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COWAN, Alan Wood.

THE CANADIAN WHITE PINE TRADE WITH THE
UNITED KINGDOM, 1867-1914.

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by
ALAN WOOD
A. W. COWAN

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ABSTRACT

The eastern white pine (Pinus strobus L.), a high-quality softwood, was exported from Canada to the United Kingdom in volume throughout the nineteenth century. This trade began with the establishment of a system of colonial timber preferences in Britain during the Napoleonic Wars and when these preferences were gradually removed from 1842 to 1866, an adjustment in the pine trade took place. Competition from softwoods of northern Europe and southern United States became severe while the industry faced a growing shortage of good large pines at home. Shipments of Canadian pine declined and it became a high-priced specialty wood in the British market. After the 1870's, the wood was no longer chiefly exported as hewn square timber but rather as sawn planks, or deals. The deal trade in turn ended in the 1900's, as Canadian pine forests had become decimated by fires and overcutting.

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PREFACE

This study arose out of an interest in conservation problems, particularly those concerned with reforestation in eastern Canada. In investigating these problems, it was found that one of the limitations to a full understanding of them was a lack of information on the history of white pine lumbering. Once the monarch of the eastern forests and the principal species in the great export wood trade of the nineteenth century, the white pine is now much less abundant in eastern Canada and does not play a major role in the present-day Canadian economy. The full story of the export trade in white pine has never been told nor have the reasons for its decline been completely explained. This thesis is intended to fill some of the existing gaps in its history.

The trade with the United Kingdom after 1867 has been selected for this purpose as it illustrates most of the major problems which the industry encountered with regard to supply, transportation and marketing. It is also the sector of the trade about which the least is known. There are a number of valuable accounts of the early days of the square timber trade, of the lumber trade with the United States, and of the ways in which lumbering was carried on in Canada. For the important latter days of the British white pine trade, however, relatively little material is available.

The year 1867 offers a convenient point at which to begin this study not only because of Confederation but also because it marks the first full year of free trade in wood with the United Kingdom. As well, square timber exports had begun to decline by the late 1860's and a transitional period in the wood trade was underway. The start of the First World War offers a suitable point at which to end, as by this time the white pine forests in Canada had become seriously depleted. Pine lumbering in the postwar period never recovered the prominent position in the economic life of the country it formerly held.

INTRODUCTION

...of the native trees of Canada, the Pine naturally seems to claim pre-eminence, both on account of its noble growth, and its great value as a source of wealth to the Dominion, whether we regard it from a commercial point of view or as a means of affording employment to a large portion of the lower classes, especially the habitans of Lower Canada. It would require the knowledge of a practical merchant to calculate the value of our Pine forests when summed up in all departments. Some idea may be formed of the importance of this branch of trade by even a casual glance at the vast piles of Pine boards and timbers, laths and shingles that are ready at every port along the St. Lawrence and great lakes to freight the vessels that are waiting to bear off the ever accumulating mass to destined markets - east and west; to England or the United States. To distant islands and foreign lands, our noble trees, in the form of lumber find their way.¹

The eastern white pine (Pinus strobus Linnaeus) was an abundant tree of the original forests of North America. The first settlers who came to this continent used it for many purposes, including the construction of their houses, furniture and barns. In Canada, these needs took only a small part of the available supply and most of the pine was exported. In the nineteenth century, when wood was used for many more purposes than it is to-day,² the time and the place were right for the large-scale marketing of white pine. It was a high-quality wood

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1. Catharine Parr Traill, Studies of Plant Life in Canada, (Ottawa, 1885), pp.153-4.
 2. Among the substitutes for wood which have become widely used since are plywood, cardboard, manufactured boards, cement, aluminum and plastics. Iron and steel have also replaced wood for many purposes.

which was much in demand and brought premium prices in the lumber markets of the world. The United Kingdom³ and the United States were its chief outlets but smaller amounts were shipped to other countries. For more than a hundred years, from the start until shortly after the end of the nineteenth century, the white pine was a staple Canadian export.

The original forests of eastern Canada contained a number of species of trees which were suitable for lumber. For many years, however, the only softwoods which were cut commercially were the white and the less common red pines. Only when the pines became scarce, or in areas in which they did not occur, did the lumberman turn to other species. Chief among the other softwoods were the spruces, which were just as abundant as the pines although of more northerly distribution. The spruces were not large enough, or sufficiently valuable, to be used for square timber but they could be sawn into good, inexpensive lumber. A large spruce lumbering industry developed in Canada in the second half of the nineteenth century in the Maritime provinces and eastern Quebec. Pine lumbering, in contrast, was carried on principally in western Quebec and in Ontario. While the production of spruce lumber in this period appears to have been less than that of pine, in the British trade it was the more important of the two, while the pine predominated in the American market. Other softwoods which were lumbered in the east included the tamarack, balsam fir, cedar and hemlock. The hardwoods, while

3. Canadian pine was sold in all parts of the United Kingdom, including Northern Ireland. The adjective "British" is used in this study to refer to the market as a whole.

more valuable than the softwoods, were much less abundant and less important in the export trade. A small but thriving trade in hardwoods was carried on with the United Kingdom for the whole of the nineteenth century in which oak, elm, and birch were among the more prominent woods exported. Maple, beech and basswood were other hardwoods which were lumbered in Canada.

The greatest concentration of white pine in Canada lay within the Great Lakes - St. Lawrence River drainage system. This fact greatly facilitated its exploitation as most stands lay within a relatively short distance of some body of water on which logs could be floated to the sawmills or shipping ports. All wood proceeding overseas had to funnel through the St. Lawrence which meant that the ports of Quebec and Montreal in particular were in a position to intercept this traffic and profit from it. In conjunction with the climate and the fact that softwoods were buoyant, this permitted the development of distinctive production and transportation techniques. Logs were cut in the winter months and hauled to the nearest frozen creek, river or lake where they were piled on the ice. With the spring break-up, sawlogs were driven along waterways to the mills. Square timber, hand-hewn in the woods, was formed into rafts which were floated to Quebec where the wood was stored before shipment overseas. Logging, being active in the winter months, thus complemented farming, the other major industry of early Canada. As was the case with other industries, the methods by which the trade was carried on were greatly influenced by the technological changes of the nineteenth century, such as the coming of the steamship, railway and the transatlantic cable.

White pine was shipped to the United Kingdom in three main forms - as masts, hewn timber, or deals.⁴ The export of each of these products was a distinct trade, having its own production techniques, shipping methods, and overseas markets. Until the 1860's, square timber was much the largest of the pine trades and was, in fact, the most important commodity in the Canadian export trade. A fundamental change took place at that time and the mast and square timber trades began to disappear. The export of deals, on the other hand, expanded and about 1860 a new product, waney timber,⁵ was developed. Near the end of the century, a demand grew up in the United Kingdom for pine lumber other than deals. The deal trade, however, was the dominant one from about 1880 to the early 1900's. These changes reflected two of the most important developments in the Canadian pine trade - the tendency towards exporting the wood in a more highly manufactured state and the steady deterioration in the size and quality of the white pine available for export.

A large new market for Canadian wood opened up in the

4. Deals were sawn planks, the pine deals exported from Canada being almost without exception three inches thick. The term "lumber" is used throughout this study to mean sawn wood other than deals and "timber" generally to mean hewn wood. The expression "the timber trade" is used in its British connotation of a general trade in wood.
5. Waney timber was hand-hewn wood which was not completely squared but left with the corners of the outside of the tree, or waney, showing. It was thus roughly octagonal in shape. The purpose of the waney cut was to preserve more of the good outside wood of the tree which was lost when it was squared to a fine edge.

United States in the second half of the nineteenth century.⁶ Exports had been made to that country from Canada as early as the 1830's but the market there did not really begin to develop until the pine of the eastern states began to give out about 1850. The growth of this market was assisted to some degree by the Reciprocity Treaty, which permitted free trade in rough lumber between Canada and the United States from 1854 to 1866, but sales continued to increase even when a tariff was applied following the abrogation of this treaty by United States. Canadian pine was readily accepted in this market but it had to compete with the much larger and highly efficient white pine lumbering industry of the Lake States -- Michigan, Wisconsin and Minnesota. Another competitor was the Southern yellow pine⁷ which gradually extended its range to the north and even into Canada. In spite of this competition, the United States was the largest market for Canadian pine in this period.

The existence of two good export markets helped to stabilize the wood trade. There were none of the wild fluctuations in demand, supply and price which had characterized the old square timber trade. When one market was weak, there was usually a good demand from the other. Rarely were both depressed at the same time. The two outlets also complemented each other to some extent. The American was a mass market which took all

6. For a study of this trade see A.R.M. Lower, The North American Assault on the Canadian Forest: A History of the Lumber Trade between Canada and the United States, (Toronto, 1938).

7. This wood was known in the British market as pitch pine. Pinus strobus, on the other hand, was known in England as yellow pine but in parts of Scotland, as in North America, as white pine.

sizes and qualities of lumber while the British took more of the higher grades of deals and timber. The American market for Canadian pine was chiefly in the east and distribution was carried out through a few large markets, including New York City, Albany, Burlington and Buffalo. All these were within a few hundred miles of the main producing areas in Canada whereas the British market was over three thousand miles distant. In the marketing of a bulky product such as wood, where transportation costs are high in relation to its selling price, this placed the British buyer at a distinct disadvantage in competing for Canadian pine.

In addition to the United States and the United Kingdom, the only other important market for Canadian pine was in South America.⁸ This trade began in 1866 when it was transferred to Montreal from Boston and New York with the termination of the Reciprocity Treaty.⁹ Exports were principally to the republics of the River Plate whose economic and political instability made them erratic markets. It was a small trade, consisting chiefly of pine but with some spruce, varying from a low of three million board feet in 1877 to a high of thirty-six million in 1873 and

8. Small exports of white pine were made to the West Indies, South Africa, Australia and continental Europe.

9. J. Bell Forsyth & Company Annual Timber Circular, 1869 printed in the Quebec Morning Chronicle, December 7, 1869. This trade was said to have been secured as a result of the efforts of trade commissioners sent abroad by Canada in 1865 and 1866.

It has been suggested that a factor in the development of the South American trade was the fact that sailing vessels were being forced into taking longer and less profitable voyages because of the competition of steamships. Select Documents in Canadian Economic History, 1783-1885, H.A. Innis and A.R.M. Lower, eds., (Toronto, 1933), p.511.

1884.¹⁰ Little was heard of this trade after 1890. As one lumberman said at the time: "The South American trade has taken to itself wings and gone no man knoweth where."¹¹

The domestic market for lumber expanded steadily after 1867 and cut into the amount available for export.¹² In the early days of settlement, lumber requirements were met by local sawmills or by settlers from their own woodlots. As towns and cities grew up, and nearby supplies of wood were depleted, a lumber trade developed. The large cities, such as Montreal and Toronto, became important markets and vied with the export trade for the output of the big export sawmills. Intermediate points, such as Windsor and Sarnia, became distributing centers because of their location between the Georgian Bay mills and markets in southwestern Ontario. After 1900, the prairie market in Canada became important and took most of the white pine produced in northwestern Ontario. Pine from Minnesota was also shipped to this market.

While the peak in lumbering in eastern Canada came in the first half-century after Confederation, the relative importance of forest products in the export trade declined steadily

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10. Annual timber circulars of the Export Lumber Co. quoted in the Quebec Morning Chronicle, November 10, 1885. Statistics given are for exports from all St. Lawrence ports to all points in South America. Comparable data are not available after 1885.
11. Anon. quoted in the Canada Lumberman, July, 1892, p.14.
12. The proportion of lumber sold in the home market was estimated in the 1870's (1874?) at twelve and a half per cent. No doubt this figure increased later. Great Britain, Parliamentary Papers, 1878-9, Vol. 50, "Colonial Timber", p.15.

in the period. Other areas of the economy were growing even more rapidly. The main feature of the export trade from the 1870's to the 1890's was the increase in shipments of farm products other than wheat. The dairy and livestock industries of Canada had developed to the point where they had substantial surpluses available for export.¹³ Wheat farming was being given up in Ontario and by 1890 exports of wheat and wheat flour had shrunk to insignificant proportions.¹⁴ By the 1890's, however, the development of the present-day staple exports - prairie wheat, minerals, and pulp and paper - was underway. With the expansion in sales of these and other products, the value of exports from Canada had increased from \$56.1 millions in the fiscal year 1869-70 to \$279.2 millions in 1909-10.¹⁵ Exports of forest products,¹⁶ aided by the growth of the lumber industry of British Columbia, climbed from \$21.5 millions to \$47.5 millions in the same comparison. As a proportion of total exports, this meant that forest products' share had declined from thirty-eight per cent to seventeen per cent in the period.

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13. See Harold A. Innis, "The Historical Development of the Dairy Industry in Canada," in Essays in Canadian Economic History, (Toronto, 1956), pp.211-19.
 14. The value of exports of selected commodities from Canada at ten-year intervals from 1870 to 1910 is given in Appendix Table 2. The source of the statistics is: Canada, Sessional Paper No. 10c, 1917, which gives a resume of the foreign trade of Canada from 1868 to 1916.
 15. See Appendix Table 1.
 16. Separate data for the export of white pine are not given in the official statistics but they constitute the largest component of the total for all forest products. The classification of forest products includes logs, lumber and pulpwood but not paper products.

Canada was fortunate that the white pine industry was active in the late nineteenth century, as this included the period from 1873 to 1896 which has become known as the Great Depression. Wood exports were a major source of employment and income to the country in those difficult years. Even in the severe economic depression of the middle 1870's, there were some good seasons in the overseas pine trade. It was equally fortuitous that the decline in the white pine trade came in the first quarter of the present century when economic conditions were generally favourable. The passing of the overseas export trade in white pine went largely unnoticed in a country which was engaged in many other great ventures.

The white pine was one of a number of staple exports which have played key roles in the economic history of Canada. It occupied a position in the nineteenth century comparable to that of the beaver in the earlier fur trade or wheat and newsprint to-day, an outstanding staple export of its day. It differed from the others in that, during the time in which it was carried on, there was a gradual trend towards its exportation in a more highly manufactured state. Up to the 1860's, it was a typical export of a primitive economy, being shipped largely in the log. In the latter years of the trade, the wood was further manufactured in highly-efficient sawmills before export. It was not possible to carry this tendency to its logical conclusion, and ship white pine in the form of secondary wood products, because of a prohibitive American tariff and the long distance from the British market. In this, the white pine trade illustrates one of the continuing problems of the Canadian export trade, the losses in employment and income which result from the export of staple products in raw or semi-processed state.

CHAPTER I

THE SUPPLY OF WHITE PINE

The first-growth white pines of the Canadian forest were tall, straight trees of substantial girth.¹ They were well suited for conversion into wood products of large size, either as masts, timber or deals. The reputation which the white pine achieved overseas, in fact, was based as much on the fact that it was available in large dimensions as it was on its fine qualities. White pine possesses the properties required for the most exacting kinds of woodworking to an exceptional degree. It is soft, light and easy to work. One of its most valuable characteristics is that it holds its shape well after seasoning. A high proportion of the wood of first-growth trees was clear, that is free of knots, and straight-grained. The white pine is not, however, a strong wood and is therefore not suitable for heavy construction work.

Many of the problems which the white pine trade faced after 1867 were the result of a steady decline in the supply of the wood in the face of rising demand. Canada had great

1. The white pine is the tallest tree in eastern North America, reaching a maximum of two hundred feet in height and a diameter of seven feet. Such trees were rare in the original forest and are not seen to-day. In the lumbering era, a tree which was two to three feet in diameter and over a hundred feet tall was considered large. In addition to its height, other identifying characteristics of the tree are the ragged crowns at maturity; long, looping branches at right angles to the trunk; and needles in bunches of five. The wood is a pale straw colour.

resources of pine at the start of the period which might have been expected to support a lumber industry almost in perpetuity. Instead, it was only possible to maintain a high level of pine production for about fifty years after Confederation. A decline in output began early in this century and white pine lumbering has not fully recovered since. The depletion of this valuable resource raises two fundamental questions. First, what were the principal factors responsible for the decimation of the original pine stands? Secondly, why did the white pine never regain its former abundance in eastern Canada?

I

The botanical range of the white pine covers a wide area of North America. It extends from the Atlantic coast on the east to the edge of the prairie on the west, north to Newfoundland² and south as far as Georgia. The area in which commercial lumbering was carried on was much smaller. In Canada, the best stands were in New Brunswick, western Quebec and Ontario. The Canadian pine belt, as it was called, included the land that lay between the Ottawa Valley and the Georgian Bay and north shore of Lake Huron, where its northern limit coincided with the height of land dividing the Great Lakes basin

2. Newfoundland is not included within the scope of this study but the history of the lumber industry in that province in many ways parallels that of the mainland. The export of lumber began at a late date, about 1890, and white pine was the only species in the trade. Production was carried on in big mills located on Notre Dame Bay and deals were a principal product. Exports reached a level of 40,000,000 to 50,000,000 feet board measure annually. The trade came to a sudden end before the First World War and has not since recovered. Newfoundland, Report of the Newfoundland Royal Commission on Forestry, 1955, (St. John's, Newfoundland), pp.14-15.

from the James Bay watershed.³ There was only a small amount of white pine along the north shore of Lake Superior but it became abundant again in the Lake of the Woods-Rainy River area. Substantial concentrations existed in Norfolk and Simcoe Counties in Ontario. There was a good deal more white pine in the United States than in Canada. The largest pine stands in that country were in the three lake states - Michigan, Wisconsin and Minnesota - but Maine, New York and Pennsylvania were also important white pine lumbering areas.

The pine forests of North America had at one time occupied a much larger area. The stands which existed when settlement first began were remnants of larger pine forests which had become squeezed between the spruce-fir forests of the north and the hardwoods of the south.⁴ The mixed forests of these three types in the Great Lakes region resulted from successive warming and cooling periods extending over thousands of years following the glacial retreat. Warmer periods favoured the intrusion of the hardwoods and in the cooler periods the boreal forest extended its range to the south. Present climatic

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3. The northern limit of the range coincides closely with the thirty-five degree annual isotherm. Thus, the spruces rather than the pines predominate in much of northern Ontario and Quebec and there is little pine on the north shore of Lake Superior. See W.R. Haddow, "Distribution and occurrence of white pine (*Pinus strobus* L.) and red pine (*P. resinosa* Ait.) at the northern limit of their range in Ontario," Journal of the Arnold Arboretum, XXIX (July, 1948), pp.216-226.
 4. K.W. Horton and G.H. Bedell, White and Red Pine: Ecology, Silviculture and Management, Canada, Department of Northern Affairs and National Resources, Forestry Branch, Bulletin No. 124, (Ottawa, 1960), p.19.

conditions, which are considered to be cool and moist, favour the spruce, fir and jackpine to the detriment of the white pine. White pine lumbering in Canada, consequently, was usually carried on in mixed forests of coniferous and deciduous trees although pure stands of white pine did occur.

The supply of pine for the British timber trade after 1867 came from three main areas - the Ottawa Valley, the Trent Valley, and Simcoe County. After the end of the square timber trade, however, the Ottawa Valley became the principal source of the wood for this market. There were other important pine lumbering districts in Canada but they did not contribute to the overseas trade. The Georgian Bay and north shore of Lake Huron was a great pine lumbering center after 1885 but its exports went to the American market. New Brunswick had at one time been Quebec's great rival in the square timber trade but by about 1870 its pine was largely gone.⁵ The same was true of Norfolk County in southwestern Ontario.⁶ The immense pine-ries of northwestern Ontario, which began to be exploited with the building of the railway about 1880,⁷ chiefly served the developing market in the Canadian prairies. There was a considerable amount of pine in the St. Maurice Valley in Quebec and pine deals were exported from that region via Three Rivers to the British market. And, up to the 1870's, there were a number

5. Great Britain, Parliamentary Papers, 1878-9, loc.cit. p.18; Canada Lumberman, November 30, 1880, p.9; Lower, North American Assault, p.139.

6. Canada Lumberman, December 15, 1880, p.4.

7. Ibid., p.1.

of small mills on the St. Lawrence near Quebec City sawing deals from local supplies.

The Ottawa Valley was the largest and most famous pine lumbering region of Canada and its resources sustained an export trade for more than a century. An immense area of some 60,000 square miles is included in this drainage system as the Ottawa River, in all its sinuousities, is well over seven hundred miles long. It has many fine tributaries which are large rivers in their own right and whose names were household words in the pine lumbering era.⁸ There were still good stocks of pine on the lower Ottawa in 1870, as attested by the recollections of a veteran lumberman:

...I well remember in 1870 going up the Opiongo, Bonchere, Petawawa and Nipessing; the whole country was covered with an ocean of pine; as far as the eye could reach from any prominent height nothing was to be seen but a mass of pine tops; in fact one could imagine that it would never be cut or used up. Well, go over the same ground to-day and see what you will find, an almost barren desert as far as standing pine is concerned...⁹

These rivers were all two hundred miles or less from the principal milling sites on the Ottawa. With the expansion in the sawn lumber trade, it did not take the industry very long to work its way through the areas mentioned. The lumber industry was fortunate that there were other good stands of pine to be had in the northern reaches of the Ottawa Valley, in the lake

8. These include, among others, the Lièvre, Gatineau, Coulonge, Schyan, Black and Dumoine in Quebec and the Opeongo, Madawaska, Bonnechère, Petawawa, and Amable du Fond on the Ontario side.

9. Thomas Malone quoted in "The Oldest Living Commissioned Deal Culler in Quebec," Canada Lumberman, July 1, 1923, p.39. Lumbermen had various ways of spelling the names of the rivers of the Ottawa Valley so only the Bonnechère can be said to be misspelled.

and river country of Nipissing, Temiskaming and the Kippewa. This area supplied the mills on the lower Ottawa in the latter years of the trade. Eventually, logs were being brought to the mills from as far away as four hundred miles.

The Trent Valley, comprising that part of the province of Ontario lying immediately to the north of eastern Lake Ontario, was considerably smaller than the Ottawa Valley but it contained some excellent pine:

The original forest on the lower watershed was to the extent of fully two-thirds a magnificent pinery, or in part hardwood with white pine admixture; the other third was hardwood forest, of which maple and beech formed 75 to 85 per cent.¹⁰

The area of this watershed was about two thousand square miles, the country drained by the Trent River system. Easily accessible from Lake Ontario by any one of several rivers in addition to the Trent, pine was taken off these lands from the very start of the trade in the first years of the nineteenth century. It was good square timber country when that trade predominated and sent some pine deals to the British market later in the century. The Trent mills were well situated to ship to the United States and most of their sawn wood went to that market rather than overseas. Production was carried on in large mills located on the Bay of Quinte at Trenton and Deseronto and at interior points such as Bobcaygeon and Lakefield, which had good rail connections with the lake shipping ports. The Trent Valley had a limited hinterland to draw upon and once large-scale production for export got under way, the industry had a short life. Pine

10. Clifton Durant Howe and J.H. White, Trent Watershed Survey, Canada, Commission of Conservation, (Toronto, 1913), p.11.

was becoming scarce in the most remote areas of the Valley in the early 1880's¹¹ and by the 1890's desperate measures were being undertaken to obtain logs.¹² The industry came to a quick and dismal end, leaving many lumbering communities without any alternative source of income. The Trent Valley provides a classic example of the worst effects of overcutting and fire on a fine lumbering industry.

Simcoe County originally contained one of the finest pineries in Canada. It was said that the trees on its sandy soil were of such large size and so close together that no undergrowth existed.¹³ The export trade began with the coming of the Northern Railway, whose terminal points were Toronto and Collingwood, in the 1850's.¹⁴ The first lumbermen came in search of masts, which they shipped out by flat car, and square timber was soon being sent the same way to Toronto for rafting to Quebec. Sawmills, producing for the local and the American markets, sprang up all along the railway line. The peak of activity came in 1860's¹⁵ and by the 1880's the local pine had given

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11. Public Archives of Canada (hereafter P.A.C.), M.G. 28, III, No. 1, Boyd Papers, Volume 113, Macdonald to Boyd, August 29, 1881.
 12. In the 1893-4 season, the Gilmour Company of Trenton, Ontario, tried at great expense to bring logs from outside the Trent Valley watershed over the height of land in Algonquin Park. This costly experiment was a failure and the firm went into bankruptcy a few years later. Audrey Saunders, Algonquin Story, (Toronto, 1947), p.72.
 13. A.O. Fisher, "When Pine Limits in Ontario Sold for Fifty Cents an Acre," Canada Lumberman, September 1, 1922, p.129.
 14. A.F. Hunter, A History of Simcoe County, (2 parts, reproduced ed. by the Historical Committee of Simcoe County, Barrie, 1948), I, 323. The railway was completed in 1853 but the export lumber trade actually began before this date.
 15. Ibid., I, 324.

out. The sawmilling industry in the county then became centered in towns on the Georgian Bay whose logs came from further up the Bay and were towed across by raft. In this latter period, the North American market took the entire output of the industry. Simcoe County was, however, an important source of square timber for the British trade in the 1860's and the 1870's.

II

The production of lumber for the export market from 1867 to 1914 was carried on by large-scale logging and sawmilling organizations. These firms developed as a result of the peculiar circumstances of the place and the time which are unlikely to occur again. They were relatively few in number and were therefore able to exert a strong influence on the marketing of the product. The production and pricing policies of the overseas white pine trade were determined by a handful of lumbermen. It is interesting that at an early stage in its existence Canada should have had a large manufacturing industry using mass production techniques, whereas to-day in eastern Canada lumber is produced in small establishments.

In Ontario and Quebec, logging is carried on under a system of licensing which gives one lumber concern exclusive cutting rights to a specified area of Crown lands with ownership being retained by the provincial governments. The regulations which formed the basis for the licensing system had

been worked out by 1851¹⁶ and were carried on in almost identical fashion in the two provinces after Confederation. The principal features were permanency of tenure, the right to transfer licenses, and the sale of timber limits by public auction. The importance of these regulations to the lumber industry lay in the fact that they permitted the accumulation of forest lands into large holdings and allowed for continuity of operation. It was thus possible for the large lumbering organization to develop, the type of firm which was to dominate the eastern white pine lumbering industry for more than half a century.

With improvement in the effectiveness of the government regulations after 1851 and a steadily growing demand for pine, the process of placing timber lands under license was accelerated in the 1850's and 1860's. The firms which were to dominate the industry for the remainder of the century began to accumulate their limits at this time, including a number established by lumbermen from New York and the New England states. In Ontario, about 12,000 square miles had been placed under

16. See Aubrey White, A History of Crown Timber Regulations, reprint from the Annual Report of the Clerk of Forestry for the Province of Ontario, 1899, (Ontario Department of Lands, Forests and Mines, 1907) p.201 ff. The first licenses in the St. Lawrence River district had been granted to private traders by contractors of the Royal Dockyards who had a monopoly on the cutting of pine. This monopoly was ended in 1826 and the first government licensing system established. In the Province of Canada, difficulties in enforcing the regulations and eliminating abuses were not ended until after the passage of the Crown Timber Act of 1849 and regulations subsequently issued under its provisions in 1849 and 1851.

license before Confederation and an equal area was sold from that date until 1909.¹⁷ Auction sales of pine lands not yet taken up, attended by wealthy lumbermen from all over North America, were a prominent feature of the lumber trade after 1867. The largest single sale in Ontario was in 1872 when 5,031 square miles on the North Shore were sold, "entirely in advance of the necessities of the time."¹⁸ In Quebec, a larger amount of land was licensed but much less of it was in pine than in Ontario. By about 1880, it became evident that the pine was not going to last forever and, as one lumberman observed:

...the timber of the continent is being rapidly gathered into the hands of a few...and those few are able to hold it against all depressing influences so that timber lands instead of being lower in value must on the contrary increase.¹⁹

The value of standing Canadian pine rose sharply after 1885 when Michigan lumbermen began to buy heavily into North Shore limits. In the 1890's and 1900's, the price of timber limits reached fantastic levels. Blocks of land which had been bought

17. Aubrey White, "The Forest Resources of Ontario," Canada Lumberman, March 1, 1909, p.16.

18. Ibid.

19. P.A.C., Boyd Papers, Vol. 113, Macdonald to Boyd, December 21, 1881. A chance remark by Mr. Macdonald led to what may have been the first sale of North Shore limits to an American lumberman, when in 1881 a Mr. Arnold of Michigan bought an estimated 350,000,000 feet of white pine in the Spanish River area for \$135,000. Ibid., October 21 and 31, 1881.

at nominal prices years before were re-sold at prices ranging from \$400,000 to \$1,400,000.²⁰

The accumulation of white pine timber limits into few hands permitted the establishment of permanent milling operations drawing on vast resources of standing timber. The limits of the average firm in this period covered several hundred square miles and, in the case of a few, holdings could be reckoned in the thousands. A typical company might employ a thousand men in the woods and five hundred in the mills, with an annual payroll of more than \$250,000. Annual production in the big export mills, most of which was pine, ran from ten million to over one hundred million board feet annually.²¹ The efficiency of these mills owed much to technical advances in the United States. Two of the principal developments were the replacement of the circular saw by the highly efficient band saw and the shift from water power to steam power.²² Canadian mills had a high reputation as far as technical

20. Canada Lumberman, March 1894, p.5; Audrey Saunders, op.cit., p.66; and the Canadian Annual Review of Public Affairs, 1906, J. Castell Hopkins, ed., (Toronto, 1907), p.77.
21. A list of the larger lumber manufacturers and their estimated output was published in the Canada Lumberman each year, usually in the January issue. There were several export mills which achieved an annual production level of more than 50,000,000 feet and one, J.R. Booth's, which exceeded 100,000,000 feet in several years about the turn of the century.
22. Lower places the date of the introduction of the band saw into Canada at about 1890. North American Assault, p.46.

efficiency was concerned and were said to have made their own distinctive contributions to advances in sawmilling techniques. The high productive capacity which they attained, however, allowed the industry to outrun its material supplies and hastened its decline.

These firms were usually owned by one man, or by partners, called "lumber kings" at the time, men who had been sufficiently astute to see the opportunities presented by pine lumbering and obtain limits, erect mills, establish logging camps, and arrange for sales outlets. There were not very many of these men, the export trade with Great Britain was carried on by perhaps twenty-five major producers at the most. Except on rare occasions, these companies did not sell direct to the United Kingdom but distributed their output through shippers in Quebec and Montreal.²³ The fact that the producing firms were of large size was of significance in the export trade. The substantial capital resources which they had at their command permitted them to ride out any market decline and gave stability to the industry. The relatively small number of these firms, and the fact that they were nearly all located on the Ottawa, made it possible for the lumbermen who were interested in the British market to meet together to discuss prices, inventories, output and other matters of common interest. In contrast to square timber days, the producer in the

23. A different situation obtained in the American market. A number of Canadian firms had their own sales outlets there. Others sold their entire output for the year to large American wholesalers.

post-Confederation period was a strong figure who exerted considerable influence on the marketing of pine. The role of the Quebec houses was correspondingly reduced.

As a result of the strong demand for pine, logging in eastern Canada was carried on in increasingly intensive fashion. The very best trees were taken off first for masts and then the next best for square timber. Later on, the lumber firms went back over the same ground and cut the smaller or less valuable pines which had been by-passed in the first two stages but which were suitable as lumber logs. This applies chiefly to the Ottawa²⁴ and Trent areas as in the short life of the industry in Simcoe County all three types of logging were carried on simultaneously and in the Georgian Bay and North Shore, exploitation began after the square timber and mast trades had passed their peak. As far as the British market was concerned, deal logs were selected from the best of the general run of sawlogs²⁵ while waney timber which required a short, heavy type

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24. The Ottawa Valley was culled over successively for masts, red pine timber, white pine timber, deals, pine lumber, other softwood lumber, pulpwood and hardwoods. Red pine, because it had an artificially higher value than white on the British market until the 1860's owing to its resemblance to the favoured Baltic redwood, was sought after at greater distances than white. See W.E. Logan, Report of Progress for the Year 1845-6, Province of Canada, Geological Survey, (Montreal, 1847), p.26.
25. Deal logging was carried on as a separate operation by the Montmorency Mills of Quebec who had limits in the Gatineau Valley. See P.A.C., M.G. 28, III, No. 6, Gilmour and Hughson Papers, Vol. 145, report of John Stewart to John Mather, June 2, 1865. The report mentions the operations of "Hall's men" in the Gatineau. This is a reference to G.B. Hall, owner of the Montmorency Mills and of Gatineau limits.

of log was secured for the most part in northern Michigan. By the 1880's, the Ottawa Valley firms, faced with a shortage of pine, were turning to other woods. In the next decade, pulp-wood logging began.

One of the most frequently recorded aspects of pine lumbering in Canada was the steady deterioration in the size and quality of the trees being cut. Lumbermen, in their memoirs, constantly hark back to some earlier period in which only giant trees were cut. As with each passing generation, less and less of the original forest remained, there is some substance to these comments. The decline in the size of the wood being exported can be illustrated by reference to the diameter of the trees being cut. It was said that the first cutters to go through the Canadian pine woods were told to ignore trees less than thirty inches in diameter.²⁶ A good piece of timber in those days squared about twenty-four inches.²⁷ By the 1860's, timber of twenty inches square was considered

26. Canada Lumberman, September 15, 1931, pp.25-6. This issue contains a history of early logging days in several localities in central and western Ontario. In the Peterborough district, it was reported that stumps of forty to sixty inches were commonly seen, the largest being seven feet six inches. The largest mast taken out of the area was one hundred and twenty feet in length and forty-two inches in diameter at the first partner.

27. Square timber was sold by the cubic foot content but particulars on the square and sometimes the length of the wood were also given in price lists and contracts. Waney timber sold according to girth and in the case of deals, while the breadth was the most important measurement, all three dimensions were given. For masts, the length and diameter at the base were quoted.

large and there was difficulty in getting that size. The size of logs being cut seems to have gone down rapidly between the 1870's and the 1880's. In 1882, it was said that "ten years ago, only the best pine was taken by lumbermen, selection was made on the basis of 5,000 feet to the acre, trees averaging 16-18 inches made three logs to 1,000 feet."²⁸ By the end of the 1880's, logs were more commonly in the thirteen to sixteen inch range.²⁹ By the end of the century, eight-inch logs were being cut.

The quality of the wood also declined. Clear lumber was increasingly hard to come by and grades were lowered to allow for knots and other defects. Lumber which at one time would have been cast out became marketable. In the 1870's, the supply had been sufficient to allow for some selection. By 1911, logs of any sort were acceptable. "White pine is becoming very scarce," it was reported, "and material is sawn to-day which would not have been felled ten years ago on account

28. Canada Lumberman, January 1, 1882, p.1.

29. P.A.C., Gilmour and Hughson Papers, Vol. 148. The records of this company show that in the 1877-8 season out of 80,000 logs cut and left in the bush after the best were taken out for manufacture, two-thirds were seventeen inches or more in diameter. Ten years later, only twenty-five per cent were in this category, most being thirteen to sixteen inches. The company said that "inasmuch as the business of the past two or three years has resulted in a heavy loss to all engaged in it, it is only by some selection that it can be carried on at all." Circular letter, Allan Gilmour & Co., to Commissioner of Crown Lands, Quebec, March, 1877.

of defects."³⁰ It was nearly impossible by this time to obtain clear lumber in any quantity.

III

One of the principal factors in the rise in the price of pine in this period has been described, the advance in the value of timber limits as a result of the growing scarcity of pine. Among the other factors responsible were higher production costs and increased government dues.

The mills which supplied the British market had mostly been established about 1850 or shortly thereafter. Their locations had been selected with a view to accessibility to water power and to shipping routes to Quebec or the American market. Examples of these were the mills at the Chaudière Falls at Ottawa and those on the Bay of Quinte at the mouths of rivers running into Lake Ontario. The practice up to about 1900 was to erect large, costly and permanent mills. This had unfortunate consequences when nearby stands of pine gave out and new material sources had to be found. Rather than move his mill, the lumberman instead went further back into the interior to find suitable trees. Eventually, some of the Ottawa mills were driving their logs from the northern limit of the range of the pine at great cost. With the use of steam or electricity as sources of power and with the extension of railways and roads, the economic disadvantages of these arrangements became overwhelming. As a result, the industry shifted its base and became

30. Canada, Department of the Interior, Forestry Branch, Forest Products of Canada, 1911 (Ottawa, 1911) p.13.

material-oriented. New mills after 1900 were built close to the timber limits and were small, inexpensive and sometimes portable operations.

The increased logging costs as a result of this situation were those concerned with operating shanties in distant and less productive stands and carrying on the cut and the river drive³¹ for extended periods. The industry was fortunate in the late nineteenth century that wages and prices were low. Work in the woods in those years was carried on by a cheap and experienced labour force which could be housed, fed and clothed at little cost. This situation came to an end at the close of the century when wages rose and employment opportunities in other industries became attractive. The logging camps had difficulty in securing good men, even at higher wages:

Who has taken the place of the sturdy, old-time shantyman? Raw youths, farm help, and mediocre mechanics from the cities have stepped into the vacancies which too often they fill on the pay sheet alone.³²

The operation of the logging camps required a multitude of

31. River driving remained the standard procedure for getting the logs to the mills in Canada in spite of the advent of the railway. The only railway which was used to any significant extent for logging was the Ottawa, Arnprior and Parry Sound, built by J.R. Booth and completed in 1896, which opened up new areas in the Algonquin Park region and ended the difficult drive on the Madawaska River. In the early 1900's, the Cleveland-Sarnia Co., brought a logging train down from near North Bay, Ontario to Sarnia every second day. There was a short logging railway running from Lake Opeongo to Whitney, also in the Algonquin Park district. For the transportation of manufactured products to the market or shipping port railways were commonly used.

32. Canada Lumberman, May 1903, p.21.

goods and with the general price rise, this resulted in a substantial increase in the lumberman's costs.

As the value of timber limits rose, the provincial governments increased their charges so that the general public might benefit. In Ontario, the annual ground rent was increased from fifty cents a square mile in 1867 to five dollars by 1903; timber dues in the same period rose from fifty cents a thousand feet to two dollars;³³ and the average bonus paid the Ontario government for limits purchased jumped from \$118 per square mile in 1872 to \$4,461 by 1904.³⁴ Similar changes were made in the province of Quebec.

Prices of white pine as a result, while they did not escape from the effects of the depression of the 1870's, were well sustained in the period from 1883 to 1896 when prices in Canada on the whole were falling. After 1896, white pine prices advanced much more rapidly than the rise in the general price index for all commodities.

IV

There were four main factors responsible for the depletion of the eastern pine forests - fire, cutting by lumbermen, cutting by settlers, and damage by insects and disease. There is evidence to suggest that the chief agent in the destruction of the original forests was not cutting but forest fires. Clifton Durant Howe, who carried out intensive investigations of the effects of fire concluded that "at least half and probably very much more of our commercial forest-bearing area has been

33. Aubrey White, "The Forest Resources of Ontario," p.21.

34. Canada Lumberman, October 15, 1925, p.42.

burned during the past three-quarters of a century".³⁵ Other estimates place the amount burned from twice as much to twenty times as much as that which was cut.

The exact amount of pine so destroyed will never be known. Hundreds of forest fires, large and small, took place and as many were in remote areas and prior to settlement, even large ones may have gone unrecorded. Forest fires occurred where the highly inflammable evergreens, rather than deciduous trees, predominated. The pines were particularly susceptible as they grew along high rocky ridges in close proximity to each other on dry sites where the ground was covered with needles and dead boughs. As the most common tree in the areas where fires occurred, the white pine suffered the greatest loss. Many pineries were burned over not just once, but several times. Much of the pine was gone, therefore, before the lumber industry had a chance to get at it.

Several of the earlier fires covered enormous areas.³⁶ The great Miramichi fire of 1825 in New Brunswick burned over 6,000 square miles in lumbering country.³⁷ Another in Pontiac County on the Ottawa in 1853 laid waste 1,600,000 acres.³⁸ The

35. Ibid., April 15, 1920, p.39.

36. No complete account of forest fires in Canada exists but brief summaries may be found in the Canada Year Book, 1926, pp.316-7 and in Charlotte Whitton, A Hundred Years A 'Fellin', privately printed, (Ottawa, 1943), pp.91-2.

37. A.R.M. Lower, "Lumbering in Eastern Canada: A Study in Economic and Social History," unpublished Ph.D. thesis, 2 vols., Harvard University, 1928, p.296.

38. Canada Lumberman, January 1, 1913, p.41.

largest fire appears to have taken place about 1845 and burned continuously during the entire summer running along the entire length of the north shore of Lake Huron near the height of land. Entire forests of dead pine could be observed still standing many years after.³⁹ Later fires were not as extensive as these early disasters but were more numerous. Forest fires were regular occurrences in the 1870's and the 1880's; there was a particularly bad outbreak during a dry period in the early 1870's. In 1885, forest fire protection measures were inaugurated in Ontario for the first time which mitigated but did not end the devastation.

The causes of these fires were many and varied. They were the result of carelessness on the part of fur traders, mineral prospectors, loggers, settlers, as well as lightning. The early lumbermen no doubt contributed to the holocausts by the amount of slash they left in the bush in making square timber. The sawn lumber industry of later years was most careful about fire, the first control measures were initiated by individual firms, and probably settlers were mainly responsible for those which took place at this time. Whatever the cause, forest fires were the result of the intrusion of more people into the forest areas and it was quite beyond the power of man to control them completely.

The amount of pine cut by the lumbering industry, in contrast, can be estimated within reasonably accurate limits, since the provincial governments kept records of the annual

39. James Cleland Hamilton, The Georgian Bay, (Toronto, 1893), pp.126-7.

cut of timber limit holders for the purpose of levying stumpage charges. One estimate derived from these records is that a total of forty-six billion board feet was cut on Crown lands in Ontario and Quebec from 1870 to 1935.⁴⁰ When an allowance is made for that cut on private lands and other losses, the total disappearance is placed at sixty-four billion feet. The peak came from 1880 to 1910 when an annual average of close to one billion feet was cut. The inventory at the start of the period was estimated at 250 billion feet and that remaining in 1935 at eleven billion feet. This would leave 175 billion feet, or seventy per cent, most of which was presumably destroyed by fire.

Table 1

Average Annual Cut of White and Red Pine on
Crown Lands of Ontario and Quebec, 1870-1934

Equivalent in Ft.b.m. Log Scale

Period	Ontario	Quebec	Total
Board Feet			
1870-9.....	373,756,000	259,486,000	633,242,000
1880-9.....	583,852,000	362,950,000	946,802,000
1890-9.....	662,749,000	363,385,000	1,026,134,000
1900-9.....	665,358,000	268,377,000	933,735,000
1910-9.....	376,153,000	213,160,000	589,313,000
1920-9.....	300,499,000	136,344,000	436,843,000
1930-4#.....	86,880,000	29,383,000	116,263,000

Source: See Footnote 40. Red pine is estimated at ten per cent of the total. The peak year was 1896 when 1.3 billion feet were cut.

#Five-year period

40. Roland Craig, "Red and White Pine Cut in Ontario during Sixty-five Years (Crown Lands)", Canada Lumberman, April 1, 1938, p.22.

The amount cut on private lands in the total above is placed at from five to ten billion feet, which is probably a conservative estimate. Much wood was cut in clearing land for settlement, some of which was sold to the lumber industry by the settlers. The fact that lumbering was carried on well in advance of settlement at this time, however, limited the amount of pine cut in this way. The government of Ontario, in fact, was placing lands under license as late as the 1870's in order to clear the standing timber out of the settlers' way. It was soon realized that the Shield areas were unsuited for farming and the progress of settlement was thereby checked. From the 1850's to the 1870's, there were some sections in which the farmer-settler provided significant proportions of the logs used by the sawmills. Simcoe County and Muskoka are examples of these. A problem was created at this time by "bogus" settlers, who located on the land only to obtain the pine which they then sold to the lumberman at low prices and moved on. After about 1880, settlement had relatively little effect on the supply of pine as lumbering was being carried on in areas in which the farming population was either small or non-existent. The concern of the lumbering industry at this time was chiefly with the fires which were set by the relatively small numbers of settlers in remote areas.⁴¹

Fire and cutting may explain the depletion of the first-growth forests but it would seem reasonable to expect that the pine would recover in time even from the effects of

41. Canada Lumberman, February 1906, p.28.

these. The reason that it did not has been attributed to "a disturbed balance between the seed-bearing capacity of the forest and the frequency and destruction of forest fires."⁴² In moderation, fire assisted the spread of the white pine as it was among the first species to reproduce in a burned-over area. The white pine in fact had perpetuated itself through the medium of forest fires.⁴³ Those of the nineteenth century, however, were too numerous and too widespread to permit this process to continue. Cutting took off the older seed trees and fire destroyed both the young and the old ones. In areas which had been burned over several times, the very soil itself was destroyed and the regeneration of the pine never took place.

The white pine also suffers severely from damage by insects and disease but the worst effects of these were not felt until the peak of the lumbering era had been passed. The most serious are the white pine blister rust and the white pine weevil. The former, a disease which is thought to have originated in Asia and which was brought to the United States from white pine plantations in Europe, was first reported in Canada in 1914.⁴⁴ It is fatal to the tree but can be controlled. The white pine weevil, one of nearly fifty insects

42. D.K. Maissurow, "Fire as a Necessary Factor in the Perpetuation of White Pine," Journal of Forestry, XXXIII, (April, 1935), p.377.

43. Ibid., pp.373-8.

44. Horton and Bedell, op.cit., p.154.

to which the white pine is host, was first described in 1817 but was not a serious problem until clearing of the land and changes in the forest composition created conditions favourable to its multiplication. Serious infestation was reported in Canada in 1925.⁴⁵ Weeviling does not kill the tree but results in crooked trunks unsuitable for lumber. The white pine blister rust and the weevil now present a serious threat to the future of white pine as a commercial species.

The effects of fire and cutting may explain the loss of the original pine forests, and to some extent its failure to reproduce, and damage by insects and disease may limit its regeneration to-day. However, anyone who has seen the difficulty which young pine now has in establishing itself in eastern Canada may wonder if there is not some other factor operating, perhaps a change in the climate, which is unfavourable to the tree. This view was expressed many years ago by A.J. Russell, Crown timber agent at Ottawa, and is still valid.

...the extent of the climatic zone in which it thrives seems to be steadily contracting and its power of reproducing its kind diminishing from some natural cause, for it is remarkable speaking of the valley of the Ottawa, near the northern limit of its growth, even in fertile hardwood lands where pine of the best quality and largest growth are commonly found, there are often no young pines growing to replace them, though it be even what is called the white pine country of old Canada...⁴⁶

The fact that a second growth of white pine did not take place in many areas helps to explain the excessive cutting

45. Ibid., p.125.

46. Great Britain, Parliamentary Papers, 1884-5, Vol. 62, "Report on the Forests of Canada," p.25. The section in this report on the Ottawa Valley was written by Mr. Russell.

practices of the lumber industry. There was, as well, a generally over-optimistic idea of the inventory of standing pine.⁴⁷ As a result, no one really foresaw the complete collapse of pine lumbering which later occurred. Lumbermen, and the community as a whole, sincerely believed that the industry could continue indefinitely at a high level. At the same time, public opinion by the 1880's had got away from the old idea that trees were little more than an obstacle to settlement and government policies were no longer mainly directed towards clearing the land so that farming could be carried on. A genuine concern over the high rate of consumption of forest resources had developed and the need for conservation measures was becoming evident.⁴⁸ The government of the province of Ontario began a policy of forest preservation at this time which came to include fire protection and reforestation programs and the establishment of a system of forest reserves. These measures, and the attempts of lumbermen to operate on a sustained yield basis, were not sufficient, however, to restore the stocks of white pine to anything approaching their original level.

47. For example, it was thought in 1881 that there was enough pine in newly discovered stands on the North Shore to last for a century. Canada Lumberman, November 15, 1881.

48. It is of interest that the lead editorial in the first issue of the Canada Lumberman of October 15, 1880, was entitled "Preserve the Forests." The lumber industry in general was active in urging conservation measures.

CHAPTER II

THE BRITISH TIMBER TRADE IN 1867

The timber trade is the oldest of the British import trades as the need to supplement native wood supplies arose at an early stage in the history of the British Isles. Records exist of the import of softwoods into Great Britain in the ninth century¹ but a regular trade in wood was not carried on until the thirteenth century.² At that time, with the breakdown of the feudal system and the growth in commerce, wood became one of the articles in the trade with the Baltic countries carried on by the merchants of the Hanseatic League.³ In the seventeenth century, the British forests became virtually exhausted as a result of the demands of the Royal Navy as well as domestic and industrial usage, and the importation of tropical hardwoods and North American softwoods began. By the end of the eighteenth century, imports were supplying most of the British requirements. As demand increased in the years following, the timber trade searched the world for commercially valuable woods and established arrangements to have them shipped

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1. A.L. Howard, Timbers of the World, (rev. ed., London, 1951), p.476.
 2. Bryan Latham, Timber: Its Development and Distribution, (London, 1957), p.24.
 3. L.F. Salzman, English Trade in the Middle Ages, (Oxford, 1911), pp.362-6.

to the British market. This process reached its culmination with the rapid economic expansion of the nineteenth century. Enormous quantities of wood were brought into the United Kingdom and the British consumer was offered an unequalled choice of all the principal species of the world. In this trade, the exotic hardwoods were individually the most valuable but the bulk of the imports were the common softwoods of northern Europe and North America.

The closest source of softwood for the British market was the Baltic Sea-Norway area. Although the woods from this source were either pine or spruce, they were known collectively on the British market as Baltic fir.⁴ The principal species was the Pinus sylvestris (Linnaeus), which was common in all the countries of northern continental Europe.⁵ This wood was sent to Britain from Sweden, Prussia and Russia and was sometimes known in the timber trade by the name of the port from which it was shipped, e.g. Memel, Danzig, or Riga. It was a strong wood of good quality and highly favoured in the British market because of its versatility. The trees of the Baltic were not as large as the pines of North America and could not compete in the markets for mainmasts or large hewn timber. They did have other advantages, particularly proximity to the British

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4. Although Norway was an important exporting country, wood from this region as a whole was referred to as "Baltic." Norway exported large amounts of a spruce, Picea excelsa (Link).
 5. Pinus sylvestris has been introduced into Canada, where it is popularly known as "Scotch" pine and is much used for Christmas trees.

market and consequent low shipping costs. In the Scandinavian countries, the technology of sawmilling was highly advanced and a well-manufactured product was turned out.

Pine from the southern United States was exported to the British softwood market in volume in the nineteenth century, particularly after the end of the Civil War in 1865.⁶ Vast forests of these pines, which the British called pitch pine, existed in the Carolinas, Georgia, Florida, Louisiana and Texas. Several kinds of pine were mixed indiscriminately in these exports, of which the principal one was the Pinus palustris (Mill.) or longleaf pine. It was a hard pine, with strength enough to be used in heavy construction but also satisfactory for interior use. In comparison with Canadian white pine, it had low free-on-board costs, as producing areas were close to tidewater ports. American pitch pine competed with Canadian in the markets for large timber as well as sawn lumber. It was the principal competitor from North America which Canadian wood faced. The American white pine from the Lake States was also exported to Britain, but in smaller amounts and for a shorter period.

White pine had been known in Britain from the start of the seventeenth century. Specimens of the tree had been brought back from the coast of Maine in 1605 by Captain George Weymouth, R.N.⁷ and, beginning in the 1620's, white pine masts and boards

6. A trade in pitch pine was carried on at least as early as 1825. Great Britain, Parliamentary Papers, 1852-3, Vol. 99, "Timber," (Memorial of Liverpool Merchants), p.719.

7. J.E. Defebaugh, History of the Lumber Industry of America, (2 vols., Chicago, 1906), II,1.

were sent to the British market from New England and New York.⁸ New England became particularly important as the main source of supply of large masts for the Royal Navy. In the eighteenth century, the securing of these masts interfered with the private trade in lumber and was one of the causes of disaffection leading to the American Revolution. After the Revolutionary War, the Royal Navy turned first to New Brunswick (then part of Nova Scotia) in 1780 and then to the St. Lawrence area in 1804 for its supply of white pine mainmasts.⁹ At the same time, a small commercial trade in wood had begun to develop around the port of Quebec.

The commercial wood trade, both in New Brunswick and Quebec, was given great impetus by the Napoleonic Wars. Not only was the supply of softwoods from Europe dislocated by these wars but as well the British government, in order to encourage lumbering in Canada, placed heavy duties on foreign wood while colonial wood was admitted free or with a modest duty.¹⁰ The result was that a thriving trade in wood between Canada and the United Kingdom was established which continued and expanded after the end of the conflict. Imports from

8. R.G. Albion, Forests and Sea Power: The Timber Problem of the Royal Navy 1652-1862, (Cambridge, Mass., 1926) p.232, quoting Documents relating to the Colonial History of New York, i, 26.

9. Ibid., p.291.

10. Aubrey White, History, p.157. Although the system of differential duties existed earlier, the very large duties imposed in 1810 on foreign wood may be taken as marking the start of the era of colonial preference. The origin of the differential duties is discussed in Lower, "Lumbering," Chap. IV.

other countries were not cut off but were relatively insignificant until 1842.

The initiation of a policy of free trade by the British government ended this period. The colonial timber preferences were reduced gradually from 1842 to 1860, at which date they were equalized as between foreign and colonial wood.¹¹ In 1866 the small remaining duties were removed.¹² The view of the British government of the day was that the "yellow pine, is not to be regarded as competing with the wood of the Baltic, but rather as available for different though concurrent uses" and they were "sanguine in the anticipation that the trade will continue, notwithstanding, to extend itself."¹³ The latter expectation was borne out by subsequent events. Imports of timber into the United Kingdom experienced a long-run growth. The traditional and closest sources of European softwoods - Sweden, Russia, Prussia and Norway - re-entered the market on a large-scale almost immediately. Canadian wood shipments also increased.

The position of square pine timber in the British market from 1842 to 1866 is somewhat contradictory. Considering the size of the trade alone, these were its best years. Exports of timber from British North America to the United Kingdom

11. Budget speech of the Rt. Hon. W.E. Gladstone, Chancellor of the Exchequer, Great Britain, Hansard's Parliamentary Debates, Vol. 156, cols. 852-3, February 10, 1860. For a discussion of the repeal of the duties and the effects, see Lower, "Lumbering," Chap. XI.

12. 29 & 30 Victoria, cap. 36.

13. P.A.C., R.G. 7, Series G1, Vol. III, pp.379-82, Gladstone to Cathcart, March 3, 1846.

reached their highest recorded level in 1845 and, in the period from 1860 to 1864, there were several seasons in a row in which very large amounts were shipped.¹⁴ There was over-production of pine timber throughout this period, however, and Canadian white pine was being pushed out of overseas markets it formerly held. In the early 1860's, the market for pine timber in Britain was depressed and prices low. The nature of the demand for timber was in contrast with that for deals. Spruce and pine deal exports showed very satisfactory gains in this period and more were wanted all the time. The growth of the pine deal trade and the decline of the pine timber trade at the port of Quebec are illustrated in the following table:

Table 2

Average Annual Exports of White Pine Timber and Deals from the Port of Quebec by Five-Year Periods, 1845-1884

Period	Pine Timber	Pine Deals	Total Pine	Total All Wood Exports	Pine to Total
Millions of Board Feet					%
1845-49....	149.2	70.2	219.4	331.1	66.3
1850-54....	172.0	55.0	227.0	337.2	67.3
1855-59....	173.7	97.1	270.8	334.0	81.1
1860-64....	231.3	120.9	352.2	441.4	79.8
1865-69....	190.3	123.5	313.8	422.6	74.3
1870-74....	164.2	134.5	298.7	423.3	70.6
1875-79....	125.6	129.2	254.8	386.4	65.9
1880-84....	108.1	106.1	214.2	345.7	61.9

Source: Quebec Morning Chronicle, December 15, 1884 compiled from J. Bell Forsyth & Co. timber circulars. The original data were converted to board feet equivalent. The decline in deal shipments after 1879 reflects the effects of the transfer of this trade from Quebec to Montreal, not a drop in total exports. Comparable data for New Brunswick are not available.

14. Great Britain, Board of Trade, Annual Statement of Trade of the United Kingdom, for the years mentioned.

The third sector of the pine trade, that in masts, was beginning to disappear by 1867. For many years, white pine had been without a rival as a source of mainmasts for large sailing ships. This was because of its height and straightness and in spite of the fact that it was not strong and was liable to rapid decay in tropical areas. With regard to this use, Thomas Laslett, timber inspector to the British Admiralty and an authority on woods of all kinds, stated that:

Nearly all the lower masts, yards, and bowsprits of large ships are made of Yellow Pine; but for the lower masts of small vessels and generally for the top masts, topsail yards, and other light spars where the strain is sudden and great, this description of pine is not strong enough and is therefore seldom employed.¹⁵

The situation was changing in the 1860's. Substitutes were replacing pine - Douglas fir and iron masts. The sailing ship itself was being displaced, first by sailing vessels with steam auxiliary and then by steamships without masts or sails. As well, white pines suitable for masts were becoming more difficult each year to find. As a result, exports of pine masts shrunk to small proportions, the value of mast and spar exports in 1868 being \$86,000.¹⁶

Most of the Quebec merchants who carried on the trade in the later nineteenth century were already established in business in 1867. Three of the larger firms - Sharples', Gilmours, and Burstalls - had been located at Quebec for many years and were operated by second generations of these families

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15. Timber and Timber Trees, (2nd ed., London, 1894), p.357. Red pine was among the woods used for spars.
 16. Canada, Annual Report of the Department of Trade and Commerce, Sessional Paper No. 10c, 1917, p.200.

in the trade. Other houses were owned by Englishmen, such as Henry Fry and Richard Reid Dobell, who had come out to Canada in the 1850's and established their own firms. While these men spent much time overseas, they also made outstanding contributions to the political and social, as well as the business, life of Quebec. All had close connections with Great Britain, either through associated firms, relatives, or personal visits.

Quebec timber houses were famous for their sound, conservative practices. It was said of them that:

...always content with a fair profit, they are exceedingly cautious about making large losses, that very absence of the speculative element, therefore, while it may prevent them from taking all advantage possible to be derived from a "boom" in prices, is a very efficient safeguard against loss by undue depression...¹⁷

In this they reflected not only the outlook of the mid-Victorian British merchant class but also practices which the timber trade had developed over centuries. All their dealings were characterized by honesty of a type which is seldom found in business to-day. These qualities gave a stability to the trade which was to stand it in good stead in its difficult years. Failures at Quebec were rare and the same houses continued in business for decade after decade.

The function which they carried out was that of the middleman. They bought wood from the lumberman, received and stored it at Quebec, and arranged for its sale and shipment overseas. Sales of Quebec wood goods in the United Kingdom were usually made on a contract basis. This contracting business, as it was called, was carried out in the winter months

17. Canada Lumberman, January 1, 1882, p.1.

when the Quebec merchants made their annual selling trips to the United Kingdom. Much of the business was done in out-ports where steady customers took cargoes year after year. Additional sales were made during the season, usually by agents in Britain but sometimes by direct mail to Quebec. Smaller amounts of wood were sent to overseas firms on consignment to meet the demand for quick delivery. If a consigned lot remained unsold for some time, or if it was to be disposed of quickly, it was put up for sale by auction, a common feature of the main timber ports such as Liverpool and London. On the supply side, purchases from Canadian lumbermen were also made by advance contract although this practice was not as common as it was in the selling end. The Quebec merchant often preferred to wait and look over the wood before making a decision. To secure first-class lots, however, timber was sometimes contracted for in advance. With deals, this was the standard practice.

The maintenance of inventories at Quebec was an important function of the Quebec timber houses. Stocks of square timber were kept in coves which extended for some five miles around the port of Quebec on both sides of the river. Each company had its own coves, where the booming, dressing, and loading of timber was best handled because of the tidal beaches. The amount of stock held was of crucial concern to the merchant, as there was always the danger of getting caught with large holdings in a falling market. On the other hand, there was a need to ensure a constant supply of wood of the quantities and descriptions required by his customers. Inventories of timber

at Quebec could be quite large, representing a sizeable investment. A large house might carry as much as a million cubic feet of timber at Quebec with a value running into hundreds of thousands of dollars.¹⁸ The total stock of white pine timber at Quebec at the end of the 1867 season was 14,900,000 cubic feet,¹⁹ or more than the total exported during the year.

Members of timber firms in Britain expressed their concern over these large inventories in their letters to Quebec:

The amt. of our stock is really fearful at Quebec...I should sincerely wish to hold half or one-third less...We dare not miss sales on this side, we held dead stock with you till they became seriously depreciated & are running risks greater than we can see of being floored when we are most extended...²⁰

There were some ways in which the pressure of large inventories could be relieved. The practice of the trade at Quebec was to winter over large holdings so they would have timber ready for the spring fleet. Information on the exact amount of wood at Quebec was made known to lumbermen and shippers and they could make their future plans accordingly. If there was thought to be a large surplus, as was the case in the 1867-8 season, a certain amount could be used up by local consumption or by conversion to deals for export. Diversion of wood to the United States after it had reached Quebec was rare, although this took place in 1865-6 under exceptionally strong demand conditions. The Quebec shipbuilding industry

18. P.A.C., M.G. 28, III, No. 11, Sharples Papers, Vols. 5 and 7, giving inventory figures for 1865 and 1868.

19. Canada Lumberman, June 15, 1913, p.37, statistics prepared by E.H. Wade.

20. P.A.C., Sharples Papers, Vol. 1, Henry Sharples to Charles Sharples, January 3, 1868.

took some wood, although little white pine, but this industry was declining in the 1860's. Even at an intermediate distribution point such as Quebec, adjustment in inventories could take some time to accomplish. On the whole, however, the practice of maintaining stocks at Quebec served a useful purpose in regulating the flow of timber overseas and no doubt much worse excesses of supply would have occurred had not the market been so organized.

With his large investment in stock, the Quebec merchant had to be thoroughly familiar with economic conditions both in Canada and overseas. He was acquainted with the lumbermen who came to Quebec with their rafts and, in the winter months, a junior member of the firm might visit their camps or offices to get first-hand information on conditions in the woods and their production plans. Details on contracts entered into between lumbermen and Quebec shippers, and prices to be paid, soon became common knowledge in the trade. Sometimes, lumbermen would attempt to make forecasts of the output of the industry:

I enclose a copy of a statement on White and Red Pine getting out above Ottawa which was sent to Jeffrey by James Skead & which Jeffrey permitted me to copy.

The quantity of W. Pine is about 5 millions less than last year & the quantity getting out above Toronto is also reported short of past year's production so that the supply of White Pine this year judging from all accounts will fall short of last year.²¹

In addition, statistics on the supply, stock, export, and prices of wood at Quebec were available from the Supervisor of

21. Ibid., Vol. 1, Charles Sharples to John Sharples, January 31, 1868.

Cullers' Office and from timber circulars. For the British market, a number of sources of information were available. Correspondence carried on between Liverpool and Quebec members of timber firms was voluminous and touched on anything which might possibly affect the future of the trade, political and military events as well as economic. Further, it was the practice of British timber houses to issue periodic circulars on the state of the trade in their own market, analyzing current market conditions and providing statistics for their port. Finally, members of Quebec houses would make at least one selling trip to the United Kingdom annually, usually leaving early in the New Year and returning about April.

On these trips, the Quebec merchant took with him details on the stock and prices of wood which his firm had for sale at Quebec. On the basis of this list, the winter selling campaign in the United Kingdom was carried out and contracts entered into. Additional sales were made continuously throughout the season by the British timber firms and advices on wood supply were sent regularly overseas from Quebec. A catalogue was also made up in the early summer, when the Quebec house knew something of the timber on its way to Quebec and was able to get out a price list. This information was forwarded overseas in considerable detail, with the particulars on each description of wood set forth.²²

Liverpool, from its strategic location on the west coast, was the center of the Canadian wood trade. Although

22. Ibid., Vol. 6, C. & J. Sharples & Co., to Henry Sharples & Co., June 28, 1867, contains an example of such a list.

overshadowed by the textile and grain trades, timber nevertheless played a significant part in the commerce of Liverpool and a separate section of the dock and business district of the city was devoted to the Canadian wood trade. London, the biggest timber port in England and the center of the Baltic and world trade, was less important for white pine. The Quebec houses usually were associated with timber firms in Liverpool and in addition, had representatives in other important centers. In larger timber markets, such as London or Glasgow, the representative might be a firm of long standing and considerable prestige which engaged in a general trade in wood with many countries. Thus, the Sharples firm was represented in London by Churchill and Sim and, later on, in Glasgow by Edmiston and Mitchells, both well-known houses. To cover wider areas and smaller markets, one man was often employed:

Our agency business is somewhat disorganized. We want especially a party for Glasgow & eventually might embrace north of Scotland...do not promise any other section than Glasgow, Greenock, and Paisley...I should prefer Gordon for Scotland... & on the east coast he is very powerful--all south of England between London and Land's End. Of course, Sutherland will I calculate continue with us. There is the Cumberland Coast, the South Wales Coast, the Plymouth and Cornwall sections. Bristol is a difficult market and requires personal attention ...Charles will take up the Belfast business next mail...²³

By these means, and through the overseas selling trips made by the Quebec members of the firm, coverage of most of England, Scotland, and northern Ireland was obtained.

The day of the steamship was at hand in 1867 but square timber was still being carried by sailing vessel. Each

23. Ibid., John Sharples to Henry Sharples, December 22, 1865.

year, a vast armada of ships and a veritable army of seamen were required to carry Canadian wood exports overseas. Over a thousand sea-going vessels arrived at Quebec for wood cargoes annually on the average in the 1860's,²⁴ manned by some 20,000 seamen. There were two fleets, the main one arriving in the spring and a smaller one in the late summer and early fall. The Quebec harbour, consequently presented a very busy spectacle at these times and was a favourite subject for artists and authors. Square-rigged vessels were riding at anchor everywhere, as many as seventy-five at a time, with one or two in each cove being loaded and others waiting in the main stream. Smaller boats, bateaux carrying deals or supplies and coastal vessels, were moving back and forth everywhere. In the background, timber was jammed in booms in the coves on both sides of the river and workmen on the beaches were busy preparing wood for shipment.

24. Statistics on the number of vessels arriving at the port of Quebec were kept by the Custom House Register, Quebec, for the years 1764-1771; 1776; and from 1783 on. Prior to 1868 these figures included vessels trading with the lower provinces. Estimates have been made for certain years for ocean-going vessels only but these must be used with caution. Throughout this study, the statistics given on arrivals of vessels at the port of Quebec are those published in the J. Bell Forsyth Co. Annual Timber Circulars. The gross Custom House figures do provide a measure of the growth of the trade of the port of Quebec. The annual average of ships arriving at that in ten-year periods from 1790 to 1859 and from 1860 to 1867 were as follows: 1790-99: 90; 1800-09: 220; 1810-19: 374; 1820-29: 657; 1830-39: 1,025; 1840-49: 1,237; 1850-59: 1,150; 1860-67: 1,395. A peak of 1,661 vessels, of which 1,401 were ocean-going, was reached in 1863, after which a steady decline in the number of arrivals took place. See the Quebec Morning Chronicle, January 14, 1871.

With sailing vessels, the round trip between the United Kingdom and Quebec took several months. Depending on weather conditions, a ship might take six weeks on the outward voyage, three weeks in loading, and six weeks on the return voyage, or about three months in all. The Quebec shipping season was seven months long, approximately from the end of April until the end of November, so it was quite possible for a vessel to make two trips a year. Three trips had been made but only rarely. The first ships sailed from the British Isles in March but April was the busiest month for departures. A second peak in sailings from Britain took place in August. The last vessels to leave Quebec invariably set sail in the final days of November or the first week in December. The wood trade was different from other commodity trades, where capacity and economy in carrying vessels had been sacrificed in the interests of speed. In these trades, the sailing ship reached its highest point of development in the 1860's, best exemplified by the famous British tea clippers. The timber trade did not participate in this craze for speed because as a heavy, bulky product it could not economically be carried in a clipper-type ship. The older square-rigged sailing vessel remained the standard means of transportation as long as square timber was exported.

The cost of transporting Quebec pine to Great Britain constituted an important part of its final price. Freight rates for square pine timber in 1867 were between twenty-five and thirty shillings per load of fifty cubic feet. In other words, about sixpence or sevenpence was added to the cost per cubic foot. When one considers that superior square pine was

selling from ninepence to elevenpence per foot at Quebec in that year, and waney from thirteen to fourteen, it will be seen that shipping costs were a major determinant of the ability of Canadian products to compete in the United Kingdom. Further, revenues of shipowners had been declining as it was becoming increasingly difficult to get westbound cargoes. In the days when timber ships carried emigrants to Quebec, a vessel might accommodate 200-250 passengers at from fifty to sixty-five shillings per person.²⁵ By 1867, this movement was nearly at an end as almost all emigrants were travelling by steamship.²⁶ Alternative outbound cargoes were not easily found. A modest trade in salt, iron and coal developed and some supplies were brought in for the Quebec timber and shipbuilding industries. The trade of the port of Quebec then, was almost entirely in wood. Agricultural exports, and the general trade in imports, were handled at Montreal. Accordingly, year by year, an increasing number of ships came out to Quebec in ballast of earth or rock.

Shipments of wood to the British market from Quebec at this time were made in cargo lots. Generally, the whole of the cargo was destined for one purchaser and no other product than wood was carried. The British buyer arranged his order so that it would constitute a full cargo and this might represent the whole of his wood requirements for the year. It was

25. Helen I. Cowan, British Emigration to British North America, 1783-1837, (revised and enlarged ed., Toronto, 1961), p.147.

26. Edwin C. Guillet, The Great Migration, (New York, 1939), p.239.

up to the purchaser to arrange for a ship, or "charter party," to carry the wood.²⁷ Sales of Quebec wood, accordingly, were on free-on-board terms and prices were quoted f.o.b. Quebec. A large timber house at Quebec might ship one hundred or more cargoes a season.

A typical cargo consisted of an assortment of wood of various species and descriptions. Shipments made up of only one article, pine deals for example, were not common. Most shiploads had square and waney pine as their principal components, with smaller amounts of pine or spruce deals, square hardwoods, oak staves, and perhaps a few white pine masts and red pine spars. The hardwoods were loaded first with the pine timber on top in the hold and on deck. Poorer quality wood was used for beamfillings and smaller pieces for stowage. The following example gives the details of a cargo carried in 1867, showing both its volume and value:²⁸

1,536 feet	Oak.....	£121.12.0.
516 "	"	33. 6.6.
1,025 "	Elm.....	49. 2.3.
542 "	"	31.12.4.
514 "	Ash.....	29.19.8.
517 "	Birch.....	36.12.5.
1,029 "	Red Pine.....	77. 3.6.
12,138 "	Sq. White Pine.....	657. 9.6.
15,043 "	Waney Pine.....	908.17.0.
1,874 "	Beamfillings.....	59.13.2.
1st Quality	€22.1.10 St.Ptsg.Std.Bright Pine Deals..	312. 3.4.
2nd Quality	€10.2.27 " " " ..	96.10.6.
Deal Ends	€4.3.3 " " " ..	35.16.3.
1st Quality	C4.2.8 " " Spruce Deals..	28.10.0.
1M Pipe Staves.....		56. 0.0.
2 dozen Hickory Handspikes.....		2. 0.0.
	Sterling.....	£2,536.19.3.

27. Occasionally a charter was fixed at Quebec on behalf of a British buyer with a "seeking" ship which had come to Quebec in the hope of picking up a cargo.

28. Cargo of Nina, September 13, 1867, P.A.C., Sharples Papers, Vol. 5.

The preparation of the timber for shipment, and its loading, were both expensive and time-consuming. The timber sticks were butted and dressed by broad-axe, this work being done on the beaches of the coves. Timber was placed in the holds of the vessels from the water and, except for the use of a block and tackle, the work was done manually. Deals were also stowed by hand, after being brought out to the ship by bateaux. It has been estimated that three weeks was the average time required for loading a vessel and the cost was a shilling or more per load of fifty cubic feet.²⁹ White pine was less expensive to load than the heavier woods, such as oak, but a large pine stick was by no means a light object, weighing from one to three tons or more. This work provided much employment in Quebec, some 4,000-5,000 labourers being employed seasonally. Ships varied in size, the average tonnage in 1868 was 675, and the customary cargo between 600 and 800 loads, or from 30,000 to 40,000 cubic feet of wood.

The fact that almost all the wood going overseas at this time passed through the port of Quebec facilitated the establishment of uniform standards of quality and size, which in turn assisted the marketing of the wood overseas. The inspection of wood was known as culling and there was a Supervisor of Cullers' Office at Quebec with a licensed and independent staff of cullers. Three grades of square timber and of deals were provided for, with the requirements for each

29. Lower, "Lumbering," p.225.

grade set out in detail in legislation.³⁰ Wood which did not meet the standards of the lowest grade was rejected as unmerchantable, or culls. Sales of deals according to the three grades were customary at this time but in the case of square timber the trade did not follow the classifications of the cullers but used a variety of terms to describe the wood. The highest grade was usually called "first class" although sometimes referred to variously as "prime," "superior," or in Scotland, "selected." Contracts often referred to middle grades as "good fair average" and "fair average" and price lists recognized the lower grades as "inferior" and "ordinary." Waney timber was graded as either first or second class. In selling wood, where no absolute standards of quality are possible, complaints are frequent. When a dispute could not be resolved in the nineteenth century timber trade, it was put up to arbitration:

If the Martins proceed, which no doubt they will, a commission will require to be taken out, as our cullers can be examined and we will also obtain the opinion of our most and best practicable men...If this goes to issue we think we have good grounds of withstanding Martin's claim.³¹

The ultimate responsibility for the maintenance of standards lay with the Quebec shippers, as they selected the wood to fill their overseas contracts. As square timber was

30. Regulations concerning the culling of wood at Quebec were almost as old as the trade itself, dating back to 1808. There was a succession of acts from that date until 1845, by which time the main features of subsequent culling practices at Quebec had been worked out (8 Victoria, cap. 49). For a history of this legislation, see Aubrey White, op.cit.

31. P.A.C., Sharples Papers, Vol. 5, C. & J. Sharples Co. to Sharples, Jones & Co., September 16, 1865.

not sold by brand, the reputation of the product in Britain depended on maintaining a high average level of quality. It was in the interest of the shippers to keep up their grades, as they sold to the same customers year after year and the buyer could quite easily take his trade to another agent if not satisfied. The task of marketing pine in Britain was simplified by the continuity of the trade as by 1867, the wood had been sent to that country for some sixty years and its qualities were known to users in all parts of the country.

The Quebec wood trade was approaching the end of an era in the 1860's. The days of the square timber trade were numbered and the pleasant and profitable business methods of mid-Victorian England were beginning to disappear under the pressure of more competitive conditions. For more than half a century, the timber trade had been remarkably stable with no major change in the type of product exported or the way in which the trade was carried on. In the next two decades, all the principal characteristics of production, transportation and distribution were to be profoundly altered. The various elements which were to combine to bring about these changes were already at work in 1867.

CHAPTER III

THE DECLINE OF THE SQUARE TIMBER TRADE

Those who have been interested in the square timber trade, lumbermen at the time and historians since, have advanced a number of theories to account for its decline. On the whole, these have been concerned with those aspects of the trade which are the most apparent to anyone in Canada. The scarcity of large trees, the development of the sawmilling industry, the growth of the pine deal trade, and the opening of the American market are among the factors which are readily discernible from Canadian records. There were other changes going on in the British timber market at the time which were equally important but about which less has been written. The decline of the timber trade was brought about by the combined effects of a number of developments with regard to supply and demand, which were so interwoven that it is difficult to isolate them, but each of which had its influence on sales of white pine overseas.

Competition from European producers became increasingly serious after the final removal of timber duties in 1866:

Although latterly these duties had been small - indeed trivial compared with the complicated formalities at the customs - their removal seems to have been like a signal gun to the timber producers of Scandinavia and the Baltic countries.¹

1. Augustus Muir, Churchill and Sim, 1813-1963: A Short History, London, 1963), p.47.

The gains which foreign wood made after this date were partly at the expense of square pine timber. In 1867, it was reported that the consumption of Canadian pine timber was "falling off at a desperate rate in competition with Spruce deals, cheap Baltic deals and very cheap Baltic and Swedish wood."² It was hewn wood, however, rather than deals, which provided the main competition. Swedish and American timber, which could be substituted for square white pine in many of its uses, was being offered at lower prices. In 1868, a Quebec merchant was warned by a Plymouth firm that "Swedish timber is taking the place of small average Yellow Pine and unless the prices can be reduced it will be shut out of our market entirely."³ Hewn pitch pine from the southern United States was being imported in increasing amounts. With a depression in the American lumber market beginning in 1872, this wood flooded the British market, completely upsetting normal trading conditions in 1874 and 1875.⁴ Cheaper goods from these two sources pushed square white pine out of markets it formerly dominated. By 1875, instead of being the "leading feature" of the Liverpool timber trade, it occupied a "minor position."⁵ The square timber trade was to have the

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2. P.A.C., Sharples Papers, Vol. 5, Henry Sharples to Charles Sharples, July 20, 1867.
 3. Ibid., Bayly & Fox to C. & J. Sharples Co., April 14, 1868.
 4. Quebec Morning Chronicle, February 19 and March 18, 1875 quoting Duncan, Ewing & Co. Circular, Liverpool, February 1, 1875 and Robert Coltart Smith & Co. Circular, Liverpool, March 4, 1875.
 5. Quebec Morning Chronicle, February 18, 1876 quoting Robert Coltart Smith & Co. Circular, Liverpool, February 1, 1876.

occasional good year after this, in fact the next season was one, but it never recovered the outstanding position in the British market it formerly held.

These losses were restricted almost entirely to the lower and middle grades of wood. Exports of these grades from Canada had been in excess of requirements for some time. This fact was commented on as early as 1861⁶ and was constantly brought to the attention of lumbermen after that date:

Ordinary and inferior has been difficult of sale, and is becoming more unsuited for our market every year, as it cannot compete with cheap woods from the north of Europe. We hear there is a likelihood of an increase in the quantity of this description, and we beg to caution our friends on the Ottawa against making it...⁷

The demand for first-class timber, which meant wood of large size as well as high quality, remained strong:

White pine timber of the highest classification commands full prices, whilst ordinary and common is held in check by substitutes of good character selling at similar or lower prices.⁸

Swedish wood could not compete in this market because it was not available in large sizes. American pitch pine, however, could be had in large timber of the highest grade. It was used in situations where strength was required whereas the white pine was preferred for uses requiring a wood which was easy to work.

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6. Wood, Petry Poitras & Co. Circular, 1861 printed in the Quebec Morning Chronicle, December 20, 1861.
 7. J. Bell Forsyth & Co. Annual Timber Circular, 1870, printed in the Quebec Morning Chronicle, December 16, 1870 supplement.
 8. Despatch from Liverpool, n.d., quoted in the Quebec Morning Chronicle, October 27, 1871.

It was their high price, rather than poor quality, which shut the lower grades of Canadian pine timber out of the British market. When a British timber firm said that "within a few years, the price of timber at Quebec has nearly doubled,"⁹ it was an accurate statement. In 1862, the price of square white pine in shipping order at Quebec ranged from sixpence to tenpence per cubic foot; by 1873, the range was between one shilling and one shilling and sixpence.¹⁰ The prices of higher grades advanced even more sharply. Even the depression of the 1870's was unable to bring prices back to their old level. North of Europe wood, on the other hand, could be laid down cheaply at United Kingdom ports.¹¹ American pitch pine was also available at low prices. "I fear the fact is," wrote Henry Sharples from Liverpool in 1868, "that Quebec pine will not bring your cost with freight as long as Pitch Pine and Swedish goods are to be had at anything near present sales."¹²

There was a steady increase in the proportion of sawn wood being imported into the United Kingdom in this period.

9. Ibid., February 16, 1870 quoting Farnworth and Jardine Circular, Liverpool, n.d.

10. See Appendix Table 9. Prices of wood at Quebec were quoted in decimal currency after 1873.

11. Churchill & Sim Wood Circular, Liverpool, n.d., quoted in the Quebec Morning Chronicle, January 26, 1868.

12. P.A.C. Sharples Papers, Vol. 1, to Charles Sharples, Quebec, February 20, 1868. John Sharples who was on a selling trip in the United Kingdom that winter wrote from Plymouth that "foreign wood is so low that our W.P. of F.A.Q. is almost put aside. Nothing but 1st class." Ibid., to Charles Sharples, March 14, 1868. The abbreviation F.A.Q. stood for fair average quality.

In 1860, the proportion of sawn wood in the total of sawn and hewn wood imports was fifty-three per cent. By 1870, the percentage had risen to sixty-eight and it remained at approximately this level until 1880.¹³ Both European and North American producers benefited from this change. Manufacturers in Norway and Sweden were not only shipping deals, as they had for centuries, but also finished products such as flooring. The Maritime provinces, with the depletion of their pine, had become heavy shippers of spruce deals. In the early 1870's, the London market was said to have taken enormous amounts of this article.¹⁴ As far as Canadian square pine is concerned, competition from sawn goods is mentioned less frequently in the records of the trade than that from hewn and seems to have been of less importance. The British sawmills which cut up the square timber naturally opposed this shift towards the importation of sawn wood but with little visible effect.

Square pine timber also lost sales to Canadian pine deals. The pine deal trade had been growing steadily and in the late 1860's, there was a rush on the part of British buyers to obtain this description of the wood. The Quebec merchants, with limited supplies, competed with each other to get the first pine deals into the British market each season. "These deals are a great trouble," wrote a member of the Sharples firm, "but they are yearly becoming a more extensive item of our business."¹⁵

13. See Appendix Tables 4 and 5.

14. Thomas Laslett, op.cit., p.377.

15. P.A.C. Sharples Papers, Vol. 1, John Sharples to Charles Sharples, March 7, 1868.

Representatives of Quebec houses calling on the trade overseas found old customers uninterested in square timber but anxious to buy white pine deals. This appears to have been because the deal was a handy and economical form in which to buy white pine.¹⁶ Part of the growth in deal sales resulted from the development of new demands as well as the displacement of timber from its markets.

The poor situation in which the square timber trade found itself in the British market was in large measure the result of the growing scarcity of large pine trees in Canada. Sixty years of exploitation had used up all the best wood in the lower Ottawa Valley and Great Lakes areas which were readily accessible by water. Lumbermen had to traverse miles of back areas to hunt out good timber trees. The logs had to be driven long distances, over more natural obstacles, and often out of small creeks, to get to Quebec. As well, driving became more difficult every year because of lower water levels, attributed to deforestation. It became common for rafts to take two seasons to reach Quebec. Costs consequently were higher and the price asked for timber had to be advanced. The situation was summarized in 1875 when it was said that:

16. It is difficult to make a direct comparison in the prices of pine timber and pine deals as the former required more processing overseas before use. Typical prices in the British market in 1870 were: deals per St. Petersburg Standard, Baltic, £7 to £13; Saint John, N.B. spruce, £12 to £14; and Quebec pine, £18 to £19. Timber prices per load were Swedish, £2 7s. to £2 14s. and Quebec white pine, £4 to £4 10s. Quebec Morning Chronicle, January 2, 1871, quoting the European Mail, n.d. A load consisted of fifty cubic feet and the St. Petersburg Standard contained the equivalent of 1,980 board feet.

...the export of square timber is on the decline and we believe that the scarcity as well as the high price of really good wood and the enhanced costs of production are among the chief causes.¹⁷

The industry was slow in adjusting to the changes in demand in the British market. Many manufacturers seemed unable to realize that there was no market for square timber of inferior quality overseas. Surpluses of low-grade wood continued to arrive at Quebec throughout the 1870's and the 1880's. As there was no market for this wood, it had to be sold below cost, or used up in local consumption. Stocks were heavy and some lots remained in the raft unsold for years.¹⁸ On the other hand, the first-class wood which was wanted in the United Kingdom could not readily be found, even in the middle 1860's:

...timber of superior average and quality is now only to be got by receding into regions where a few years ago it would have been thought impracticable to make the attempt.¹⁹

About the only Canadian source of such wood was the Kippewa district, in the extreme northerly section of the Ottawa Valley. Less and less of this wood was made every year. By the 1880's, prime rafts were the exception and it was rare for one of more than fifty-five foot average to reach Quebec.²⁰

A major influence on the supply and price of white pine generally was the demand from the American market. Very large

17. J. Bell Forsyth & Co. Annual Timber Circular, 1875, printed in the Quebec Morning Chronicle, December 18, 1875.

18. Canada Lumberman, April 1, 1886, p.7; July 15, 1886, p.11; and January 1, 1887, p.12.

19. Wood, Petry Poitras & Co. Circular, 1865, printed in the Quebec Morning Chronicle, December 9, 1865.

20. Quebec Morning Chronicle, December 3, 1882. The reference is to the average cubic foot content per piece of timber.

amounts of the wood were being shipped there and no doubt some of this would have been suitable for manufacture into square timber. Exports to the United States reached a high point in 1865, the same season in which shipments of square timber began their long decline. In anticipation of the termination of the Reciprocity Treaty and with the end of the Civil War, American demands for Canadian wood in that season were virtually insatiable.²¹ It was one of the few years on record in which wood destined for overseas was diverted to the United States after its arrival at Quebec. This was followed by a rather unexpected but gratifyingly high level of exports from 1866 to 1874, although Canadian rough lumber was then subject to duty on entering the United States. In the five-year period from 1870 to 1874, exports of planks and boards from Canada to the United States reached a level which they were not to attain again, for any sustained period, until after 1908.²² There was a downward

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21. John Sharples wrote from Quebec in 1865 that: "The agents of American houses have been sweeping through Canada West & have bought all the lumber they could meet with at very full prices...an Albany firm has been here and purchased all the sawn lumber he (sic) could, cash, suitable for their market. It is quite possible that a quantity of surplus 3rd deals here may be cut into 1½ & 7/5 boards and sent through to the States. They never take the 3 in. deal in quantity, it requires to be divided ready for use as labour with them is high." He went on to say that all "eatables" in the United States had advanced in price - "all the result of the reaction from war to peace - if this state of affairs reacts on your side also, timber may come in for its share of uprise also." P.A.C., Sharples Papers, Vol. 3, to Sharples, Jones & Co., October 7, 1865.
22. Exports of planks and boards of all species from Canada to the United States in the fiscal years 1870 to 1874 averaged 754,000,000 board feet annually, a very high figure. From 1875 to 1879, the annual average per fiscal year was
(cont'd.)

adjustment in exports in the depression years of the 1870's but demand picked up again in the 1878-9 season. After that date, there was a good, steady demand from the United States for Canadian lumber.

The relationship between these two events, the decline of the square timber trade and the continued growth of the American market, was not as close as might have been expected. The quantity of wood which was diverted from the square timber trade to the American lumber market was probably small. While it was true that some of the best timber limits in Canada had by the 1860's passed into the hands of American lumbermen who were primarily interested in cutting for export to the United States, it was also likely that these timber limits had already been gone over for square timber. The same was true of other areas then being drawn on for the American trade. In any case, it was the practice of the lumber industry to sort out their logs according to the uses for which they were most suited. The best were set aside for the British market, either as timber or deals, and the remainder were cut up for the North American trade. By the 1870's, this choice had come to be between deals or lumber rather than between square timber or lumber. Thus, when the American lumber market became depressed in 1873 while British demand was still good, the Ottawa mills gave up the

22. (cont'd.)

354,000,000 and from 1880 to 1900 inclusive the average annual export was 585,000,000 board feet. Separate data for pine are not available. The fiscal year at this time referred to the twelve-month period ending June 30. Canada, Sessional Paper No. 10c, 1917, Annual Report of the Department of Trade and Commerce, 1917, p.196.

production of lumber for the United States and turned instead to sawing deals for the United Kingdom.²³

The price of square white pine at this time was determined fundamentally by the scarcity of the wood and market conditions overseas. The presence of an alternative market in the United States, however, served to sustain the level of prices of all kinds of pine, including square timber. Timber prices at Quebec, in fact, followed the movements of the United States lumber market in a general way - rising in the 1860's, falling off in the middle 1870's, and recovering by 1880.²⁴ There were times when the price of square timber did not follow the exact trend of lumber prices in the United States and, in the long run, timber prices rose more sharply than those of other kinds of wood. On the whole, the American market, both as regards supply and price, was an important but still a secondary influence on developments in the timber trade in this period.

It has been suggested that it was inevitable that Canada should progress from the making of timber by hand in the woods to the manufacture of lumber by machine in the sawmill:

The timber trade of Canada had seen its great days and had, like the fur trade, another primitive resource of a primitive society, to give way to more advanced industries suited to the needs of a developing community and a changed market...²⁵

One veteran Quebec shipper, in fact, was of the view that the

23. J. Bell Forsyth & Co. Annual Timber Circular, 1873, printed in the Quebec Morning Chronicle, December 20, 1873.

24. See Appendix Table 9.

25. Mary Q. Innis, An Economic History of Canada, (Toronto, 1935), p.191.

growth of sawmilling at one location alone, Montmorency Falls, was responsible for the decline of the square timber trade.²⁶ This was an exaggeration but it was true that the activities of the industry were increasingly directed towards the manufacture of sawn lumber. The demand from the United States, the desire to utilize all sizes of pine on timber limits, and the additional profits to be had from milling, all worked towards this end. In 1870, when the square timber trade was moving into its most crucial period, Canada had a large and capable sawmilling industry. There were some 5,000 sawmills in the country²⁷ and the output of the industry in the early 1870's reached a level of output which was comparable with its best years later on. Large export mills were in operation throughout the main pine-producing areas and there were, in addition, hundreds of smaller mills in all parts of the country. Leaving aside considerations of material supply, it would seem reasonable to assume that with a sawmilling industry of this size, the industry would soon give up the production of square timber and concentrate entirely on sawn lumber.

The growth of the sawmilling industry, however, extended over many years. In the 1850's and 1860's, a sizeable lumber

26. E.H. Wade, "The Passing of the Trade in Square Timber," Canada Lumberman, June 15, 1913, pp.36-7.

27. The number of sawmills in the four provinces according to the Census of Canada of 1870-1 was 5,254, with 35,691 employees and a value of production of \$30,256,247. Most of these mills were small ones cutting wood to meet local requirements while those producing for export were larger. For example, seven sawmills in Ottawa City, out of a total of 1,837 mills in the province, accounted for twelve per cent of the total value of Ontario production, Vol. 3, p.346.

manufacturing industry and a large square timber trade existed side by side. Exports of hewn timber continued in steadily diminishing amounts to the present century and the large lumber manufacturing firms were among the most important contributors to this trade. It may also be noted that other countries which were perhaps more advanced economically than Canada - France, Germany and the United States for example - exported hewn wood to the British market in the late nineteenth century. The extension of sawmilling may be regarded as a long-run factor, rather than an immediate cause, of the decline of the timber trade. To some extent, it was the reverse side of the changes which were going on in the wood market in Britain, as new developments in supply and demand reacted on each other.

The manufacture of square timber as it was carried on in Canada was such a wasteful and inefficient process that it is difficult to understand why it continued as long as it did. At least one-quarter and perhaps as much as one-third of the wood was wasted. The top part of the tree was not used at all and in the process of squaring much valuable wood was cut off. The loss of wood in making square timber was described by an observer of the methods of the 1850's as follows:

Now it is a well-known fact, that to square a stick of pine timber, especially if it be at all tapering, a very large proportion of the clear stuff must of necessity be hewn off. For proof of this I need only adduce a fact which every saw-miller in Canada is well aware of; namely, that in white pine, the clearest stuff and freest from knots is that part of the timber which joins the sapwood. In a saw-mill, the best boards are those cut from the outsides of the log, while reducing it to the square. On a saw-log, twelve feet long and three feet in diameter, at least ten good clear boards, averaging sixteen feet (inches?) each, will be obtained, which by the present system is (sic) blocked off and left in the

woods. But this calculation is under the mark; because the square timber got out for exportation is generally in very long lengths, and as the pine tree tapers considerably, the butt-end of the tree must be nearly double the diameter at the top; so that it follows, as a matter of course, that to reduce the tree to the same square, the whole length of the stick, nearly one-fourth of the timber - and that the most valuable part - is left in the forest.²⁸

Obviously, an industry of this sort could only exist under conditions of ample supply and with the many demands on Canadian white pine after the middle of the century this situation could not continue very long.

It is sometimes thought that the introduction of the steamship into ocean transport accelerated the shift from timber to deals in the Quebec wood trade. The transportation of deals by steamer did not become general until the 1880's, however, many years after the square timber trade had begun to experience marketing difficulties. Transportation changes were not, therefore, a prime factor in the beginning of the decline of the trade. The fact that deals could readily be carried by steamer, while square timber could not, limited the amount of timber going to Quebec in the 1880's, on the evidence J.R. Booth, the greatest lumberman of them all. In 1886, Mr. Booth was quoted as saying in an interview that the decrease in timber exports was "chiefly owing to the increased facilities for carrying small lumber and again, because the price has been unremunerative."²⁹ The advent of the steamship was probably

28. Major (Samuel) Strickland, Twenty Seven Years in Canada West, Agnes Strickland, ed., (2 vols., London, 1853), II, 277-8.

29. Canada Lumberman, April 1, 1886, p.6, quoting the Ottawa Free Press, n.d. Mr. Booth also said that the increased use of small lumber had affected the making of timber.

the final, fatal blow to the square timber trade.

The end of the shipbuilding industry at Quebec occurred at about the same time as the decline of the square timber trade but the two events were unrelated. The peak in Quebec shipbuilding came in 1864 when 105 vessels were constructed but the industry disappeared so rapidly that by 1879 only six were built.³⁰ Shipbuilders at Quebec used only small amounts of white pine. The main species they employed was a stronger wood, the tamarack (then called hackmatack), which was not of major importance in the timber trade. Black birch was used for the keel, floor timber and lower planking; and black spruce for yards and masts. White pine was used for interior finish, cabins and deck planking. The wood required was obtained locally or by purchasing moulinettes, an assortment of woods stored by the Quebec timber merchants.³¹ These ships were built for sale overseas and they often took a load of timber over with them when they went. The end of the shipbuilding resulted from the increasing use of steamships and was not in any way related to the decline of the timber trade.

Having considered the several developments which affected the operations of the square timber trade from the 1860's to the 1880's, it can be concluded that Canadian white pine timber became uncompetitive in the British market because of its high price, which resulted from the growing scarcity of

30. F.W. Wallace, Wooden Ships and Iron Men, (rev. ed., Boston, 1937), pp.268-74.

31. Captain J.E. Bernier, Master Mariner (Ottawa, 1939), p.168.

large pine trees and the rising demand for white pine lumber in the United States. White pine timber in this period felt the effects of adjustments caused by the inauguration of free trade and the advances in industrialization in Britain. Under more competitive market conditions, it lost out to foreign timber and to foreign and Canadian sawn wood. The lower grades of pine timber were shut out of the market almost completely while first-class wood maintained its position because of its high quality and in spite of its price. There were shifts in the nature of demand for wood in the British market which reacted on the white pine timber trade. Other woods took over markets it formerly held while, conversely, new demands were created with the increased consumption of wood in Britain which permitted pine to be used for those purposes to which it was best suited. At the same time, the Canadian sawmilling industry was moving in the direction of marketing its product as sawn lumber rather than hewn wood, eliminating wasteful cutting practices, and making more effective use of its material resources.

The difficult times of the 1870's accelerated the changes which were taking place in the square timber trade. Grades of timber which had been sold with difficulty in the 1860's became impossible to market in the 1870's. Square timber was being made all through the pine belt in 1870. By the end of the decade, those in the trade could say with every show of reason that "the squared timber trade is gone forever."³²

32. P.A.C., Boyd Papers, Vol. 113, John Macdonald (Boyd & Co.) to Mossom Boyd, July 4, 1879.

A low point in exports, at slightly more than five million cubic feet, was reached in the 1878-9 season.³³ This was the worst year in the trade in the memory of the oldest of the Quebec merchants. The timber trade was never really the same after that date. There were occasional flurries of buying at Quebec in the early 1880's but these were not matched by an equal interest in square timber on the part of overseas consumers. Exports continued to dwindle during the 1880's and 1890's. Sales of waney timber and deals, on the other hand, increased. The trade in these two articles, while not as large in aggregate as the highest level reached in the square timber trade, made up the bulk of the exports of white pine to Great Britain after the 1870's.

33. Canada, Sessional Paper No. 10c, 1917, p.210. Data are for the fiscal year ending June 30, 1879 and were given in tons of forty cubic feet.

CHAPTER IV

THE WANNEY TIMBER TRADE

The notorious waste involved in the squaring of timber led to the adoption of the waney cut in the pine timber trade in the 1850's.¹ This waste was of general public concern and in 1853 it was suggested by Major Samuel Strickland that timber be made in a different way:

To obviate this difficulty, I would propose to hew the timber octagonally instead of squaring it, as heretofore, merely cutting off the sapwood; by which means a great saving of both timber and labour would be effected.²

Waney timber began to be sent to the British market a few years after this was written and it may have been that this proposal had some influence on the establishment of the trade. An early shipment of waney, possibly the very first, was made in 1856 by E. Burstall & Co., timber merchants of Quebec, at the request of an English customer. The timber was cut in the Ottawa Valley by Daniel McLachlin, one of the most prominent lumbermen of that region. The arrangements for this transaction were made in January, 1856.³

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1. It is sometimes thought that the waney timber trade began in 1861, probably because this was the first year in which separate statistics were kept on the supply and price of waney at Quebec. For a definition of the term "waney timber", see supra, ix.
 2. Op.cit., II, 278.
 3. Public Archives of Ontario, McLachlin Papers, correspondence between E. Burstall & Co., and Daniel McLachlin, January 3, 9 and 12, 1856.

On January 3, Edward Burstall, the principal of E. Burstall & Co. at Quebec wrote to Daniel McLachlin, then resident in Ottawa, regarding an earlier conversation about "Waney White Pine." He said that a customer in England had repeatedly asked to have timber made this way but that they had never been able to find a lumberman with whom they could with confidence place an order as "unless the timber is not only sound but also clean & mellow, it is all labour thrown away." McLachlin had previously suggested that the order be for 200,000 cubic feet at 8½d. per foot but Burstall said that "we dare not venture on so large a quantity at so high a price" and suggested instead that the quantity be 50,000 feet. As to the size of the waney, he thought that "a log of 16 inches should not have over 1½ inch a 19 inch or upwards might have 2½ inches." Measurement was to be left to the Supervisor of Cullers' office at Quebec.

In his reply of January 9, Daniel McLachlin agreed to these terms:

You can have fifty thousand feet made with from 1½ to 3 inches of waney according to size the timber to be sixteen inches and upwards in girth and equal in quality to the lots I sold you last summer - to be measured in the most convenient way to give the true content of each stick...

No price was specified in this letter and the Burstalls were asked to send someone to the logging camp that winter to inspect the timber. This offer was accepted by E. Burstall & Co., in their letter of January 12 in which they specified a price of 8½d. per cubic foot for the order and said that Mr. John Burstall would visit the McLachlin "Chantiers" that winter.

They noted that waney was "a new article & if it gives satisfaction at home may lead to extensive business."

The new article found acceptance in Britain, but its market was limited, and by 1861 a surplus existed at Quebec. The total of 6,735,000 cubic feet which reached Quebec that year was the highest recorded point in the production of waney white pine.⁴ It was reported, though, that "much of it is inferior and does not deserve the name of waney boardwood,"⁵ There was no market overseas for waney which was not of high quality and lumbermen soon gave up making poor wood. Waney pine in the 1860's found its place as a small, specialized trade.

Waney timber was made from short logs of heavy girth which "were very clean in the grain, free from knots, and solid at the centre...doubtless about the best that can be obtained for conversion into board."⁶ Logs of this kind were hard to come by, even in the middle of the nineteenth century. Waney at first was obtained from the same areas that supplied the general run of square timber, usually either Simcoe County or the Ottawa. Later, the upper peninsula of Michigan became a source of supply. An early contract for Michigan wood was one made in 1871 on behalf of Calvin and Breck, timber forwarders

4. See Appendix Table 9.

5. J. Bell Forsyth & Co. Annual Timber Circular printed in the Quebec Morning Chronicle, December 20, 1861. Boardwood was the common alternative name for waney timber.

6. Thomas Laslett, op.cit., p.358.

near Kingston, Ontario.⁷ Michigan remained a supply area for the duration of the trade but waney pine was also obtained in the Ottawa Valley and on the North Shore. By 1910 it was becoming difficult to get large wood anywhere in these areas and waney pine was brought in from Idaho and Washington states.

The size of the waney being exported declined relatively little over time, in contrast with square timber where the average size dropped badly in this period.⁸ Edward Burstall's logs of sixteen to nineteen inches of 1856 were actually below the common size of those of later years, according to string measure.⁹ Most waney boardwood was from eighteen to twenty-two inches in girth. Occasionally logs as large as twenty-eight inches or as small as sixteen inches were shipped. Lengths were usually twenty feet or better with some long wood up to forty feet. Some of the largest wood ever shipped was brought from the western states from 1910 to 1914, when a typical

7. D.D. Calvin, op.cit., p.51.

8. The average cubic content of square timber sticks after 1885 declined to between thirty-five and sixty cubic feet. In comparison, the logs in the best square timber rafts ever received at Quebec had averaged out to better than one hundred cubic feet each.

9. Waney was measured by a system which gave an estimate of one-quarter of the girth. This was done by passing a tape of steel or linen, on which the "inch" marks were actually four inches apart, around the log. Hence, the system was known as string measure. This provided a measurement which was roughly comparable to the square of square timber.

The cubic content of waney was obtained by reference to prepared tables, using the length and the quarter-girth. One reference manual was: John Quinn, The Ready Reckoner, Shewing the Cubical Contents of Octagonal or Waney Timber, (Quebec, 1860).

shipment might average twenty-seven inches in girth and over thirty feet in length.¹⁰

The waney pine trade, including that of Michigan, was in the hands of a small number of Canadian entrepreneurs, some of whom dealt exclusively in hewn wood. Included among these were two exporters from southwestern Ontario, Alex. McCall and W.D. Flatt,¹¹ who also shipped hardwood timber from the mid-western states overseas via Quebec. There were a few lumbermen on the Ottawa, such as the Klock Brothers and the Mackey family, who continued to specialize in hewn timber until near the end of the nineteenth century. As well, some of the big mills, such as Booth's, put out an occasional raft or two of square and waney timber in the 1880's and the 1890's. A prominent manufacturer of waney in later years was J.J. McFadden, an Ottawa Valley man who began making timber for J.R. Booth in 1881 and later established a large lumbering business of his own on the North Shore.

In the declining timber trade, waney steadily displaced square. In 1867, waney made up fourteen per cent of the timber supply reaching Quebec. By 1907, the percentage had reached eight-nine. This did not mean that the production of waney was large but on the average the output was remarkably steady, as shown in the following table:

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10. See P.A.C., Sharples Papers, Vol. 16, correspondence with Henry L. Karrick, of the state of Washington, 1914. The western white pine (Pinus monticola Dougl.) is a different species than the eastern but possesses similar qualities.
 11. Mr. Flatt has written an extensive account of his experiences in the Michigan waney timber trade in the Trail of Love, (Toronto, 1916), pp.125-216.

Table 3
Average Annual Supply of Square and Waney Timber
at Quebec by Decade, 1861-1909

Period	Average Annual Supply		
	Waney	Square	Total
Millions of Cubic Feet			
1861-69 #	2.1	17.4	19.5
1870-79	2.7	11.0	13.7
1880-89	2.8	4.2	7.0
1890-99	2.7	1.4	4.1
1900-09	1.4	0.3	1.7

Nine-year period

Source: See Appendix Table 9.

There were two principal uses for waney white pine in the United Kingdom, deck planking for steamships and pattern-making for machinery manufacture. It was unexcelled for both these purposes. The former market developed shortly after 1860. It was reported in 1863 that:

A large demand has sprung up within the last two years...for timber suitable for deck plank, caused by the impetus given to the trade in the building of iron steamers of large class.¹²

The chief outlets for wood for this purpose were Belfast and the Clyde which were then establishing themselves as the ship-building centers of the world. The demand for pine for pattern-making was strong in the Lancashire area where it was associated with the growth of the cotton textile industry. Waney was also

12. Wood, Petry & Poitras Co. Circular, 1863, printed in the Quebec Morning Chronicle, December 14, 1863.

used for interior housebuilding purposes when first quality pine deals were not available. These markets could be, and sometimes were, equally well served by large square pine timber.

As the most scarce description of pine, waney experienced the sharpest price increases. There were two periods in which its price almost doubled, from 1861 to 1870 and from 1900 to 1910. In the remaining years from 1870 to 1900, only a moderate rise took place. The advance prior to 1870 reflected not only the increased demand for the product but also an improvement in the general level of the quality of wood being shipped. After 1900, pine suitable for waney became extremely scarce and, as well, the expenses involved in producing it skyrocketed. The advance in the price of waney from 1861 to 1910 and the price advantage which waney held over square pine timber are shown below:

Table 4

Prices of Square and Waney Pine Timber at Quebec
at Ten-Year Intervals, 1861-1910

Year	Price Range per Cubic Foot	
	Square	Waney
	¢	¢
1861#	9 - 15	13 - 18
1870	14 - 29	32 - 35
1880	14 - 32	32 - 39
1890	18 - 30	32 - 40
1900	25 - 43	42 - 50
1910	30 - 55	80 - 95

Date for 1860 not available
Source: See Appendix Table 9.

Hewn timber was one of the last commodities in international trade to be carried by sailing vessel and timber ships continued to call at Quebec until well into the present century. Sailing ships were used because large timber logs could not be readily loaded into steamers, particularly those of small tonnage which were employed in the 1880's. Sailing vessels had portholes in the bow or stern through which the timber logs could be slung into the ship's hold. Steamers, however, had to be loaded through their hatches. Large sticks of timber could not readily be loaded in this fashion and the wood could not easily be moved about in the water-tight compartments by which steamships were constructed. Experiments were made in shipping timber by steamer in the 1880's, if not before. One such shipment was made of southern pine from Pensacola, Florida, to London, England, in 1882. The vessel took three weeks to load and one week to unload and, as the chronicler of the event observed:

Steamers, like horses, in idleness eat up their profits...To steamers celerity is a vital point and the difficulty in getting hewn timber in and out will, we expect, keep this portion of the wood-carrying trade for a long time in the hands of sailing vessels.¹⁵

Timber had up to this time largely been carried by British vessels but foreign shipowners, particularly Norwegians, were becoming increasingly numerous. The timber trade was well-known as the last refuge of older sailing ships which had gone out of class at Lloyd's and timber ships were looked upon with

15. "A Steamship with a Cargo of Square Timber," Timber Trades Journal, no author, n.d., printed in the Canada Lumberman, May 15, 1882, p.146.

something approaching contempt by captains of vessels carrying more valuable cargoes. Still, many ships' captains had been glad enough to finish out their days making their two trips a year to Quebec and back. This situation was coming to an end about 1880. The recommendations of Samuel Plimsoll against overloading, which were incorporated in the Merchant Shipping Act of 1876 were a severe blow to the timber trade. This drove many British vessels out of the trade and resulted in sales of ships to foreign owners. As well, the British merchant fleet was turning more and more to the use of the steamship. By this time too, there was little profit to be had in carrying wood. With the building of larger steamships, it became possible to carry hewn timber without difficulty. In the 1900's, timber was regularly carried either in large freighters or passenger liners. With these changes, and with the decline of the timber trade, the Quebec timber fleet became a thing of the past. By 1914, the sailing ship was becoming a rare sight.

Ocean freight rates for hewn wood declined in the late nineteenth century.¹⁶ Until 1872, rates were generally within

16. The statistics on freight rates on which this section is based were taken from many sources. Those up to 1885 are in most cases from the Quebec Morning Chronicle, which regularly quoted current rates. Freight rates were occasionally mentioned in the correspondence with Montreal-based steamship lines and British timber agents from about 1905 to 1914 in the Sharples Papers, particularly Vols. 9, 16 and 19. A brief summary of the trend of ocean rates for timber from 1867 to 1913 was given in an article by E.H. Wade, "Timber Measurements Old and New," in the Canada Lumberman, October 15, 1913, p.38.

a range of from twenty-five to twenty-eight shillings a load.¹⁷ From 1872 to 1874, they were high, averaging between thirty-six and forty-five shillings. After that they declined, reaching about seventeen shillings in 1885. There was very little change from that level until the First World War. Ocean freight rates in general appear to have been low in the 1880's and 1890's and in the timber trade there was always the ever-present threat of the steamship as a possible, although awkward, alternative to the sailing ship. Many of the sailing vessels in those years did not come to Quebec from Britain without inbound cargoes as the old Quebec timber fleet had. Rather, they were tramp vessels which engaged in the general world trade and wood was only one of many commodities they carried. Consequently, their costs were lower than those of the timber fleet. In the inflationary period from 1896 to 1914, freight rates for timber did not advance significantly because the large steamship lines which carried the wood were able to offer low rates as part of general mixed cargoes.

The familiar story of the later white pine trade - high prices leading to the introduction of substitutes and the loss of markets in Britain - was repeated in the case of waney timber. By the 1890's, waney was beginning to price itself out of the British market. Shipbuilders, while admitting it had no rival for deck planking, began to turn against it because

17. Rates for both square and waney timber were quoted by the load of fifty cubic feet when carried by sailing ship. With the use of steamers, a change was made to the St. Petersburg Standard of 165 cubic feet, which was also used for deals.

of its excessive cost. In the period prior to the First War, when British shipyards were building more large passenger liners than ever before, white pine had largely gone out of use for deck plank. The price of white pine for this purpose in 1913 worked out at 6/- per cubic foot, as compared to "Oregon pine" (Douglas fir) at 3/9; American pitch pine, 4/- to 4/10; and perfect quality teak at 11/-.¹⁸ Siberian pine was also being shipped in quantity to the British market at this time. The number of users of waney white pine dwindled down to a mere handful, including the most faithful customer, the British Admiralty; a few machinery manufacturers who used it for pattern-making; and some builders of Channel yachts and pleasure boats.

The waney pine trade in Canada at this time provided an interesting example of an industry with few producers and few buyers. There were only four shippers at Quebec who were interested in the wood and the number of manufacturers was about the same.¹⁹ The shippers, faced with what they considered to be an unwarranted increase in price, combined in an attempt to force prices down.²⁰ The lumbermen, on the other hand, believed their

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18. P.A.C., Sharples Papers, Vol. 12, Edmiston & Mitchells to W. & J. Sharples, Reg'd., October 9, 1913.
 19. The correspondence of 1913 in the Sharples Papers, Vol. 28, suggests that there were still four lumbermen making waney timber, Bartlett, McCall, McFadden, and one other whose name was not mentioned but who may have been George Gordon of Cache Bay.
 20. Ibid., Vol. 22, Harcourt Smith to William Power, November 13, 1908. The Quebec shippers concerned were Burstall, Dobell, McArthur, and Sharples.

prices were justified by high and mounting production costs. The result appears to have been that the Quebec shippers obtained some slight but temporary price adjustments but that more of the manufacturers gave up the unprofitable waney timber business.

The timber trade captured the imagination of Canadians in a way that no other industry has and accordingly each event in its final days was recorded in some detail. The last large raft to go down the Ottawa was shipped by J.R. Booth in 1908.²¹ This raft consisted of one hundred and fifty cribs of square and waney timber, a size which would stand comparison with any of earlier years, and was manned by a crew of eighty men. There was great public interest in its progress down the river and for a brief moment the great days of the timber trade were relived. Probably the last raft of any type to go to Quebec was one which passed Montreal in 1911.²² After the First War, occasional shipments of hewn wood were made but the practice of rafting was not revived. A large export order was shipped by J.R. Booth in 1925, consisting of 120 flat cars of timber for the British Admiralty.²³ Perhaps the last export of hewn

21. Canada Lumberman, July 1, 1908, p.32.

22. Stephen Leacock, Montreal Seaport and City, (Garden City, N.Y., 1942), p.203.

23. Canada Lumberman, April 1, 1925, p.47. The wood was described as square timber but from the accompanying illustration it appears to have been waney. This timber was cut on land in the Madawaska Valley which J.R. Booth had purchased seventy-one years before, from trees which were from 200 to 500 years old and up to 175 feet in height. It was hand-hewn in sticks from eighteen to thirty-six inches square and twenty to fifty feet long.

pine timber ever made was one from Montreal in 1941 to the order of the British Admiralty.²⁴ These later shipments were exceptional, however, and for all practical purposes the waney pine timber trade may be considered to have ended about 1910, a little more than half a century after it had begun.

24. Whitton, op.cit., p.135.

CHAPTER V

THE PINE DEAL TRADE

The pine deal¹ trade was established in Canada during the important period from 1804 to 1815 which saw the beginning of the mast and spar, square timber, and the deal trades in the Great Lakes - St. Lawrence region. Deals were exported continuously from that date but until the 1870's the trade was

1. The principal characteristic of the deal is that it is a form of wood which is suitable for re-sawing before use. It was a common description of wood in the British timber trade, having been imported from northern Europe for several centuries.

Transactions between manufacturer and shipper in the St. Lawrence deal trade were carried out on the basis of the Quebec Standard of 2,750 feet board measure. It is described in the legislation governing culling at Quebec as follows: "The Quebec standard hundred of deals shall be one hundred pieces twelve feet long, eleven inches broad, and two and a half inches thick; and deals of all other dimensions shall be computed according to the said standard; deals of all quantities shall be not less than eight feet long, seven inches broad and two and a half inches thick; deal ends shall be not less than six feet long and shall be computed according to the Quebec standard." The qualities of the various grades of deals were also set out in detail. Canada, An Act Respecting the Culling and Measuring of Lumber in the Provinces of Ontario and Quebec, 49 Victoria, cap. 103.

Canadian pine deals were invariably three inches thick. There are occasional references in the records of the trade to two-inch "deals" but these were actually boards. Nine and eleven inches were common widths and, if over eleven inches, they were known as "broad" deals.

In Britain, and in steamship charters, the St. Petersburg Standard (later called the Petrograd Standard) of 1,980 board feet was used.

less important than that in square timber. Production was centered in New Brunswick, the St. Lawrence and the lower Ottawa. Many deal mills at this time were small but there were three which by the middle of the century had developed into substantial operations. These were the Montmorency Mills near Quebec City; Hamilton Brothers at Hawkesbury, Ontario, on the Ottawa; and Gilmour's at Chelsea, Quebec, on the Gatineau near its junction with the Ottawa.

The Montmorency Mills, the largest of these, was one of the most remarkable industrial achievements of its time. These mills were established early in the nineteenth century by Henry Usborne, one of the timber experts sent out to secure wood for the Royal Dockyards.² For many years, Montmorency was the center of deal production in Canada. At the peak of its operations, the Montmorency Mills consisted of six sawmills, with a capacity equal to that of the largest mills of later years,³ and extensive wharfs. Montmorency Falls was a good location from the point of view of water power and access to ocean shipping. Its great handicap was that there was no large supply of pine nearby. Logs were brought to the mills from several river valleys on the St. Lawrence, including the Nicolet, Becancour and the St. Maurice and also from the Gatineau, far away up the Ottawa. The latter area became the principal source

2. Lower, "Lumbering," p.161. Defebaugh (op.cit., p.133) stated that Usborne and Peter Patterson purchased the Montmorency Falls site in 1811.

3. Estimates of the annual output vary from 26,000,000 board feet (Canada Lumberman, November 15, 1880, p.1) to 80,000,000 feet (ibid., January 1, 1884, p.5).

of supply, the logs being rafted to Quebec for sawing, a distance of about three hundred miles. Montmorency lost its premier position in the industry in the 1870's and its decline may be attributed to the competition from other lumbering firms for raw material, the exhaustion of the Gatineau limits, and the expense in transporting logs long distances. In the 1880's, the mills converted to the manufacture of spruce and in 1892 production was discontinued. The Hamilton Brothers mill was also established early in the century⁴ but that of the Gilmours not until 1841.⁵ Unlike the Montmorency, these two grew in importance with the expansion of the deal trade later in the century because they had good resources of standing timber not far from the point of manufacture.

Deals manufactured at Montmorency and other points on the St. Lawrence could be loaded direct into ships for transport overseas while those of the mills on the Ottawa, such as Hamiltons' and Gilmours', were rafted to Quebec for shipment. This led to the practice of classifying deals into two main types, bright and floated, following the practice of northern Europe. The bright were those that passed direct from the mill to the ship without exposure to water; the floated were those that had been rafted to Quebec. There was a further

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4. John Hamilton, son of the founder of the firm, wrote in 1860 that "the interests of my family for more than forty years, have been and still are indissolubly connected with those of the Ottawa Country." To the Electors of the Division of Inkerman, Hawkesbury Mills, July 25, 1860.
 5. John Rankin, A History of Our Firm: Being Some Account of the Firm of Pollok, Gilmour and Co. and its Offshoots and Connections, 1804-1920, (2nd ed., Liverpool, 1921), p.108.

category of dry floated, or deals which were piled and seasoned after rafting. Bright deals were considered superior and commanded premium prices.⁶

Floated deals were sometimes loaded into the ship from the raft or, if not, were landed and piled in the timber coves at Quebec. Deal rafts consisted of some fifteen or twenty tiers of deals, and each deal, dirty and covered with sap gum after the long voyage, had to be cleaned and piled by hand. The cleaning was done by boys with chip brooms and pails of water, or in the case of the Hamiltons, by hoses and steam pumps. The deals, exceedingly heavy after their long immersion, were carried to the piling grounds by labourers.⁷

While in 1867 it could be said with confidence that "Montmorenci is the main depot for Bright and will be so for a while,"⁸ this situation was to come to an end sooner than expected. The capacity of the industry at this time was not great enough to meet the overseas demand and the way was clear for an adjustment in production facilities. This permitted the big mills at the Chaudière Falls and elsewhere on the Ottawa, which had been cutting for the American market, to enter the trade.

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6. For example, prices quoted in 1878 were: first quality bright, \$94 - \$96 per Quebec Standard and first floated, \$84 - \$85. Quebec Morning Chronicle, June 21, 1878, quoting J. Bell Forsyth price list.
 7. An account of this aspect of the trade is given in "The Only Living Commissioned Deal Culler in Quebec," Canada Lumberman, July 1, 1923, p.39. The article contains the reminiscences of Thomas Malone of Three Rivers, Quebec.
 8. P.A.C., Sharples Papers, Vol. 1, John Sharples to Charles Sharples, November 21, 1867.

Contracts between the Chaudiere mills and Quebec timber houses were reported in 1869.⁹ In the following year, when drought conditions on the St. Lawrence prevented mills there from contributing their usual production quotas, larger quantities of deals were brought in from the Ottawa. Further impetus to the new source of supply was given in 1873 when the depression in the American lumber market resulted in more Ottawa mills switching to the production of deals. By about 1875, the Ottawa had become the principal source.

A threat to the domination of the Ottawa mills arose in 1876 when for the first time Michigan deals were sent overseas, where they created a sensation because of their high quality and broad widths. Some of the Michigan shipments were made via New York and the Canadian trade began to have visions of New York replacing the St. Lawrence in the deal trade. When the American market recovered from the depression of the 1870's, however, exports of deals to Britain were reduced. Occasional shipments from Michigan were made in the 1880's, and some came from Wisconsin and Minnesota as well, but not in sufficiently large amounts to worry the Ottawa producers. The quality of Michigan deals declined after 1885 and they came to be considered as inferior to those of the Ottawa.

At about the same time, the Trent Valley lumbermen began to show an interest in the possibilities of selling deals.

9. Montreal Witness, n.d. quoted in the Quebec Morning Chronicle, March 22, 1869.

A representative of one mill in Albany, N.Y., reported in 1879 that:

David Gilmour is here and says that they are thinking of cutting Deals at the Trent mills, but his logs will hardly answer we are afraid, we, however, hope they may as it will bring less lumber into this market.¹⁰

The Gilmours at Trenton did manufacture some deals but, as was suggested, their limits and those of the other Trent Valley mills were not good enough to permit them to enter the deal trade in a large way. The St. Maurice Valley in Quebec was a source of supply, however. The small mills on the St. Lawrence near Quebec City which had developed in the first half of the century continued sawing until the 1870's when they either discontinued operations or switched to the manufacture of spruce.¹¹ A few deals were made by the Muskoka-Georgian Bay mills but this area was too far from the British market to compete successfully. Prices of Miramichi and Saint John deals were quoted on the British market as late as the 1880's but the amounts shipped from these areas were also small. The bulk of the deal trade was held by the mills on the Ottawa.

Production of pine deals after 1867 became increasingly concentrated in the hands of a few firms. Smaller mills went out of business or were absorbed by larger ones. There were about a half dozen firms which continued to make deals until the end of the century. These included Booth, Edwards,

10. P.A.C., Boyd Papers, Vol. 113, Boyd & Co., (John Macdonald) to Mossom Boyd, July 14, 1879.

11. Cf. Canada Lumberman, July 1890, p.4: "...twenty years ago all saw mills along the St. Lawrence were cutting pine, now spruce and hemlock of inferior grade."

Hawkesbury Lumber, MacLaren, and McLachlin all on the Ottawa and, at Three Rivers, Baptiste's. Other well-known Ottawa firms which at one time engaged in the trade included Bronson and Weston, Perley and Pattee, and E.B. Eddy. The latter firm gave up the sawn lumber business in the 1890's to concentrate on pulp and paper production. The Gilmour firm, which in 1891 became Gilmour and Hughson, experienced difficulties with the quality of their deals in the 1890's and thereafter their output went chiefly to the American market.

An advantage to the fact that there were few producers was that it enabled deals to be sold by brand name overseas. All the main manufacturers had their own brands, which were stencilled or scribed on each piece, which became well-known to British buyers. As well, the lumbermen, being mostly close together on the Ottawa, could meet to discuss prices, production plans, inventories or other matters of common interest.

The entry of the Chaudiere mills into the trade resulted in a change in the grades of deals being manufactured but not, apparently, in an immediate improvement in the quality of the product. These mills, it was said, gave:

...exporters a taste of somewhat smoother thirds than were made at the old time deal mills: and though these manufacturers still enjoyed a preference for their firsts and to some extent for their seconds, yet they had to submit to lower prices for their thirds than their Chaudiere brethren.¹²

Only three grades of deals had been made up to this time. The Ottawa mills introduced a fourth grade around 1870 "which after

12. P.A.C., Gilmour and Hughson Papers, Vol. 35, circular letter, William C. Edwards to Gilmour and Hughson Co. Ltd., November 5, 1898.

a term of years served the purpose of raising thirds to pretty much of an equality at all mills."¹³ Canadian pine deals were exported according to four grades after this time.

In addition to the concentration of production in big mills on the Ottawa, a second major change in the industry was the move from Quebec to Montreal as the port of shipment. This loss, while less serious than the decline in the square timber trade, was nonetheless a blow to the declining fortunes of Quebec. The shift began in 1876 when the Chaudiere mills sent a few barges of deals to Montreal on an experimental basis.¹⁴ Montreal was well suited for the handling of deals and more and more shipments were made from there in the years following. It

13. Ibid. Senator Edwards thought fourths were introduced about 1870 by Messrs. W. & J. Walsh who had a mill at Leamy Lake near Hull, Que.

It was reported from the British market in 1868 that "...a quality inferior to thirds realized £8 per standard for a considerable quantity." A.F. & D. Mackay's Timber Circular, n.p., September 19, 1868, printed in the Ottawa Citizen, October 9, 1868.

14. Canada, Sessional Paper No. 5, 1877, Report of the Department of Marine and Fisheries, 1876: Report of the Harbour Master for Montreal, p.189. The report states: "The Quebec and Ottawa Lumber Merchants are turning their attention to this port, and begin to find it in every respect convenient and suitable for them to carry on their business. A large number of barges laden with deals arrived in port last fall from Ottawa, and discharged their cargoes on the wharves between the Longueuil Ferry and Hochelaga, which they found admirably adapted for that purpose; the deals were shortly after shipped to England."

The practice of shipping deals from Montreal was reported to have been initiated by Robert Montgomery Cox, a Quebec merchant who was known as the creator of the deal trade as it existed in the post-Confederation period. Canada Lumberman, April 1, 1889, p.7; May 1, 1908, p.21.

was reported in 1883 that deal shipments were being made from Montreal on Quebec merchants' account and by that time it had become evident that the deal trade would go to Montreal.¹⁵ By about 1885, the bulk of the deal shipments were being made from the latter port. Occasional shipments continued to be sent from Quebec, and some also from other St. Lawrence ports, but Montreal was the main point of export.

The immediate cause of the transfer of the trade to Montreal was said to have been the restrictive regulations of The Quebec Ship Labourers' Benevolent Society regarding loading, which kept costs at Quebec at a high level. The regulation which caused the most difficulty was one prohibiting the use of steam winches.¹⁶ The Society opposed the use of mechanical equipment because it was thought that the continuation of manual work as at Quebec would serve to sustain the employment and earnings of its members.¹⁷ In the case of timber as well as deals, loading by hand was slow and heavy

15. Ibid., January 1, 1883, p.4.

16. J. Bell Forsyth & Co. Annual Timber Circular, 1885, printed in the Quebec Morning Chronicle, December 10, 1885.

17. Trade unionism was strong in the Quebec wood trade. In 1873, the Society was capable of mustering 4,000 men for its annual anniversary procession and it was said that there was not "a city in the Dominion, or on the continent, capable of turning out such a body of men of uniform respectability and standing in the community." Quebec Morning Chronicle, July 24, 1873.

A graphic account of a strike in the Sharples firm in 1867, and some comments on the position of the Ship Labourers' Society at the time, are given in P.A.C., Sharples Papers, Vol. 2, John Sharples to Henry Sharples, July 12, 1867.

work, employing large numbers of men.¹⁸ At Montreal, where docking facilities were being improved and where work was less hampered by tradition, vessels could be readily loaded by steam winches which took a large number of deals over the side at one time. The relatively cheaper loading costs at Montreal are frequently mentioned in the records of the trade in the early 1880's.¹⁹ Even when the wood trade at Quebec was nearly finished, the Society could not be persuaded to change its stand regarding these work rules. It was not until 1889 that the prohibitory regulations concerning the use of mechanical equipment in loading were finally ended.²⁰

In spite of this, it is difficult to avoid the conclusion that the fundamental reason for the transfer to Montreal was because it was the closest ocean port to the point of manufacture. The distance from Ottawa to Montreal was about 120 miles; from Ottawa to Quebec was about 280 miles. The shorter distance helped to keep costs down. In a typical year, the charge for barging deals from the Chaudiere to Montreal might be \$1.15 per standard as against \$1.65 to Quebec. Ocean freight rates were no higher from Montreal. With the growth of Montreal as the center for the steamship lines, its advantages

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18. The labourers in the Quebec wood trade were mostly Irish immigrants, many of whom worked in the cotton ports in the southern United States in the winter months. See F.W. Wallace, In the Wake of the Wind Ships, (Toronto, 1927), p.65.
 19. Canada Lumberman, December 1, 1882, p.385; January 1, 1883, p.4; January 1, 1884, p.7.
 20. Ibid., January, 1890, p.16.

became overwhelming and there was no chance of Quebec regaining the trade.

The move to Montreal was followed shortly after by another important change, from sailing vessel to steamship. For a few years, from about 1876 to 1880, deals continued to be shipped from Montreal both by sail and steam. It was not until the early 1880's that the steamship came into general use.²¹ They were still enough of a novelty in 1880 to cause the remark - "what a saving in time there is in the employment of steamers over sailing ships."²² British observers in 1882 were impressed when the first ship from the Quebec fleet to arrive was a steamer which had set out two days after the first sailing vessel and had made a stop-over for coal.²³ The change to the steamship, which was related to the move to Montreal, appears to have been virtually completed by 1884:

Large quantities of deals were carried by steamers, both the regular liners and outsiders, a business which is fast concentrating at Montreal and for the first time, we believe, steamers actually loaded square timber or what is equivalent thereto, in Montreal. It is a pity to see our shipping business gradually

21. Lower noted that a cargo of deals was carried by the steamship Great Eastern in 1861 ("Lumbering," p.238). This appears to have been an early but isolated example. The Great Eastern, it may be noted, was a huge vessel of experimental design, 18,915 tons with five funnels and six masts, and many years in advance of its time.
22. Timber Trades Journal, n.d., quoted in the Quebec Morning Chronicle, September 18, 1880. The reference was to the S.S. Bengal which had discharged a cargo of third deals from Montreal in London.
23. Canada Lumberman, August 1, 1882, p.226. The steamer took twenty-one days for the trip, "a record seldom exceeded by sailing vessel," but much slower than passenger liners at the time.

drifting away from us in this way, and it might be supposed that the rules and regulations of the Ship Labourers' Society, which are said to be the cause, would be revised and amended and brought more in accordance with the interests of the port and the view of ship-owners particularly as we understand there is no objection to the actual rate of wages.²⁴

There were many advantages to carrying deals by steamship. A considerable saving in time was realized, both in loading and in the voyage overseas. Instead of the several weeks required when loading timber by hand, deals were loaded in a matter of days. Passage time, which had been three to four weeks or more with the sailing ship and the early steamship, was greatly reduced with the improved steamers late in the century. The ending of dependence on wind also lessened the danger of wrecks, which had been the bane of the timber fleet. Insurance charges were correspondingly reduced. The net result of these several factors was that the cost of carrying wood was reduced. It was said that sawn wood could be carried at some twelve to fifteen per cent below the comparable cost for square timber.²⁵

Shipping arrangements for deals were completely different from those which had prevailed in the square timber trade. The charter parties for wood were handled by steamship agents in Montreal, rather than being the responsibility of the overseas buyer. These agents arranged for freight room at the request of the Quebec shipper. This was usually in a vessel in the service of one of the large trans-Atlantic lines which

24. Quebec Morning Chronicle, November 20, 1884.

25. Canada Lumberman, January 1, 1882, p.50.

operated regular schedules between Montreal and British ports. Both passenger and freight steamers came to be used for carrying wood. The practice of carrying complete cargoes of wood was given up and deals were generally taken as part of mixed cargoes.²⁶ While perishable products paid the shipping companies better than deals, wood provided the necessary balance between light and heavy items in the cargo. As a result of these changes, sales of wood were generally made on c.i.f. (cost, insurance and freight) terms rather than free-on-board Quebec as formerly.

The system of rafting deals to Quebec from the Ottawa was also given up. W.C. Edwards thought that the practice ended about 1877 or 1878.²⁷ The deals which had been sent from Ottawa to Montreal in 1876, as has been noted, were shipped by barge. Barged deals were also sent to Quebec for a few years before the trade was transferred entirely to Montreal and were handled at the coves there just as the rafted deals had been. With the end of rafting the practice of distinguishing two kinds of deals, bright and floated, also came to an end. Barges had an advantage over rail in that loading could be done directly into the waiting ship and consequently this system continued as

26. Complete wood cargoes were still carried as late as 1885. A letter of J.K. Ward, a prominent Montreal lumberman, in that year mentions one: "Probably the largest cargo of sawed lumber that has ever been shipped from Canada left this port to-day per Steamship Regius...on account of Bryant, Powis and Bryant, of London, England. It consisted of 1,272 St. Petersburg standard three-inch deals or 2,518,650 feet board measure." August 19, 1885 in the Canada Lumberman, September 1, 1886, p.296.

27. Loc. cit.

the common method of delivering lumber to Montreal. As they were also used for lumber exports to the United States, tows of lumber barges were a common sight on the Ottawa River and the Rideau Canal in the late nineteenth and early twentieth centuries.

With these changes, inventories of deals were no longer kept at the shipping port, as had been the custom in the Quebec timber trade, but were instead held at the mill. From there, they could readily be sent downriver by barge to meet the incoming ship on its arrival at Montreal. Stocks which were held at the mill were in some cases goods which had already been sold and were being stored at the buyer's expense while other lots were unsold wood being wintered over for sale in the following season. In a normal year, however, the entire deal output of a mill would be sold in advance. From the point of view of information on inventories, this situation was less satisfactory than in the old days when all stocks were held at Quebec and inventory figures were published regularly by the Supervisor of Cullers' office. The later deal manufacturers did have statistics on inventories but only because one man, W.C. Edwards, went to the trouble of assembling the data and making it available to others.²⁸

28. See P.A.C., Gilmour and Hughson Papers, Vols. 35 and 36 for correspondence with W.C. Edwards which provides annual statistics on deals wintering on the St. Lawrence and the Ottawa for the seasons 1889-90 to 1909-10. There is a good deal of discussion in Edwards' letters about market trends, future cutting plans, and the prevailing inventory situation.

At the same time, the system of culling deals at Quebec was gradually done away with, as less and less wood passed through that port, and the Supervisor of Cullers' office all but disappeared. Culling came to be carried out at each of the mills. It was commonly said that the rule on the Ottawa was that each of the contracting parties provided a culler, man to man, to watch the other. Under the old system, the quality and measurement of deals had been determined by standards set down in legislation administered by impartial cullers in the employ of the government. Grades under the new system were decided by mutual agreement between buyer and seller according to unwritten but generally prevailing standards. This situation does not seem to have had any serious effect on the marketing of the product. If anything, the fact that the shipper had some influence, and in the view of the manufacturers the main influence, in the culling procedures, did much to keep up grades. With the general decline in the quality of Canadian pine in the period, however, it appears that standards had to be gradually relaxed.

The Quebec merchants, who became more generally known as shippers, still maintained their headquarters at Quebec. Most of them also had offices in Montreal and, in a few cases, at Ottawa. The practice in the trade was for these men to purchase a mill's entire output of deals. These arrangements were usually made during a visit to Ottawa in the early winter and often over a meal at the famous Russell House, the lumbermen's favourite meeting place in that city. There was a great deal

of continuity in these arrangements. The same shipper handled the output of a deal mill year after year. Booth's deals were divided between Cox and Burstall; Edwards' were run by Watson and Todd; Dobell, Beckett often obtained the output of Baptiste's and Sharples those of the Hawkesbury Lumber Co., and so on. At the same time, there was rivalry between shippers and it was quite possible for one to outbid the other to secure a choice lot. The Quebec men continued to make their selling trips overseas, some of the veterans of the trade making dozens of voyages in their lifetime. In Britain, the same continuity existed in the trade as in Canada, with the same agent handling one brand for years.

The main growth in the pine deal trade took place in the 1860's and 1870's. After that date, there was little further expansion in the industry. Average annual exports from the 1880's to the early 1900's were usually within the range of 150,000,000 to 200,000,000 board feet, with no discernible increase taking place over the period.²⁹ In comparison with the

29. Data on the volume and value of pine deal exports are given in Appendix Table 8. Separate statistics for pine deals are available only for the fiscal years 1885 to 1917 inclusive. From 1868 to 1884, pine and spruce deals were grouped together. The totals for pine include small amounts of red pine but do not include deal ends.

The recorded peak in exports came in the 1889-1890 season at 92,461 standards or the equivalent of 254,000,000 board feet. In that season, however, the deal market was reported to be in "a very depressed and precarious position" and stocks were high. The Ottawa lumbermen held discussions to arrange for "preconcerted action" to reduce production. P.A.C., Gilmour and Hughson Papers, Vol. 47, circular letter, Hiram Robinson, Hawkesbury Lumber Company Limited, to J. Gilmour & Co., April 30, 1890.

size of other wood trades, this was not large. It was well below the peak reached in the square timber trade and the levels of the contemporary spruce deal and white pine lumber trades. The value of pine deal exports annually ran between \$2,000,000 and \$4,000,000. This was, on the average, only about ten per cent of the value of exports of all forest products from Canada and only a fraction of the total value of all exports.³⁰ The importance of the deal trade lay not in its size but rather in the fact that it was a quality product which brought high prices in the export market. It permitted the lumber industry to develop a well-balanced foreign trade, with a variety of products suited to different markets.

Canadian pine deals were put to a number of specialized uses in the British economy in this period. The better grades were employed for interior finishing work in housebuilding and shipbuilding and for pattern-making in the engineering industry. Other uses were in the manufacture of furniture, matches,³¹ boxes, boat building, and in general joinery work. Most of these were new demands which had developed in the second half of the century and so new markets became important. Liverpool retained its position as the chief port of entry for Canadian

30. See Appendix Table 1.

31. White pine was well suited for the manufacture of matches and Canadian pine producers did a thriving business selling deal ends to match factories in Canada and the United States. In the 1890's, shipments were being made as far away as Indiana. Fourth deals were also sent to the United States for box making, one of the largest users being the Standard Oil Co. in Oswego, N.Y.

pine³² but London,³³ Manchester, Glasgow and Cardiff also became distributing centers.

For its specialized uses, there was no fully satisfactory substitute for white pine:

When we see 1st Quality Quebec pine fetching £10 to £12 per standard more than the choicest Archangel deals, it is evident that for certain purposes of panelling and joinery, there is no competition between the American and European pine. The former will be had if the buyer has to pay 50 per cent more for it.³⁴

Canadian pine in the late nineteenth century seems to have found certain special niches in the British market where, as long as the user could afford it, there was little direct competition from other woods. Once it achieved these markets, as was accomplished by the end of the 1870's, there was no further expansion in its sales. This was in contrast to almost every other softwood imported into Britain in the period. Canadian spruce, Swedish, Russian, and American woods all benefited from the expanding British timber market in the period.³⁵

32. Cf. Canada Lumberman, April 1893, p.7: "...of Canada deals landed at Liverpool by cattle steamers fully seventy per cent go through to Manchester and district."
33. The following comments on the London market were made by Bryan Latham, whose family was in the trade: "...thousands of Quebec pine deals were imported and converted every year into 1/8" and 1/4" for drawer-sides, wardrobe backs, and similar purposes. Enormous stacks of these deals ranging from 12 ft. to 16 ft. long, 3" x 11", were piled to heights of over fifty feet...It was quite usual for a firm to carry a stock of over 100,000 of these Quebec planks. Prices ranged from 10d. per ft. run for first quality to as low as 3d per ft. run for fourth quality. Sawing was done at the rate of 2½d. per cut." Op.cit., p.60.
34. Report from Glasgow, n.d., quoted in the Canada Lumberman, January 1, 1883, p.10.
35. See Appendix Table 3. Canadian spruce is not shown separately in these statistics but official Canadian export data show its growth.

The failure of white pine to obtain a larger share of the growing market can be attributed to some extent to the limited supply but more to its high price. Canadian pine deals were priced well above all similar goods, with the exception of Michigan pine deals. This is illustrated by the comparison below of 1886 prices in Britain. Canadian spruce deals were also sold at much lower prices.³⁶

Table 5

Illustrative Prices of European and Canadian Pine Deals
on the London Market, 1886

Description	Price Range per St. Petersburg Standard
	£
White Sea Firsts.....	16 - 18
Petersburg firsts.....	10 - 11
Riga firsts.....	7 - 7.10s.
Swedish firsts and seconds..	14 - 16
Quebec firsts.....	27 - 32

Source: Simson and Mason London Wood Circular, October 6, 1886, in P.A.C., Gilmour and Hughsons Papers, Vol. 85.

The competitive position of the pine deal became much weaker toward the end of the century as a rapid increase in price was experienced. The reasons for this rise were the same as for white pine generally³⁷ but, as deal logs were more difficult to obtain than ordinary lumber logs, deals experienced an earlier and sharper increase than pine lumber. This price

36. In 1884, first spruce deals at Quebec were quoted at \$38 - \$40 per Quebec Standard while first Canadian pine deals were \$115 - \$118 and Michigan firsts, \$130 - \$140. J. Bell Forsyth & Co. Annual Timber Circular, 1884, printed in the Quebec Morning Chronicle, December 12, 1884.

37. Supra, pp.17-18.

advance is difficult to measure precisely,³⁸ but the following table provides an approximation of the rate of increase.

Table 6

Illustrative Prices for Canadian Pine Deals
for Selected Years, 1871-1911
at St. Lawrence Ports

Year	Price Range per Grade per Quebec Standard		
	First Quality	Second Quality	Third Quality
	\$	\$	\$
1871.....	80 - 90	53 - 60	27 - 30
1872.....	98	64	32
1878.....	94 - 96	56 - 60	26 - 28
1882.....	108 - 112	70 - 72	37 - 39
1890.....	115 - 120	78 - 80	38 - 41
1893.....	123	83	42
1906.....	150	95	57
1911.....	202 - 207	118 - 130	82 - 94

Sources: 1871-82: Quebec Morning Chronicle, January 17, 1873; June 21, 1878; October 12, 1882;
1890: Canada Lumberman, February 1890;
1893: P.A.C., Gilmour and Hughson Papers, Vol. 35, Edwards to Gilmour and Hughson, January 31, 1893;
1906: P.A.C., Sharples Papers, Vol. 19, Smith to Power, February 15, 1906;
1911: Ibid., Vol. 24, November 10, 1910.

This advance in price took place in spite of the fact that freight rates declined. From the time that the steamship

38. There is no statistical series available on the prices of pine deals. Average prices may be computed from figures on volume and value of exports in the official Canadian statistics but these would be misleading because of changes in the proportions of the various grades being exported. It should be kept in mind that deal prices may be given by four qualities, in sterling or in dollars, f.o.b. shipping port or c.i.f. port of entry in Britain, by Quebec or St. Petersburg Standard.

came into general use, there was a steady drop in deal freights, as shown below. Steamers were able to quote rates a little lower than those for sailing ships, and the latter were forced to reduce their charges steadily in order to compete. Rates from north of Europe ports also declined and the Baltic shippers still maintained their advantage over Canadian.³⁹ As the price of Canadian wood advanced, however, the relative importance of freight rates in total costs declined. With the very high prices ruling after 1900, freight rates were not a major factor in the ability of Canadian pine deals to compete overseas.

Table 7

Illustrative Ocean Freight Rates for Pine Deals
from St. Lawrence Ports to Britain
for Selected Periods, 1867-1914

Period	Rates per St. Petersburg Standard
	Shillings
1867-72.....	65 - 85
1873-74.....	105 - 120
1878-80.....	65 - 70
1884.....	50 - 55
1890-96.....	45 - 65
1911-August 1914.....	35 - 45

Sources: 1867-84: as reported regularly in the Quebec Morning Chronicle;
1890-96: Canada Lumberman, February 1890; July 1892; September 1896.
1911-14: P.A.C., Sharples Papers, Vols. 5 and 16; Canada Lumberman, June 1, 1915.

39. It was reported in 1884 that Canadian woods were more handi-capped than they used to be in competing against the Baltic producers. Typical Baltic rates were given as twenty-five shillings as against fifty shillings from Canada, per
(cont'd.)

With its market limited, the level of activity in the pine deal trade from the 1870's to the 1890's was strongly influenced by the movements of the business cycle. In the 1870's, Canadian wood benefited from a speculative boom in housing in Britain, a "positive mania" in which even clergymen participated.⁴⁰ Pine deals were scarce in the first few years of the decade but when production was increased, the industry experienced several good years up to the depression which was severely felt in 1878 and 1879. Recovery came in 1880, when a "wonderful increase" in deal sales was reported.⁴¹ For most of the remainder of the century, deal markets were sluggish, as were general business conditions. There were some good years and some bad ones but at no time could demand be said to have been exceptionally strong. Housebuilding had been overdone in Britain and this reacted back on the demand for pine. There were several seasons around 1890 in which surpluses of Canadian pine deals existed on the British market. The industry

39. (cont'd.)

St. Petersburg Standard, Canada Lumberman, March 3, 1884, p.100.

Rates from the Baltic varied considerably by port. In the 1873-4 seasons, the following rates were quoted per St. Petersburg Standard: Riga, 55s., Archangel, 85s., Kronstadt, 57s., Sundswall, 55s. Comparable rates for the Miramichi were 95s. and Pensacola, 57s. 6d. Quebec Morning Chronicle, September 19, 1873 and March 13, 1874.

40. Louis Bamberger, Sixty Years in the Timber and Pianoforte Trades, (London, 1930), p.189. Mr. Bamberger's book provides a good account of the firms and personalities in the Canadian pine deal trade.

41. J. Bell Forsyth Annual Timber Circular, 1880, printed in the Quebec Morning Chronicle, December 31, 1880.

was prevented by taking full advantage of the improvement in economic conditions toward the end of the century by the high price and growing scarcity of good wood which limited sales and by a shift in preference in the market away from deals toward other sawn lumber.

The sawn lumber market, as distinct from deals, in Britain began to develop in the 1890's. This market grew slowly, as the British were not used to taking wood in many sizes ready for use. Small amounts of lumber were sent over in the 1870's, reaching a peak of 24,000,000 feet of all species in the fiscal year 1876-77.⁴² Exports were very little larger in the 1880's. Cases were reported in those years of Canadian pine boards which remained unsold for more than two years.⁴³ Within a few years, however, pine lumber was finding general acceptance overseas and agents were asking to be kept informed about it:

Mr. Walcott has again written us about the considerable business done in sidings, boards and other sawn goods and presses us to send him particulars...We do not anticipate a large immediate business, but as these goods are now offered in connection with deal cargoes we require to be fully posted.⁴⁴

In 1897, a British importer noted that "business in this country is going fast into special sizes and doing away with sawing stuff after arrival."⁴⁵ By 1899, it was reported that the

42. Canada, Sessional Paper No. 10c, 1917, p.196.

43. P.A.C., Gilmour and Hughson Papers, Vol. 47, Sheriff, Hunter to Gilmour and Co., Ottawa, August 11, 1887 and May 3, 1888.

44. Ibid., Vol. 58, E.H. Wade, McArthur Brothers, to Gilmour and Hughson, March 14, 1892.

45. Ibid., Vol. 106, H.T. Walcott to Gilmour and Hughson, February 1, 1897.

English market was taking "all classes of lumber and dimension stuff while previously only deals could be marketed there."⁴⁶ Good sidings, as they were called, supplied the market formerly held by first-quality deals.

This was an important development in the Canadian lumber trade, as significant as the change from timber to deals. It represented a further advance in the degree of manufacture of the product, a transfer of the final stage of sawmilling from Britain to this country. The change came too late to be of much benefit to the pine trade, as the best of the pine had been cut by this time. White pine was exported as lumber for only a few years just prior to 1914.⁴⁷ It was possible for later exporters, particularly those of British Columbia, to move into a market which had become accustomed to taking all sizes of lumber. This meant not only higher profits for the Canadian industry but also it permitted the lumber industry to market the same product in the British and North American markets.

The depletion of the Canadian pine forests in the late nineteenth century was felt at an early stage in the deal trade, as it required the largest and best sawlogs. The industry after 1867, in fact, was never in a satisfactory situation as far as raw material supply was concerned. As early as 1872,

46. Canada Lumberman, March, 1899, p.6.

47. Lumber exports from Canada to Britain expanded from 14,000,000 board feet in the fiscal year 1891 to 93,000,000 by 1899. Separate data by species are not available so it is not possible to say exactly how important this was for white pine. Canada, Sessional Paper No. 10c, 1917, p.196.

manufacturers were reporting difficulties in obtaining good logs⁴⁸ and in 1877, it was said that only eight or ten per cent were suitable for first class wood.⁴⁹ Still, in the 1870's and 1880's, Canada was able to ship a good proportion of broad deals overseas.⁵⁰ By the 1890's, some of the mills were in a serious supply situation and overseas buyers were complaining that they were using small, coarse logs in the manufacture of deals, contrary to the provisions set forth in contracts. Quality sank so low that some brands lost their fine reputation overseas and could only be sold with difficulty. Only those firms with very large limits could continue making deals. More and more wood was being diverted to the United States. The output of some Canadian mills came to be controlled by American wholesalers who adopted the practice of buying the entire season's cut of a mill and the British market was shut out.⁵¹ In the 1900's, deals were in short supply everywhere and the Quebec shippers scoured the country for them, even going as far as the Maritimes. They also went more heavily into spruce

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48. J. Bell Forsyth & Co. Annual Timber Circular, 1872, printed in the Quebec Morning Chronicle, December 21, 1872.
49. Quebec Morning Chronicle, February 17, 1877, quoting Robert Coltart and Smith Circular, February 1, 1877.
50. Widths up to thirty-two inches were shipped occasionally with rare lots up to forty inches.
51. P.A.C., Gilmour and Hughson Papers, Vol. 61, McArthur Brothers to Gilmour and Hughson, January 16, 1901. "I was very sorry to see from your letter that there was no chance of our buying White Pine deals direct from you of next season's cut. Possibly you could influence Messrs. Skillings, Whitney(s), and Barnes to cut some for us at your mill out of log produce you have sold them."

deals. Some of the best limits by this time had passed into the hands of pulp and paper companies who continued to make a few deals but nothing like the former level of production.

The deal export trade went into a sharp decline in the early 1900's. The last important season was 1902-3, when 84,349 standards or about 232,000,000 board feet were shipped.⁵² Ten years later, the total had dropped to 17,507 standards. The high price of pine made it unsuitable for the British market. As one shipper wrote:

I find it very difficult to put anything into your trade owing to the high prices ruling on our side in almost every article ...Pine deals and sidings in the Ottawa district are now almost out of reach for the English trade.⁵³

In an article in 1907 entitled "Deal Trade Disappearing," it was said that only two manufacturers, Booth and Edwards, were still making deals and should these two discontinue the practice the trade would end.⁵⁴ By 1915, it was reported that the "demand for pine deals has fallen away to such an extent that it now remains the merest shadow of what it was."⁵⁵ This was really the end of the pine deal trade, although some were shipped in the 1920's and pine deals were still made in Canada as late as the 1930's.

52. See Appendix Table 8.

53. P.A.C., Sharples Papers, Vol. 20, William Power to Edmiston & Mitchells, December 28, 1906.

54. Canada Lumberman, January 1907, p.16.

55. Ibid., July 1, 1915, p.36.

EPILOGUE

Since the First World War, the British market has continued to draw its softwood supplies from its traditional sources, the Baltic countries and North America. Sweden, Finland, and Russia which came back into the market in the 1920's, are the main European sources. None of the North American softwoods of the nineteenth century, however, are still imported in quantity. As far as the Canadian trade is concerned, there has been a shift in the source of supply from the east to the west coast. The Douglas fir, cedar, hemlock and other British Columbia woods have replaced the eastern white pine and spruce.¹ A good trade in eastern pine lumber was carried on in the first years after the war, but not in the broad sizes or in the same volume as in the pre-war period. Exports of white pine continued to decline in the 1930's and since the Second World War only token amounts have been shipped.²

The disappearance of Canadian pine from the British market was not a great loss to buyers in that country, as

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1. For a summary of the British Columbia export trade with Britain up to the 1930's, see: W.A. Carrothers, Forest Industries of British Columbia, (Toronto 1938), pp.286-290.
 2. Statistics on exports of white pine lumber are not available separately but are grouped with data for other kinds of pine. Exports of pine lumber since 1945 have been largely to the United States. Canada, Dominion Bureau of Statistics, Trade of Canada, annual reports, 3 vols, Vol. II, Exports.

substitutes had been taking its place for many years. In Canada, the effects of the reduced British trade, and the decline in pine lumbering generally which took place soon after, were more severely felt. There were so many fundamental changes going on in the country at that time, however, that the situation in which the pine trade found itself was hardly a matter of national concern. The west was being settled; immigrants were pouring in by the hundreds of thousands; large new cities were growing up; and new industries were developing. Prosperity was general, jobs plentiful, and wages rising. In the export trade, the newer staples - prairie wheat, minerals and pulp and paper - overshadowed lumber in importance. Added to this was the fact that the big sawmills disappeared one by one over a period of many years. The dislocation caused by the decline of the pine trade was largely local in character and its effects on the economy as a whole were not serious.

The first casualty was the port of Quebec. Quebec had been the greatest timber port the world has ever known and, measured in terms of number of ships arriving, was the busiest ocean port in Canada until the 1880's. Its weakness lay in the fact that its trade was almost entirely in one commodity, wood. Montreal had the more general trade, handling all the imports and the agricultural exports. With the development of a national economy, it was in a position to become the national port of Canada. The advantages which Montreal possessed were its situation at the head of navigation and its rail connections with the interior. Montreal had been preparing for this situation for many years, improving its port facilities and

deepening the river channel.³ As late as the 1870's, however, Quebec still had hopes of becoming the chief port of Canada.⁴ This was not to be, as Quebec's greatness had been founded on the timber trade and the sailing ship and when these two disappeared its day was over. By the 1890's, it was obvious to even the most optimistic observer that Quebec had lost out to Montreal. Since that time, it has occupied a position of secondary importance as an ocean port. As far as the wood trade was concerned, the Quebec shippers still had offices there in the 1930's but their numbers had dwindled and their exports were small. In recent years, however, Quebec and other St. Lawrence ports have been increasing their trade, although Montreal remains by far the largest and is also expanding.⁵

3. See Stephen Leacock, Montreal: Seaport and City, (Garden City, N.Y. 1942), pp.177-8.

4. Cf. Quebec Morning Chronicle, October 14, 1871: "Quebec should be the great distributing point for the whole Dominion westwards, at least here will be the terminal for the magnificent railroad system through the interior of this province and Ontario and onwards through the North West to the Pacific. The present channel to Montreal, without costing more than a bagatelle, will always be deep and safe enough for the lighter class of vessel suited for the inland trade...Our harbour presents all the natural advantages; largest cargoes may be loaded, any number of small barges and steamers carry freight to Montreal and westwards..."

5. Water levels at Montreal in the 1960's have on occasion fallen below the thirty-five foot level on which ship-owners depend. Some vessels have been diverted elsewhere while others have sailed with partial cargoes. In 1964, Baie Comeau, unaffected by changes in water levels, shipped almost as much grain as Montreal. See "Why Montrealers Worry," excerpts from a speech by Guy Beaudet, port manager of Montreal, Financial Post, June 26, 1965.

Quebec on the other hand, has benefited from the extension of winter navigation, industrialization of its hinterland, and the trend towards bigger cargo vessels.

In the areas in which pine lumbering had been carried on, the adjustment following the decline of the industry was often serious but on the whole not as difficult as might have been expected.⁶ New sources of employment and income developed which greatly eased the transition. The most important of these were the tourist trade and the pulp and paper industry. As well, lumbering remains an important industry, particularly in the northern sections of the old pine belt.

The economy of the rural areas of central Canada in the first years after settlement was based on a mixture of farming and lumbering. Most of the land in the Laurentian Shield was not suitable for agriculture but as long as the lumber industry was active the settler-farmer could make a reasonable living. In the winter months he might work in the lumber shanties while farming in the summer to supply the food needs of his family. When the lumber industry moved on, these settlements were thrown back on their income from farming alone. In most cases, this proved sufficient only for a subsistence existence. Where no alternative industry developed, farms were abandoned or continued as marginal operations. The original log cabins and barns of these settlers may still be seen in many parts of Ontario and western Quebec, monuments to unsuccessful efforts to establish farms in the inhospitable Shield.⁷

6. Howe and White (op.cit.) gave a very dismal picture of economic and social conditions in the Trent Valley in 1913 but its future turned out to be much better than had been anticipated.

7. Many of these old cabins now are being restored and preserved, while the pine siding of the original barns is being re-worked by lumber firms for sale as interior panelling.

The southern sections of the pine belt were saved from the worst effects of the end of pine lumbering by the development of the tourist trade. The rocky lake and river country of the southern Laurentian Shield may not be suited for farming, nor does it possess the kinds of trees necessary for the manufacture of pulp and paper (particularly spruce, as the pines are not used for pulpwood), but it is admirably fitted for vacation purposes. Nearly all the main resort areas of Ontario - Muskoka and the Georgian Bay, Haliburton, the Kawartha and Rideau Lakes - and the Gatineau district in Quebec, were formerly centers of pine lumbering. Those situated closest to the large population centers to the south began to develop a tourist trade in the years when pine lumbering was still going on.⁸ The spread of summer cottages and hotels was at first limited to those areas near the railways but with the coming of the automobile, power boats and the extension of roads, the whole of the above-mentioned area was made accessible. With the increase of winter sports, the resort areas now are being used on a year-round basis.

White pine, and its historic rival the spruce, are still the most important lumber species in eastern Canada but pine is no longer milled in the areas it once was nor is it produced in large sawmills. The center of the industry has moved to the more northerly limits of its range, the Upper Ottawa-Nipissing district in particular, where the largest remaining stands are located. The Chaudière is no longer a sawmilling center and the same is true of the Bay of Quinte. Throughout the tourist

8. See Florence B. Murray, Muskoka and Haliburton, 1615-1875: A Collection of Documents, (Toronto 1963), pp. 388-407.

areas, sawmilling is a minor industry. The big mills met a variety of fates. Some were closed down, others were converted to the manufacture of pulp and paper products, still others burned down and were never re-built.⁹ Even with smaller mills, the annual output of white pine in Canada remains substantial. The last year in which more than one billion board feet were produced was 1911; after that a steady drop occurred, reaching a low of 157,000,000 feet in the depression year 1932.¹⁰ There was something of a comeback after the Second World War, with a peak of 420,000,000 feet being attained in 1953. This level of output may have been attained at the expense of existing stocks of the wood, as there has been a falling-off in production in the early 1960's.

The successor to pine lumbering in a large part of the Ottawa Valley was the pulp and paper industry. Sooner or later, most of the big lumber firms on the Ottawa converted to the manufacture of pulp and paper. The new industry was able to utilize the spruce and balsam fir on the limits of the lumber companies, their undeveloped hydro-electric power sites, logging techniques, and in some cases, the same plants. The typical pulp and paper firm was a joint-stock company, with large

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9. After the great Ottawa fire of 1900, all but one (Booth's) of the five producing mills at the Chaudière closed down. A.J. Russell, Ottawa Transportation Company, quoted in the Ottawa Journal, March 15, 1962.
 10. Statistics on production of white pine from 1908 to 1916 are given in the annual report Forest Products of Canada, Department of Interior, Canada, and from 1917 on in the annual report The Lumber Industry, Dominion Bureau of Statistics. The name of the latter report was changed in 1960 to Sawmills. The totals above include western white pine.

capital resources, operated by managerial, financial and technical specialists. Few of the old Ottawa lumber families were able to make the transition successfully to this new and different era. Consequently, a number of changes of ownership took place and names which had been familiar in the lumber industry for many years disappeared.

This process began in the 1890's and was still going on in the 1960's. The first Ottawa Valley lumber firm to make the change was E.B. Eddy & Co. in 1890.¹¹ Booth's, the largest lumber manufacturers in Canada at the time, opened their first pulp mill in 1904¹² but continued to saw lumber for many years after that date. A major change took place in 1920 when two of the largest Ottawa concerns, Edwards' and Gilmour & Hughson, were bought out and their production changed over to pulp and paper as well as wood products.¹³ One of the few family firms to make the switch successfully was MacLaren's of Buckingham, Quebec, still owned and operated by that family. The most recent conversion took place in 1963 when Gillies Brothers of Arnprior, a firm with a history going back before the middle of

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11. W.H. Rowley, Secretary-Treasurer of Eddy's wrote to Gilmour & Co. in 1889 that: "We are going out of the lumber business to devote more time to our rapidly increasing manufacturing industries." P.A.C., Gilmour and Hughson Papers, Vol. 35, February 11, 1889. The company bought its first paper machine in 1890. Advertisement of company in the Ottawa Journal, April 26, 1960.
 12. A.H. Ross, Ottawa Past and Present, (Ottawa 1927), p.158. The Booth interests at the Chaudière were taken over by E.B. Eddy & Co. but the firm still has a sawmill at Tee Lake, Quebec.
 13. Canada Lumberman, June 15, 1920, p.57. The successors to both firms eventually became part of the Canadian International Paper Co. organization.

the nineteenth century, was taken over by the Consolidated Paper Corporation.¹⁴

Pine lumbering and pulpwood logging to-day are largely carried on in the northern sections of the range of the white pine. The remainder of the former pine belt is principally occupied by second-growth trees of inferior species and uneconomic farms. Its only major industry is the tourist trade. This trade, while it provides a good living for many of the permanent residents, takes up only a fraction of the available land. The area as a whole is not making any substantial contribution to the wealth of Canada. Under proper conditions, the white pine country could again play the important role in the Canadian economy that it once did. No better goal could be established than to attempt to return its forests to as close an approximation of their original state as possible. This would not only serve the best interests of the forestry industries but also those of soil, water and wild life conservation.

The history of the white pine lumbering industry offers some useful guide lines for the conduct of forest policy. It is apparent that the best use of the land in these areas is to sustain forests and that all the present unprofitable farming operations should be given up. The existing scrub hardwoods and low-quality mixed woods which now occupy thousands of square miles should be replaced by commercially valuable species. Mixed forests of the type which were present originally would serve admirably the varied requirements of to-day's wood-using

14. Ottawa Journal, November 19, 1963.

industries. There is still a role, and an important one, to be played by the white pine. It will never again be the abundant species it once was but, with care, it can be reproduced at low cost.¹⁵ Under a system of forest management, it can continue to be the most important lumber species in eastern Canada.

Canadian softwoods have been exported for more than a century and a half and there is every likelihood that they will continue to find a ready outlet in the United States or Britain. In fact, the export market is capable of absorbing several times the amount of white pine now produced. With the world-wide shortage of wood becoming more serious every year, demand and prices can be expected to continue to rise. The white pine trade has demonstrated that when a high-quality wood is exported continuously and in good grades, it will find ready acceptance in the lumber markets of the world. As to manufacture, it appears that Canadians have not yet grasped the importance of doing as much of the processing as possible in Canada. Secondary wood products plants, however, are usually located close to their markets. For Canada, the best location of such plants would be near the United States border. It is unlikely that Canada will ever ship manufactured products to Britain, except for a few standard items, as that country is too far away.

The fate of the eastern Canadian lumbering industry also suggests that reforestation is best accomplished by direct government participation, either government ownership and

15. See K.W. Horton, "Low Cost Regeneration of White Pine," Canada, Department of Forestry, reprint from Timber of Canada, (February, 1962.)

management or close governmental supervision of private industry. The long growth cycle without any immediate return on investment, the technical problems concerned with disease and insect damage, and the large land area required, make it difficult for private organizations to carry out forest regeneration projects successfully. This is particularly true of the white pine because it is more difficult to re-establish than other softwoods and more susceptible to damage by insects and disease. With the depletion of the original forests, policies of reforestation, among other measures, were adopted by the provinces in eastern Canada. In Ontario, these were directed chiefly towards increasing stocks of red and white pine and, together with natural regeneration and private reforestation, have been sufficient only to sustain, but not to increase, inventories of white pine.¹⁶ They have, however, resulted in a continuous research program into problems concerning the management of white pine and the establishment of procedures for providing stocks of young trees. These programs would therefore provide the basis for the expansion of reforestation projects in eastern Canada. There is no government at any level which has a policy specifically directed towards the large-scale regeneration

16. There has been no significant change in stocks of white pine over the past thirty years. Horton and Bedell, op.cit., p.23.

Inventories of accessible merchantable white pine in Canada in 1961 were placed at seventy-two billion board feet of which seventy four per cent was in eastern Canada and the remainder in British Columbia. In the east, it is exceeded in importance by stocks of spruce, balsam fir, and jack pine. Canada, Dominion Bureau of Statistics, Canadian Forestry Statistics, 1961, (Ottawa, 1962), pp.12-13.

of white pine. Should the provincial and federal governments see fit to introduce such policies in eastern Canada, it would lay the foundation for a balanced economy in the areas concerned for generations to come.

APPENDIX TABLES

- Table 1 - Exports of Merchandise from Canada by Class at Ten-Year Intervals, 1870-1910.
- Table 2 - Exports of Selected Commodities from Canada at Ten-Year Intervals, 1870-1910.
- Table 3 - Exports of Forest Products from Canada to the United Kingdom, United States, and Other Countries at Ten-Year Intervals, 1870-1910.
- Table 4 - Imports of Hewn Softwood into the United Kingdom by Country at Ten-Year Intervals, 1860-1910.
- Table 5 - Imports of Sawn Softwood into the United Kingdom by Country at Ten-Year Intervals, 1860-1910.
- Table 6 - Exports of Hewn Timber from Canada to the United Kingdom by Species at Ten-Year Intervals, 1870-1910.
- Table 7 - Quantity and Value of Exports of Hewn Pine Timber from Canada to the United Kingdom, 1868-1913.
- Table 8 - Quantity and Value of Exports of Pine Deals from Canada to the United Kingdom, 1885-1916.
- Table 9 - Supply, Export and Prices of Square and Waney White Pine Timber, Port of Quebec, 1861-1912.

Table 1
Exports of Merchandise from Canada by Class
at Ten-Year Intervals, 1870-1910

Fiscal Year Ending	Mines	Forests	Agriculture (1)	Manufactures	Other (2)	Total
	Millions of Dollars					
1870	2.2	21.5	25.8	2.6	4.0	56.1
1880	2.9	16.9	39.9	3.2	7.2	70.1
1890	4.9	26.2	37.0	5.7	8.5	82.3
1900	24.6	29.7	83.6	14.2	11.4	163.5
1910	40.1	47.5	144.3	31.5	15.8	279.2

Source: Canada, Sessional Paper No. 10c, 1917, Vol. LII, No. 5, Annual Report of the Department of Trade and Commerce, 1917, pp.52-3.

(1) Includes animal products.
(2) Almost entirely fisheries products.

Table 2
Exports of Selected Commodities from Canada
at Ten-Year Intervals, 1870-1910

Commodity	Fiscal Year Ending				
	1870	1880	1890	1900	1910
	Millions of Dollars				
Coal	0.6	1.0	2.4	4.6	5.0
Copper	0.3	0.2	0.2	1.4	6.0
Gold	0.1	1.1	0.7	14.1	6.0
Nickel	-	-	0.2(1)	1.0	3.3
Silver	0.6(2)	0.1	0.2	1.4	15.0
Cod Fish	2.1	3.6	3.0	3.0	3.6
Salmon - Canned	0.1	0.3	2.1	2.9	4.4
Deals - Pine	(4.9	(5.8	3.8	3.3	1.7
Deals - Spruce			5.1	7.5	5.8
Planks and Boards	8.3	5.9	7.9	9.6	23.3
White Pine Timber	2.8	1.2	2.7	1.2	0.6
Pulpwood	-	-	0.1	0.9	6.1
Paper	-	-	-	-	3.2
Bacon	1.6	0.2	0.6	12.5	8.4
Butter	2.4	3.1	0.3	5.1	1.0
Cattle	3.0	2.8	6.9	9.1	10.8
Cheese	0.7	3.9	9.4	19.9	21.6
Wheat	3.7	5.9	0.4	12.0	52.6
Wheat Flour	2.3	2.9	0.5	2.8	14.9

Source: Canada, Sessional Paper No. 10c, 1917, pp.156-299.

(1) 1890-1

(2) 1870-1

Table 3

Exports of Forest Products from Canada to the United Kingdom, United States,
and Other Countries at Ten-Year Intervals, 1870-1910

Fiscal Year Ending	United Kingdom	United States	Other Countries	Total
	Millions of Dollars			
1870	10.6	8.9	2.0	21.5
1880	8.7	6.5	1.6	16.9
1890	14.1	10.2	1.8	26.2
1900	15.1	12.8	1.8	29.7
1910	11.0	31.8	4.6	47.5

Source: Canada, Sessional Paper 10c, 1917, p.211. Amounts shown by country may not add to totals because of rounding.

Table 4

Imports of Hewn Softwood into the United Kingdom by Country
at Ten-Year Intervals, 1860-1900

Country	1860	1870	1880	1890	1900
	Millions of Board Feet				
Russia	43.6	106.8	198.6	181.0	347.6
Sweden	73.8	143.2	185.2	202.4	317.4
Norway	49.3	90.2	203.4	196.1	206.5
Germany (1)	207.7	84.8	135.6	138.9	144.1
France	-	-	175.9	318.2	505.4
United States	-	57.0	82.2	58.5	34.2
Canada (2)	348.2	205.5	157.6	73.0	34.4
Other	42.5	38.1	7.9	37.7	83.1
Total	765.1	725.6	1,146.4	1,205.7	1,672.7

Source: Great Britain, Board of Trade, Annual Statements of the Trade of the United Kingdom for the years shown, (H.M.S.O., London.) The original figures in loads of fifty cubic feet have been converted to board feet. The series was changed in 1901 to show pit-props separately and the data are not comparable after that year. The totals shown for France and Germany are largely pit-props. The figures shown by country may not add to the totals because of rounding.

(1) Prussia in 1860 and 1870.

(2) British North America in 1860.

Table 5
Imports of Sawn Softwood into the United Kingdom by Country
at Ten-Year Intervals, 1860-1910

Country	1860	1870	1880	1890	1900	1910
	Millions of Board Feet					
Russia	136.2	293.1	579.9	692.1	1,018.2	1,671.0
Sweden	167.0	530.8	639.8	868.9	1,112.2	729.0
Norway	100.7	263.3	219.8	233.0	290.8	196.9
United States	-	10.7	102.6	173.6	394.5	213.1
Canada	410.4	468.6	695.2	692.7	962.5	630.0
Other (1)	56.7	20.3	40.2	52.1	62.8	63.6
Total	871.0	1,586.8	2,277.5	2,712.4	3,841.0	3,503.6

See source and footnotes to Table 4.

(1) Chiefly imports from Germany.

Table 6
Exports of Hewn Timber from Canada to the United Kingdom by Species,
at Ten-Year Intervals, 1870-1910

Fiscal Year Ending	Birch	Elm	Oak	White Pine	Other	Total
1870	14.3	14.5	23.7	164.0	24.0	240.5
1880	16.3	6.9	17.9	69.2	12.7	123.1
1890	13.5	8.4	19.3	83.3	11.2	135.8
1900	10.6	5.0	6.5	35.0	9.1	66.2
1910	5.4	1.0	0.3	8.4	2.9	18.0

Millions of Board Feet

Source: Canada, Sessional Paper 10c, 1917, pp.205-10. Original data in tons of forty cubic feet have been converted to board feet. Amounts shown may not add to totals because of rounding.

Table 7

Quantity and Value of Exports of Hewn White Pine Timber
from Canada to the United Kingdom, 1868-1913

Fiscal Year Ending	Quantity		Value \$
	Cubic Feet	Equivalent in Board Feet	
1868	16,309,240	195,710,880	2,317,474
1869	16,547,840	198,574,080	2,581,287
1870	13,670,200	164,042,400	2,707,438
1871	13,289,360	159,472,320	3,265,417
1872	16,522,290	198,275,040	4,078,129
1873	14,209,080	170,508,960	3,837,466
1874	9,729,400	116,752,800	2,651,724
1875	13,559,040	162,708,480	3,460,850
1876	11,310,120	135,721,440	2,908,641
1877	16,347,920	196,175,040	4,211,752
1878	11,684,320	140,211,840	2,766,961
1879	5,050,360	60,604,320	1,077,478
1880	5,770,120	69,241,440	1,175,751
1881	13,203,160	158,437,920	3,506,641
1882	7,313,640	87,763,680	2,153,839
1883	8,433,000	101,196,000	2,837,159
1884	9,989,800	119,877,600	3,160,812
1885	6,737,720	80,852,640	1,984,523
1886	6,694,240	80,330,880	1,748,055
1887	4,162,000	49,944,000	1,325,246
1888	4,911,360	58,936,320	1,480,771
1889	5,962,600	71,551,200	2,005,457
1890	6,939,160	83,269,920	2,650,847
1891	5,549,440	66,593,280	1,952,083
1892	4,738,160	56,857,920	1,572,138
1893	3,897,840	46,774,080	1,367,071
1894	4,363,920	52,367,040	1,566,060
1895	2,807,240	33,686,880	1,036,730
1896	3,644,240	43,730,880	1,514,760
1897	3,527,760	42,333,120	1,281,468
1898	3,453,240	41,438,880	1,530,379
1899	3,862,560	46,350,720	1,338,009
1900	2,913,680	34,964,160	1,182,048
1901	1,947,600	23,371,200	880,609
1902	1,857,840	22,294,080	906,747

cont'd

Table 7 cont'd.

Fiscal Year Ending	Quantity		Value
	Cubic Feet	Equivalent in Board Feet	
			\$
1903	2,311,440	27,737,280	1,294,716
1904	2,159,560	25,914,720	1,506,040
1905	1,517,880	18,214,560	980,040
1906	1,667,400	20,008,800	957,588
1907 (1)	1,316,480	15,797,760	840,969
1908	1,311,760	15,741,120	993,095
1909	860,160	10,321,920	683,995
1910	699,920	8,399,040	554,235
1911	759,840	9,118,080	597,121
1912	833,240	9,998,880	783,588
1913	1,047,960	12,575,520	937,076

Source: Canada, Sessional Paper No. 10c, 1917, p.210.
The original data were given in tons of forty cubic feet.

(1) Nine months. The end of the fiscal year was changed in 1907 from June 30 to March 31.

Table 8

Quantity and Value of Exports of Pine Deals from Canada
to the United Kingdom, 1885-1916

Fiscal Year Ending	Quantity		Value \$
	Standard Hundred	Equivalent in Board Feet	
1885	72,143	198,393,250	3,293,732
1886	75,586	207,861,500	3,651,449
1887	74,564	205,326,000	3,446,629
1888	57,801	158,952,750	2,344,771
1889	56,730	156,007,500	2,270,133
1890	92,461	254,267,750	3,775,021
1891	81,381	223,797,750	2,891,798
1892	64,122	176,335,500	2,429,870
1893	69,979	192,442,250	3,114,822
1894	65,589	180,369,750	2,751,069
1895	60,456	166,254,000	2,311,915
1896	83,878	230,664,500	3,037,791
1897	67,660	186,065,000	3,266,087
1898	77,736	213,774,000	3,814,947
1899	88,219	242,602,250	4,129,638
1900	69,392	190,828,000	3,276,516
1901	67,086	184,486,500	2,837,828
1902	62,518	171,924,500	3,164,552
1903	84,349	231,959,750	3,652,467
1904	51,176	140,734,000	2,975,614
1905	35,917	98,771,750	2,076,922
1906	34,335	94,421,250	2,353,927
1907 (1)	22,956	63,129,000	1,624,518
1908 (2)	23,274	64,003,500	1,666,672
1909	25,315	69,616,250	1,694,277
1910	23,873	65,650,750	1,653,437
1911	21,704	59,686,000	1,564,518
1912	16,671	45,845,250	1,416,909
1913	17,507	48,144,250	1,386,708
1914	19,100	52,525,000	1,408,709
1915	13,318	36,624,500	1,148,738
1916	13,329	36,654,750	1,249,595

Source: Canada, Sessional Paper 10c, 1917, p.191. Original data were given in Quebec standard hundreds of 2,750 board feet. The totals include some red pine. Prior to 1885, spruce and pine deals were grouped in the export figures for deals.

- (1) Nine months.
(2) Estimate.

Table 9
Supply, Export and Prices of Square and Waney White Pine Timber
Port of Quebec, 1861-1912

Year	Supply		Export	Price Range per cubic foot	
	Square cu. ft.	Waney cu. ft.		Square	Waney
1861	15,731,000	6,735,000	19,448,000	9	15
1862	21,628,000	7,748,000	15,493,000	6	17
1863	21,617,000	186,000	23,147,000	6	18
1864	23,737,000	735,000	20,032,000	6	18
1865	17,620,000	1,247,000	19,008,000	9	21
1866	14,386,000	2,245,000	15,541,000	10	20
1867	16,740,000	2,799,000	14,774,000	10	18
1868	10,029,000	2,158,000	15,279,000	13	21
1869	14,055,000	1,973,000	14,673,000	13	25
1870	12,616,000	1,504,000	14,142,000	14	29
1871	17,367,000	3,418,000	14,673,000	12	30
1872	11,151,000	4,450,000	15,515,000	17	30
1873	10,443,000	3,966,000	10,580,000	16	26
1874	7,364,000	1,829,000	13,514,000	16	27
1875	9,246,000	1,644,000	10,099,000	16	28
1876	15,994,000	3,249,000	13,883,000	13	27
1877	14,850,000	3,630,000	14,898,000	12	25
1878	7,917,000	1,847,000	8,194,000	10	20
1879	2,511,000	1,600,000	5,300,000	9	21
1880	4,244,000	2,236,000	11,553,000	14	32
1881	6,029,000	3,065,000	9,094,000	20	37
1882	8,053,000	3,127,000	7,912,000	20	36
1883	7,412,000	3,787,000	10,427,000	18	36
1884	3,707,000	2,200,000	6,048,000	15	31
1885	2,802,000	2,877,000	6,758,000	15	33

cont'd

Table 9 cont'd.

Year	Supply		Export		Price Range per cubic foot	
	Square cu.ft.	Waney cu.ft.	Total cu.ft.	Square and Waney cu.ft.	Square ¢	Waney ¢
1886	3,033,000	3,077,000	6,110,000	4,526,000	14	27
1887	1,169,000	2,060,000	3,229,000	5,127,000	16	28
1888	1,791,000	2,029,000	3,820,000	6,020,000	22	35
1889	4,224,000	3,771,000	7,995,000	6,873,000	20	41
1890	5,083,000	3,695,000	8,778,000	5,498,000	18	30
1891	1,072,000	1,731,000	2,803,000	4,715,000	16	30
1892	2,380,000	2,740,000	5,120,000	5,300,000	14	30
1893	1,121,000	3,117,000	4,238,000	4,092,000	14	31
1894	838,000	2,289,000	3,127,000	3,469,000	16	40
1895	274,000	3,086,000	3,360,000	2,838,000	18	42
1896	316,000	2,871,000	3,187,000	2,252,000	20	40
1897	833,000	4,311,000	5,144,000	3,773,000	20	40
1898	1,062,000	1,903,000	2,965,000	3,015,000	20	40
1899	592,000	1,793,000	2,385,000	3,085,000	25	43
1900	571,000	1,505,000	2,076,000	2,755,000	25	43
1901	585,000	1,447,000	2,032,000	2,317,000	28	45
1902	384,000	1,830,000	2,214,000	2,245,000	30	50
1903	420,000	1,865,000	2,285,000	2,182,000	30	50
1904	240,000	2,256,000	2,496,000	1,492,000	28	50
1905	137,000	1,211,000	1,348,000	1,477,000	28	50
1906	76,000	676,000	752,000	1,857,000	28	50
1907	136,000	1,159,000	1,295,000	1,311,000	28	55
1908	132,000	1,060,000	1,192,000	1,098,000	28	55
1909	57,000	738,000	795,000	1,038,000	30	55
1910	10,000	541,000	551,000	747,000	30	55
1911	10,000	1,222,000	1,232,000	1,069,000	30	55
1912	2,000	1,172,000	1,174,000	1,192,000	30	55

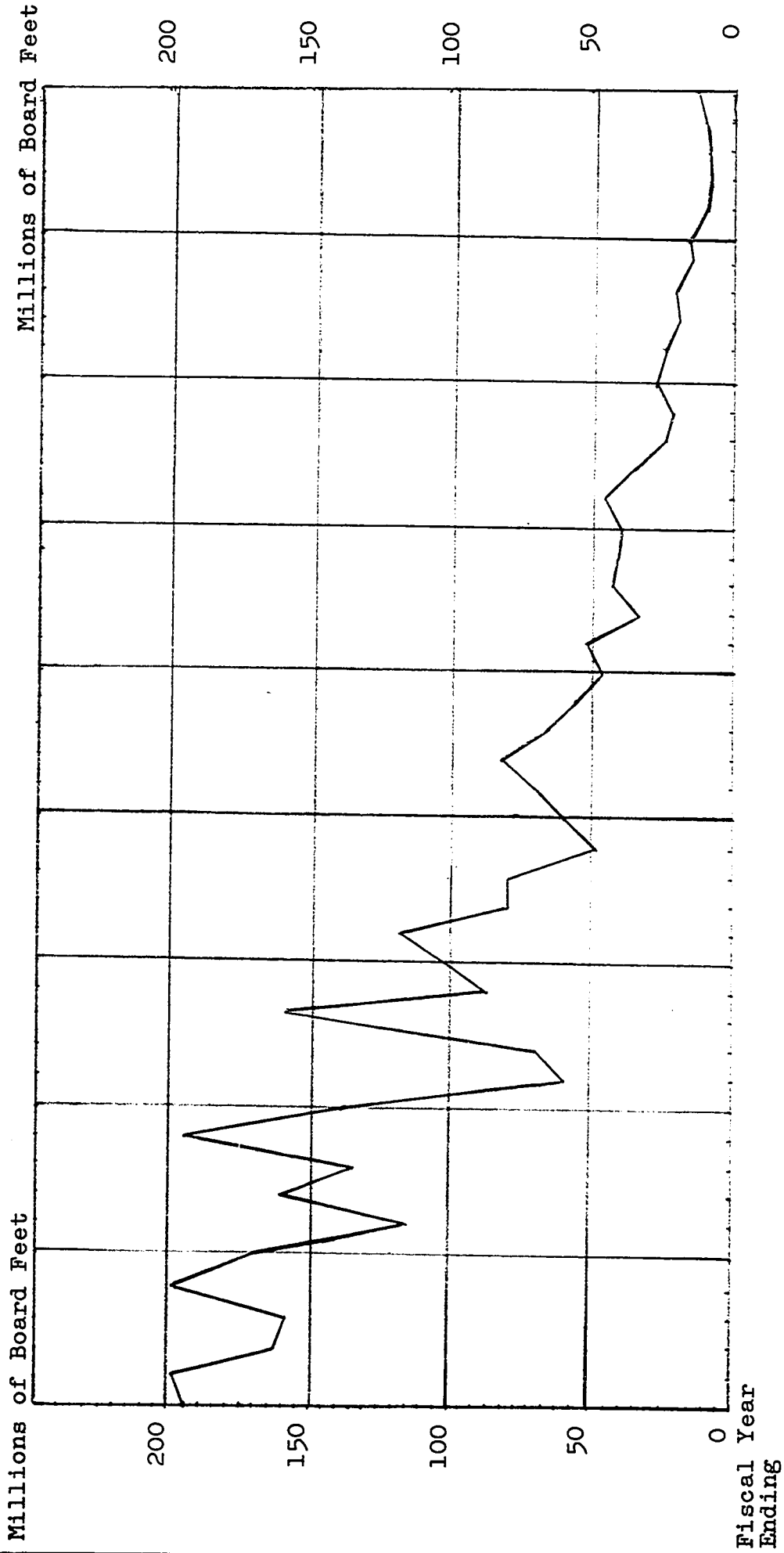
Source: Canada Lumberman, June 15, 1913, p.37. Statistics prepared by E.H. Wade principally from J. Bell Forsyth & Co. timber circulars. Prices shown are current prices at end of year in the raft.

CHARTS

- Chart 1 - Exports of Hewn Pine Timber from Canada to the United Kingdom by Fiscal Year, 1868-1913
- Chart 2 - Exports of Pine Deals from Canada to the United Kingdom by Fiscal Year, 1885-1916
- Chart 3 - Prices Paid for Square and Waney Pine Timber at the Port of Quebec, 1861-1912

Chart 1

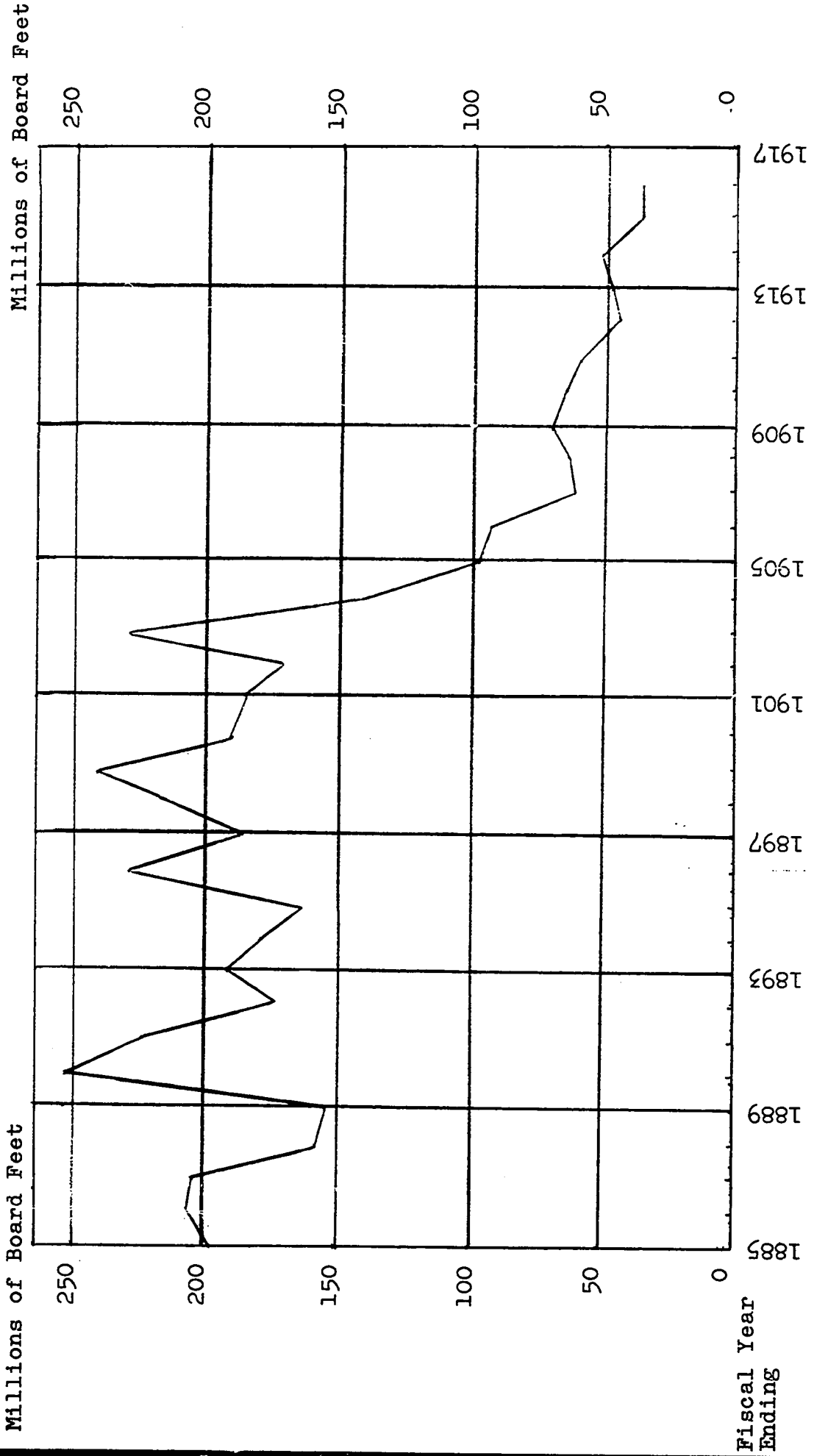
Exports of Hewn Pine Timber from Canada to the United Kingdom by Fiscal Year, 1868-1913



Reference: Table 7

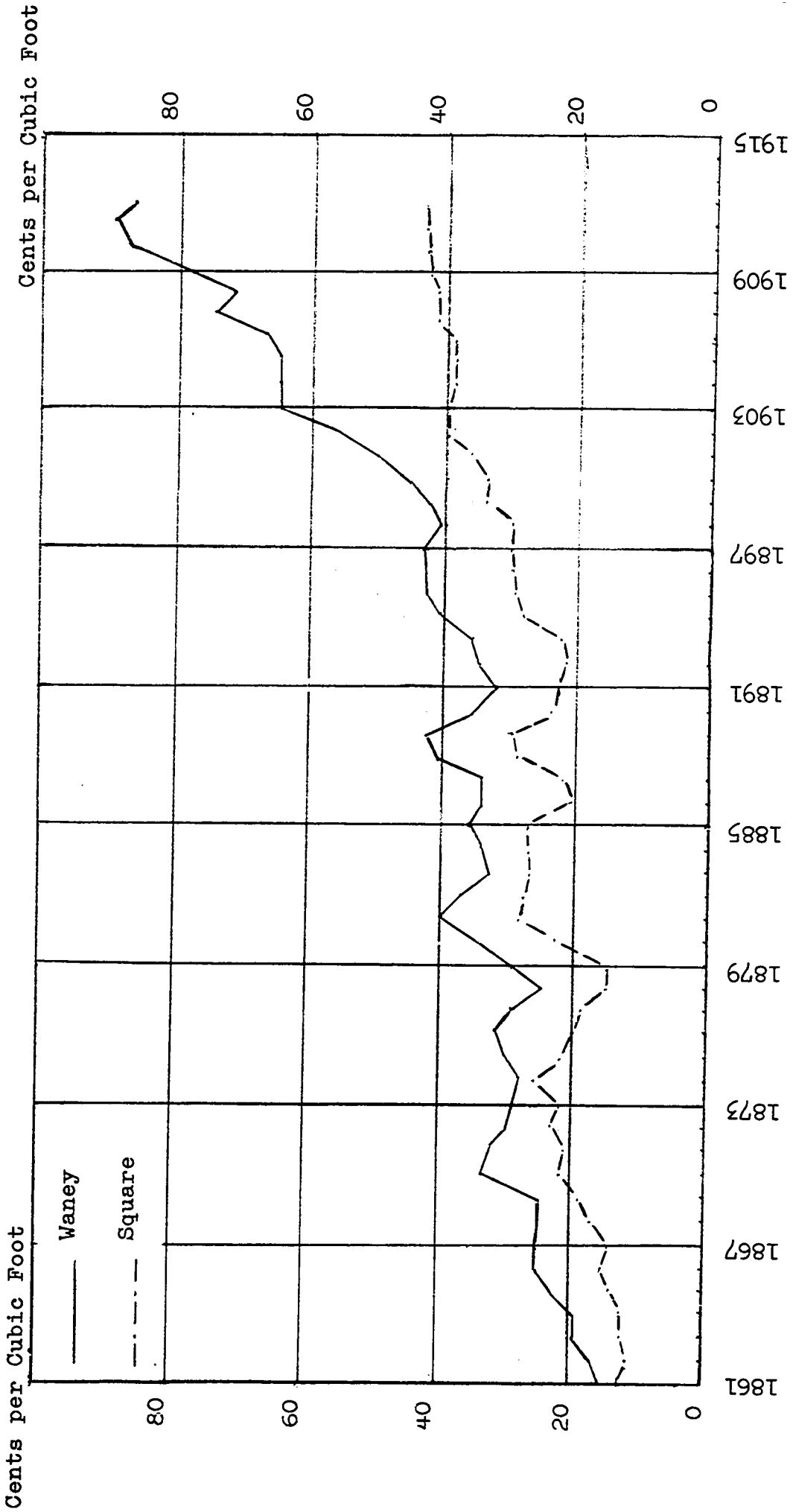
Chart 2

Exports of Pine Deals from Canada to the United Kingdom by Fiscal Year, 1885-1916



Reference: Table 8

Chart 3
 Prices Paid for Square and Waney Pine Timber at the Port of Quebec, 1861-1912



Reference: Table 9. The figures shown represent the mid-point of the price range.

BIBLIOGRAPHIC NOTES

This study was prepared mainly from records available in Canada, with some additional material which was obtained in London, England. The sources used included records of firms in the trade which are available in public archives, newspapers, trade journals, contemporary accounts, secondary works and official statistics.

The main primary sources were the Sharples Papers and the Gilmour and Hughson Papers in the Public Archives of Canada. The former were particularly valuable for the purposes of this thesis, since they contain many business and personal letters from one member of this family of timber merchants to another, usually between Quebec and Liverpool. Not only does this correspondence afford a wealth of detail on the way in which the timber trade was carried on but as well it offers an interesting picture of life among the British merchant class in the Victorian era. Other useful material includes letters from agents of the Sharples firm and the timber trade overseas as well as from manufacturers in Canada. The collection contains copies of contracts for the purchase and sale of wood and of charter parties with sailing vessels and steamships, which are invaluable for an understanding of the way in which the wood trade was carried on.

The Gilmour and Hughson Papers constitute the business records of a typical large-scale Ottawa Valley lumber firm of the period. Items of interest to the British trade include correspondence with prominent deal manufacturers, such as W.C. Edwards and officials of the Hawkesbury Lumber Company, and with shippers and steamship agents in Quebec and Montreal. There are some rare examples in these papers of timber circulars, reports on the state of the wood trade, issued by British timber houses in the 1880's and 1890's. Students of the logging and sawmilling industries in Canada would find much of interest here, including timber limit licenses, depot correspondence, reports of timber cruisers, and inventory and account books.

Two other collections of documents in the Public Archives of Canada, the Boyd Papers and the Dobell Papers, contain relatively little on the British wood trade. The Boyds, sawmillers and wholesalers, exported mainly to the American market while the records of the Dobells, who were Quebec shippers, consist only of two small account books. There is a small but well-selected collection of the correspondence of McLachlin Brothers, lumber manufacturers of Arnprior, Ontario, in the Public Archives of Ontario.

The gaps in the information which was obtained from the above sources were filled by reference to more continuous accounts available in newspapers and trade journals. The Quebec Morning Chronicle at this time devoted a good deal of space to the timber trade and to business affairs generally. Among the items regularly published were reports on ship arrivals, departures and cargoes; year-end reviews of the trade of the port of

Quebec; and reprints of timber circulars. The latter included the annual circulars of J. Bell Forsyth & Company of Quebec, a most valuable record of the Canadian wood trade, as well as circulars of British timber houses.

Among the trade journals, a complete set of the Canada Lumberman from the first issue in 1880 to the present is available in the library of the present publishers, Southam Business Publications Limited, 1450 Don Mills Road, Toronto, Ontario. Not only do the early issues of this magazine provide a mine of information on current happenings in the lumber industry but after about 1910 the Canada Lumberman frequently published articles of historical interest, such as the recollections of veteran lumbermen and short histories of the older firms in the trade. The outstanding British publication in this field during the period was the Timber Trades Journal. The present publishers in London, England, have issues for the late nineteenth century but at the time this thesis was being written they had been placed in a warehouse for storage and were not available for research use.

For background material up to the 1860's, A.R.M. Lower's doctoral thesis, "Lumbering in Eastern Canada: An Economic and Social History," was relied on extensively. This is the only complete history of the Canadian wood trade with the United Kingdom available and it contains a definitive treatment of the important question of the British system of differential duties on timber and its effects on the wood trade. Professor Lower's

master's thesis covers the same general subject for the period prior to Confederation. No other theses of major interest were found.

There is an almost complete lack of articles on the British timber trade in this period in the Canadian Historical Review and the Canadian Journal of Economics and Political Science. Scientific journals, on the other hand, abound in studies of the white pine, some of which may possibly be of interest to the historian. No attempt was made to investigate this literature, however, other than following up on those mentioned in Canadian government reports, as other sources were considered to be more fruitful for the purposes of this study.

Among other secondary works, there are several useful books by professional historians on related subjects or earlier periods. R.G. Albion's Forests and Sea Power: The Timber Problem of the Royal Navy, 1652-1862 is an excellent source for matters relating to the procurement of white pine masts for naval purposes. Of particular interest to Canada are the sections in this book relating to the shift from the New England states to New Brunswick and Quebec as the source of supply for pine main-masts. The role played by the timber fleet in the movement of emigrants is dealt with in British Emigration to British North America, 1783-1837 by Helen I. Cowan. Professor Lower's book, The North American Assault on the Canadian Forest, while essentially a history of the Canadian-American lumber trade, is a reliable and comprehensive source of information on the industry in Canada.

A number of valuable business histories have been written for the wood trade. D.D. Calvin has provided an account of his family's timber forwarding business in A Saga of the St. Lawrence and Charlotte Whitton that of the Gillies', lumbermen on the Ottawa, in her book, A Hundred Years A'Fellin'. In Britain, Augustus Muir's Churchill and Sim, 1813-1963 draws largely on the diaries of Charles Churchill, Senior, (1785-1844) and Charles Churchill, Junior, (1823-1905), wood brokers of London, England. These diaries, consisting of sixty-three volumes, have been deposited with the Guildhall Library in London but contain only scattered references to the Canadian wood trade after 1867. The story of Pollok, Gilmour and Co., world traders with headquarters in Glasgow and extensive timber and shipping interests in Canada, is told in A History of Our Firm by John Rankin. A Canadian timber dealer, W.D. Flatt, in his autobiography The Trail of Love, devotes a considerable amount of space to the waney pine timber trade in which he was active.

Accounts left by timber experts and others with extensive technical knowledge of the trade are not numerous but those that exist are valuable. An authoritative reference on the qualities and uses of the various woods available in the British market in the 1870's, based on a lifetime spent in the employ of the Royal Dockyards, is Thomas Laslett's Timber and Timber Trees. William Quinn, author of the Report of the Supervisor of Cullers on the Lumber Trade published in 1861, was a man of long experience who was held in high regard by the trade at Quebec.

Only one book by a person who had been in command of a timber ship was found, Captain J.E. Bernier's Master Mariner.

The Sessional Papers of Canada contain a good deal of information on trade and shipping in the St. Lawrence River region in the period after 1867. Of particular interest to the wood trade are those which were printed as appendices to the annual reports of the Department of Marine and Fisheries. These include the annual reports of harbour masters and port wardens of Montreal and the harbour commissioners of Quebec, which provide details on the changing trade of these two ports. Complete statistics on exports from Canada for the fiscal years 1868 to 1916 inclusive are printed in Sessional Paper No. 10c, 1917.

The records of the timber trade which exist in London, England, have been preserved mainly through the efforts of the trade itself. A large collection of documents was unfortunately destroyed by bombing in the last war but records of a few individual firms in London and Liverpool have remained intact. An attempt is being made by the timber trade in London to have as much historically valuable material as possible deposited in the Guildhall Library. Statistics on imports of wood into the United Kingdom for the whole of the period are available in the library of the Board of Trade in London.

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