classified into one of eight vegetation cover classes (for example, coniferous forest) using imagery with one kilometre resolution. Satellite imagery is from 1988-1991 period. Source: Canada-Vegetation Cover, Fifth Edition of the National Atlas of Canada. 1993.

Type of Sawmills

Canada's Sawmills / Scieries du Canada. Atlas of Canada, Natural Resources Canada, 2003 [map].

References

British Columbia. Ministry of Forests. Economics and Trade Branch. 2002. Major Primary Timber Producing Facilities in British Columbia, 2001. Victoria.
<http://www.for.gov.bc.ca/het/>

Canada. Statistics Canada. 1998. Logging Industry, 1995. Catalogue 25-201-XPB. Ottawa: Industry Canada.

Canada. Statistics Canada. 1998. Paper and Allied Products Industries, 1995. Catalogue 36-250-XPB. Ottawa: Industry Canada.

Canada. Statistics Canada. 1998. Wood Industries, 1995. Catalogue 35-250-XPB. Ottawa: Industry Canada.

Madison's Canadian Lumber Reporter. 2002. Madison's Canadian Lumber Directory, 45th Edition. CD-ROM. Vancouver.

White, W. and D. Watson. 2001. Natural Resource Based Communities in Canada: An analysis based on the 1996 Canada Census. Unpublished update of Samson, R.,

Natural Resources Canada, Northern Forestry Centre, Canadian Forest Service. Williamson, T.B., and S. Annamraju. 1996. Analysis of the contribution of the forest industry to the economic base of rural communities in Canada. Working Paper 43. Ottawa: Natural Resources Canada, Canadian Forest Service, Industry, Economics and Programs Branch.

Related Web sites (1999 – 2009)

Federal Government

Environment Canada. State of the Environment Infobase. National Environmental Indicator Series Archives. Sustaining Canada's Forests: Timber Harvesting. Technical Supplement: Background Information, 1999

http://www.ec.gc.ca/soer-ree/English/Indicators/Issues/Forest/Tech_Sup/fosup1_e.cfm

This document provides supplemental and additional information to the Indicator Bulletin entitled Sustaining Canada's Forests: Timber Harvesting, published in the Fall of 1999.

Natural Resources Canada. Canadian Forest Service. Economics and Statistical Services Division. Statistics and Facts on Forestry

<http://www.nrcan-rncan.gc.ca/stat/index-eng.php>

The following forestry statistics websites may be of interest.

Natural Resources Canada. Canadian Forest Service. Pacific Forestry Centre. Canada's National Forest Inventory

http://www.pfc.cfs.nrcan.gc.ca/monitoring/inventory/index_e.html

This site presents authoritative national statements on the distribution and structure of Canada's forests.

Natural Resources Canada. Canadian Forest Service. Selected Forestry Statistics Canada

<http://canadaforests.nrcan.gc.ca/?lang=en>

Selected Forestry Statistics Canada presents a series of tables on commodity production, shipments and trade, principal and employment statistics by industry sector, as well as selling price indexes, financial statistics, and economic indicators.

Natural Resources Canada. Canadian Forest Service. Socio-economics Indicator for the Model Forest Network

<http://www.forestry.ubc.ca/simfor/>

Welcome to SIMFOR, the Internet tool you can use to map and compare forestry-related socio-economic information for the Canadian Model Forest Network, and the rest of the country.

Natural Resources Canada. Canadian Forest Service. The State of Canada's Forests

<http://scf.nrcan.gc.ca/>

Provincial/Territorial Government

Government of Saskatchewan. Saskatchewan Environment. Forest Land Use Planning
<http://www.se.gov.sk.ca/forests/landuse/>

A key purpose of an Integrated Forest Land Use Plan is to merge use of the land with environmental, economic, social and cultural values of society into a specific plan.

Other

Canadian Forests

<http://www.canadian-forests.com/>

Canadian Forests provides quick access to all the Internet sites of the federal and provincial governments, the forest industries, service and supply companies, associations and NGOs, consultants, education and research, forestry news, employment opportunities, and much more.

Forest Products Association of Canada (formerly the Canadian Pulp and Paper Association)

<http://www.fpac.ca/>

The work of the Forest Products Association of Canada (FPAC) formerly the Canadian Pulp and Paper Association is carried out through the volunteer efforts of the CEOs and executives of the member companies.

The Canadian Forestry Association

<http://www.canadianforestry.com/>

The Canadian Forestry Association is a non-profit organization with over 100 years of history and a rich legacy, helping Canadians understand the importance of conserving our forest resources.

Inter-agency

Canadian Council of Forest Ministers. National Forestry Database Program.
Compendium of Canadian Forestry Statistics

<http://nfdp.ccfm.org/>

The Compendium of Canadian Forestry Statistics is a selection of statistical data from the National Forestry Database (NFD) published annually. It presents detailed data for the period between 1990 and 2001 as well as key historical data gathered previously from other surveys.