In recent times it has been called the “Garden of the Gulf,” a living mosaic of fields, woods, and streams. But to its first European settlers Prince Edward Island was a land of “interminable” forest. All early accounts agree that the forest covered virtually the entire land mass. It created the soil fertility that was exploited by those who cleared and farmed the land. It was the hard for much of the settler’s food and medicines; the source of heat for cooking, warmth, and industrial development; and the most indomitable foe to those who struggled first to clear it and then to combat its encroachment. The story of the forest’s conversion to the present-day “Garden of the Gulf” is inextricably tied to the settlement and development of the Island.

The Forest Primeval, ca. 1500

There are no written accounts of the Island forest in the days before European contact but early visitors would have seen what was essentially the original growth. Writing in 1803, the Earl of Selkirk stated that “the country in its natural state is entirely covered with timber, with the exception only of the salt marshes.” If present estimates of salt marsh, open bog, and sand dunes are used (and assuming Selkirk’s observation is reliable), then approximately 97% of the Island’s land surface was once forested.

There are many problems in interpreting early descriptions of the forest. In that era, for example, the term “pine” was used to describe spruce, fir, hemlock, and pine. The more learned men separated these species but there have been many changes in the common names used for certain species and these are difficult to follow. When the accounts of Jacques Cartier, Nicolas Denys, Sieur de la Ronde, Samuel Holland, Walter Johnson, John Stewart, and the Earl of Selkirk are combined with the life history, characteristics, and ecology of the various trees described, the original forest appears to have been as follows.

The upland areas of the Island were cloaked in a mature forest of American beech, yellow birch, and sugar maple, with scattered white pine, hemlock, red oak, and white ash. Wet ravines were wooded with mixtures of the above as well as red and black spruce and spruce hybrids. Poorly drained areas in the west to central area of the Island had eastern white cedar, eastern larch, black spruce, red maple, elm, and black ash. Exposed areas near the coast were primarily white spruce with scattered red and white pine. Areas in the east on pure sand probably supported groves of white and/or red pine. Burnovers, blowdown areas, old beaver flowages, and open stream margins (plus, in later years, abandoned farmland) would have featured early transition species such as poplars, white spruce, red pine, and jack pine. In his Account of Prince Edward Island in 1806, John Stewart indicated that beech probably covered one half of the Island, with individual stands of the species containing up to 50% beech.

The other impressive feature of the primeval forest was its age. It was primarily an old growth forest. In terms of sugar maple, beech, and white pine, this meant a forest over 200 years old. (These species are capable of living between 300 and 450 years.) The trees also reached immense sizes. After examining white pine illegally cut at Three Rivers (Georgetown) by Acadians in 1763, Gamaliel Smithurst wrote that, “I found them destroying the finest groves of white pine that America could boast of.” Although his account is somewhat suspect, Smithurst reported upwards of 1,200 white pine felled within 150 yards of the shore. More than 200 of these, he claimed, were over 2 feet in diameter at ½ feet above ground. John Stewart refers to white pine of 3, 4 and 5 feet in diameter and states that one made a mast for a 64-gun ship. Using author Robert Albion’s charts for a 74-gun ship, this would require a tree of roughly 96 yards and a diameter of 3 feet. This converts to a tree height of 150 to 160 feet! Both Lord Selkirk (around the turn of the 19th century) and Walter Johnson (in the 1820s) described maximum sizes of 3½ feet in diameter and 80 to 90 feet in height for hemlock. Much later, in 1890, naturalist Francis Bain described sugar maple and yellow birch canopies 60 feet above the ground, and yellow birch diameters of up to 6 feet.

This old growth forest grew slowly in terms of both diameter and height. Based on modern growth studies of our oldest stands, it seems probable that this virgin forest was decreasing slightly in total merchantable volume by the
time Europeans arrived as the effects of disease, advanced age, and wind damage took their toll. (This underscores an often-forgotten point, that the forest is always changing, regardless of man’s intervention.)

A number of anomalies exist regarding the native trees present in the early colonial period. Samuel Holland noted the presence of both red and white oak. As Surveyor General responsible for the reservation of mast and naval timber, with extensive experience in both Europe and the Gulf of St. Lawrence, it seems inconceivable that he could mistake such readily distinguishable species. Others, however, such as John Stewart, indicate that only red oak was present. Perhaps the debate will never be settled.

Another enigma is the black birch. Stewart described it as the largest of the deciduous trees, common all over the Island and nearly the colour of light mahogany. Many Island foresters feel that this was simply another name for the yellow birch, but Stewart also describes that tree and his description of its wood quality and use is more consistent for that species. Could this finely coloured wood have been black cherry?*

*Still another enigma arises from the 1881 census, which has the Island producing 5,001 feet of soft walnut. This could be evidence for the occurrence of butternut in the province.

![A solitary red pine, Murray Harbour area.](image)

**The People’s Forest: Prehistory to 1763**

Although archaeological evidence suggests that human habitation of what is now Prince Edward Island goes back at least 10,000 years, little is known about how the Island’s earliest inhabitants used the forest. Approximately 2,000 years ago, however, an Eastern Algonkian group, the Micmacs, expanded into the Maritimes, eventually forming four culturally and linguistically separate tribes. Their estimated population on Prince Edward Island at the time of the French occupation was 350 to 600 individuals.

Nicolas Denys, an early French trader who observed the Micmacs over several decades during the 1600s, described their use of the forest at that time. According to Denys, the Micmacs gathered dead wood to heat their wigwams; stripped white birch bark to build wigwams, canoes, and containers; collected white spruce rootlets for sewing and stitching; notched sugar maple for sap collection; and used cedar and ash to make weapons and tools. Foraging for medicinal herbs and forest foods also occurred.

In summary, the Micmacs’ overall impact on the forest appears to have been slight. They lived in relatively small groups and survived by foraging and hunting. Moreover, since they lacked steel or iron tools until European contact, they had a very limited ability to harvest trees in virgin forests. Although some tribes purportedly used wildfire to create foraging areas for nuts and berries, Denys does not indicate that the Micmacs employed this practice.

Then the Europeans came. In his book *Sea of Slaughter*, Farley Mowatt alleges that the Portuguese established a year-round settlement on the Island in 1521 for the walrus fishery, and that they carried on a summer fishery here in the 1600s. Undoubtedly, European fishermen did frequent Island coasts during the 16th and 17th centuries. It is likely, then, that the first use of the Island’s forest by Europeans was for fuel. In addition, local wood was probably used to construct wooden fish drying racks and to repair broken masts and spars.*

*Forestry author, Ralph Johnson indicates that the Vikings probably exported a number of loads of timber from Markland (often identified as Nova Scotia) to their colonies in Greenland. They may also have used Prince Edward Island since it was closer.

The method used to harvest walrus, as described by both John Stewart and Farley Mowatt, indicates that the walrus were driven inland from the shore using poles. No mention is made of where the blubber was reduced (through boiling) to oil, but it seems unlikely that the hunters would carry the hundreds of pounds of fat any further than necessary. As some of the areas into which the walrus were driven would have been back dunes covered with vegetation that burns very easily, escape fires could have been a problem. The coastal areas immediately adjacent to the sand dunes often supported coniferous forests and the potential for crowned fires in these areas would have been high.

Although a number of French individuals and companies held charters which included Ile St. Jean (Prince Edward Island) during the 17th century, they had no more impact on the Island and its forests than did the Portuguese and other seasonal European visitors. Finally, in 1719, the right to develop the Island’s industries was granted to a company headed by the Comte de Saint-Pierre. This time the grant specified that the land was to be settled, forest clearing undertaken, and cattle raised. Saint-Pierre lost his grant in 1725 and Ile St. Jean (as the Island was then called) was transferred to French Royal Domain, with control exercised from the French fortress of Louisbourg on Ile Royale (Cape Breton). Between 1725 and 1752, permanent settlements were established along many of the Island’s major bays and rivers.

*A stand of black spruce along the Union Road.*

*Photo by Ken Mayhew*
Some comments about the land-clearing abilities of the Acadians have been rather disparaging. Earlier this century, for example, Kenneth Battersby noted that the large oak forest at Tracadie was the despair of the pioneer French and was not cleared until the arrival of the more resolute Scots. Nevertheless, the French-Acadians were the first settlers to exploit the value of the Island forest. They established the first two sawmills and operated a brick kiln. Both types of operation would have drawn heavily on the wood supplies in the areas immediately adjacent to the work sites. It seems likely that the survival of the oak forest at Tracadie had less to do with the Acadians’ lack of resolution than with their pattern of settlement and, possibly, the official reservation of oak from exploitation during various periods during the French regime.

French control of the Island ended in 1758 with the British capture of Louisbourg and the deportation of the Acadians from Île St. Jean. By the time of their expulsion, however, the Acadians had cleared some 12,000 acres of forest. The people had put their mark on the Island forest.

The People’s Forest: British Period to Modern Times

Île St. Jean (St. John’s Island) was officially ceded to Britain by the Treaty of Paris in 1763. Shortly thereafter, two English merchant companies began to exploit the fishery there. On October 5, 1764 Captain Holland arrived to commence the surveys that would permanently affect the development pattern of the Island. He completed his surveys in the autumn of 1765; two years later, the townships he had surveyed were lotteried off to their new owners.

Holland’s maps contain some rather revealing features, but their finest detail often depicts only the forest cover on areas immediately adjacent to streams. Did Holland’s survey crews traverse the area between streams? Are the notes on the tree cover which accompany his maps based only on what was observed along Island waterways? If so, interpretation of his tree specie descriptions for the various lots — and their comparison with the accounts of other travellers — is greatly simplified.

Colonization of the Island under British rule began in earnest in 1770. Those settlers not fortunate enough to obtain land that was already cleared faced the arduous task of clearing either virgin forest or burned-over lands. The former was preferred as it was easier to clear. Those settlers experienced in the use of the axe found hard work in this backbreaking task. But the inexperienced axeman faced the added danger of injuring or killing himself while developing his tree-cutting skills.* John Stewart claimed that proficiency with the axe was obtained within two years. Nevertheless, early Island newspapers frequently published accounts of fatal woods accidents.

In the early colonial period two basic methods of land clearing were used. In the first, the trees were cut down 2 to 2½ feet above the ground, the top lopped, and the trunk cut in 10-foot sections. The unusable material was rolled together in piles and burned the following May, then re-piled and burned again until finally disposed of. It took a good man about eight days to cut down an acre of virgin timber in this fashion. In burned-over lands it took even longer. In the second land-clearing method, the smaller trees were cut and their stumps pulled, while the larger trees were “girdled” by cutting a band of bark and sapwood from around the entire stem. This caused the death of the tree, which slowly dropped its branches and limbs over a number of years. In both cases, farming was begun by planting potato sets between the tree stumps. Later, hay was planted. After five to seven years, beech stumps were rotted enough to pull, but in pine and hemlock stands, the process could take 15 to 20 years to complete.

During these early years, little cash existed in the colony, and most of the goods needed were purchased through a barter system. Often, the timber supply on the land was one of the few barter items available to the settler. Few new colonists could afford the 30 to 40 shillings required to hire another individual to clear virgin forest, and fewer still could afford the 50 to 60 shillings required to have an acre of burnt land cleared.

As settlement spread and communities took root, the Island forest gradually shrank. Deforestation peaked in the early 1900s. Estimates of the total amount of land cleared vary according to the source. Writing in the 1950s, historical geographer A. H. Clark indicated that 90% of Island land was potential farmland, that 97% was occupied, and that 2/3 of the occupied land was cleared. Some modern foresters, on the other hand, have suggested that 90% of the land was farmed, but this figure may include land that was abandoned as it became exhausted of nutrients.

Today, 48% of the Island is covered in forest. Approximately one-third of the total consists of relatively pure “softwood” (coniferous) trees; another one-third consists of relatively pure hardwood (deciduous); and one-third is a mixture, featuring over 25% of both coniferous and deciduous. The average age is approximately 55 years. The tallest trees rarely exceed 90 feet in height and very few trees have been recorded in recent years with diameters over 2 feet. Fortunately, the forest’s youth means that it is growing quite

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*For a fascinating exploration of the psychological effects of settling in a wilderness of trees, read David Weale’s “The Gloomy Forest” in Issue 13 (Spring-Summer, 1983).

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White oak (left) is readily distinguishable from red oak, yet Samuel Holland claimed both were present on the Island. Other early observers mention only red oak.

Adapted from Campbell, Hyland, and Campbell, Winter Keys to Woody Plants of Maine (1978)
Although the setting is somewhat later (1880), the basic tree clearing-techniques shown here are similar to those used on Prince Edward Island. In the foreground, an auger is being used to drill holes in a stump, so that water (and in some instances, chemical compounds) can be poured in to speed up the rotting process. In the background, slag timber is being burned while stumping continues. Plowing has already begun on the semi-cleared land.

rurally. It is able, therefore, to sustain a reasonable harvest.

Hewers of Wood: Forest-Based Industries

The forests of this Island have now supported over two centuries of industrial development. The intensity of the use has often outstripped the capability of the land to meet the demands placed on it for forest products. Waves of demand for particular products have been met by exploitation of the available resource until either the demand or the supply gave out. An exact quantification of the amount of production from the Island forest will never be possible, but it is a useful exercise to examine and estimate the effect of various activities. Some of the results are quite surprising.

Certainly, the best known forest-related industry on Prince Edward Island was shipbuilding. It is likely that the first shipbuilding demand on the Island's forest was for replacement of storm-damaged spars, masts, and planks on the vessels of European explorers and fishermen. The 1719 grant of Ile St. Jean and Miscou to Comte de St. Pierre included the right to build sawmills and to construct vessels from the wood present but noted, "the need to conserve oak trees of use in the building of ships." Historian A. B. Warburton notes the construction of three vessels by St. Pierre's colony during the 1720s: one of 100 tons for the cod fishery, one of 25 tons for the seacow and seal fishery, and one of 65 tons for the West Indian trade. Other vessels were undoubtedly built during the three decades of French settlement. The census of 1728 noted the existence of a saw mill (and a grist mill) and listed eight carpenters and one cooper among the Island's populace. Meanwhile, eight schooners and 19 sloops, probably Island-built, were actively pursuing the coastal fishery. Those numbers increased gradually as settlement spread.

The shipbuilding efforts of the French regime were minor compared with those of the British colonial period. The industry expanded rapidly after 1800 (despite cyclic fluctuations), peaking during the 1860s, then declined steeply after 1880. While it lasted, the shipbuilding industry was a major contributor to the Island's economic prosperity. Too little attention has been paid, however, to the relationship between Island shipbuilding and Island forests.

In the 60 years between 1830 and 1890, approximately 3,730 vessels were built at 176 locations across the Island. These vessels represented a total tonnage of 752,000 tons. The conversion of this tonnage to a volume of merchantable wood is difficult. Indeed, one marine architect has claimed that it is impossible. However, marine author Robert Albion provides a conversion rate of one ton of merchantman to 1.25 cords of wood. Assuming this figure is correct, the total volume of merchantable wood used in the construction of vessels on Prince Edward Island was approximately 940,000 cords. Since the forest of that period averaged over 500,000 acres, this means an average of less than two cords per acre was used for shipbuilding in a 60 year period. Considering current growth rates of 1/3 of a cord per acre per year, even if the wood use was two or three times greater than the cordage estimated here, it would still represent a very small amount in a virgin forest. It appears, then, that the hypothesis that the shipbuilding industry was the primary factor in the depletion of Island forests is incorrect. This being said, one must recognize the historical fact that various shipbuilding woods were imported from the Miramichi and other areas. Obviously, then, there were shortages of certain wood products, particularly masts and spars.*

Another commonly held notion is that shipbuilders used only the straightest trees of the best varieties, and were thus responsible for the decline in tree form on the Island. Investigation of this claim uncovers a number of perplexing facts. Besides raising questions, they cast serious doubt on the case for shipbuilding's effects on tree form.

First, while straight, defect-free trees were essential for masts and spars (and, possibly, planking), many of the vessels' structural components required curved or shaped sections of wood. The larger structural components, such as the keel, were often made by joining

*Two other potential drains on wood resources should be mentioned in connection with the shipbuilding industry. First, fuelwood was needed to steam various pieces of wood in order to bend them to the proper shape. Whether this was supplied by the "trimmings" from timber and plank or from wood cut specifically for this purpose is unknown. In addition, blacksmiths working on the iron fittings for the ship used charcoal in their furnaces, and charcoal was often the fuel used on board ships to cook and heat.
pieces of timber together. The most sought after and highest valued ship timbers in Europe were the so-called "great timbers." These included the "Y-shaped" split transom. Decked vessels also required many sets of "knees" to support the decks, and shipwrights deliberately selected curved trees where possible for the "futlocks" (curved portions of ship's ribs).

It was not just different tree shapes that were highly valued in shipbuilding. Only specific varieties of trees could be used in the construction of designated parts of a vessel. Otherwise its insurance rating was reduced. This raises perhaps the most perplexing part of the trees-and-shipbuilding dilemma. Red oak is not recommended for use in boat construction because it is porous, absorbs water, and is prone to rot. (White oak heartwood, incidentally, is not porous and is an excellent boat wood.) On the other hand, eastern larch — often called swamp juniper on the Island — is highly suitable for a wide variety of uses in ship construction, from the making of "treenails" (wooden dowels used in joinery) to planking and keel joinery. It is claimed that shipbuilding caused the decline of the red oak on Prince Edward Island, yet the same charge is not made with respect to eastern larch, which remains widespread despite its use in shipbuilding. Did the ease of working with red oak overcome its inherent weakness as a shipbuilding material? Was shipbuilding really a major factor in the decline of our red oak? In a larger sense, did shipbuilding contribute significantly to the decline in form of certain species of trees on Prince Edward Island? On the surface, it appears unlikely but there is a great deal of room for research in this area.

While not as famous as shipbuilding, the most widespread forest industry was sawmilling. The first sawmills were built by the French. Initially, squared lumber was produced either by pitsawing round logs or by the use of the broad axe and adze. By 1728, the first water-powered sawmill was producing sawn lumber. The number of sawmills grew with the advent of an export trade for various lumber products ranging from square timber to lathes. The sawmilling industry, however, did not really begin to thrive until the British colonial period.

Military and political events fueled the sawmill industry's growth. The curtailing of the flow of lumber and shipbuilding timber from Baltic Sea countries during the Napoleonic Wars in the early 19th century created a marketing opportunity in British North America, where timber was plentiful. British merchants were quick to lobby for the imposition of tariffs to develop the new trade pattern. Their imposition in 1813 allowed the development of a thriving sawmilling industry in the "colonies." Although the tariffs were reduced slightly in 1821, considerably in 1842, 1845, 1846, and 1851, and abolished altogether in 1860, they assisted the merchants in creating the industrial sawmill base in the North American colonies to compete with European markets.

The ready availability of a log resource, the presence of streams suitable for water power, the development of a timber export market, and the development of a shipbuilding industry all fostered the growth of sawmills on Prince Edward Island. By 1848 there were 139 sawmills; by 1861 the number had increased to 178. Thereafter, the number of sawmills on the Island steadily decreased. As massive land-clearing operations destroyed forest cover, timber supplies became depleted. Meanwhile, markets deteriorated in the absence of preferential tariffs, and improved technology heightened sawmill efficiency. Today, there are approximately 50 sawmills on Prince Edward Island. The majority of these are small, custom mills sawing logs for individual producers.

Considering the high component of manual labour required to fell, log, transport, and saw logs, the amount of wood products produced on the Island during the mid-1800s was truly spectacular. (See Table.) Over the past 2½ centuries of milling, the types of products produced have varied with the markets. In the early colonial period, timber, deal, and lathes were most common. In the late 1800s, pit props became the most popular product; in the 1950s, it was pulp. Today, lumber tops the list. The next wave may be chipwood.

For much of the 19th century, tanneries were an important component of Island industry. In 1860, for example, there were 55 tanneries operating on the Island, producing 143,803 pounds of leather. Crushed hemlock bark and sumac were the primary tanning compounds used in the hide-tanning process. (They contained 11% and 17-24% tannic acid, respectively.) Many Islanders are familiar with stories of individuals that eked out a living by collecting hemlock bark for sale to the local tannery. There is a certain incongruity between such oral traditions and the tannic acid contents of various tree barks. For example, though white spruce contains 20% tannic acid in its bark — much higher than the level for hemlock or sumac — the oral tradition contains no record of its use in tanning.

Was it not used for some reason? For instance, was the greater thickness of the hemlock bark a factor?

A wide variety of secondary industries have spun off from the primary forest industries on Prince Edward Island. These include carriage and sleigh factories (1,151 carriages and sleighs were manufactured in 1861, for example), sash and window mills, cabinet and furniture factories (102 cabinet and furniture makers are recorded in the 1881 census), barrel manufacturers (207 cooperers in 1881), shingle mills, flooring mills, and tannery manufacturers. It is doubtful if the volume of wood used in these various plants will ever be ascertained, as only export and import records are readily available for most of the 19th century.

Feeding the Fires: Fuelwood

Island forests have been cut for other purposes besides construction and export. Enormous quantities of wood have been used as fuelwood. Over the centuries, our forests have both kept the home fires burning and stoked the modest furnaces of Island industry.

Forest covers 48% of the Island's landmass, some 276,000 hectares.
The most overlooked factor in the utilization of Island forests is home consumption. For much of the Island's history, wood fuel was essential for heating in winter and cooking throughout the year. Indeed, it was this need for firewood that prompted the relocation of an Acadian settlement from South Lake to Surveyor's Inlet in the wake of a disastrous forest fire during the French regime.

The provision of fuelwood remained an inescapable necessity during the British colonial period as well. In the 1830s, promoter John Lewellen warned potential settlers of the need to ensure that they had sufficient forest on their property in order to supply their heating needs. By the late 1800s, the domestic firewood trade was well developed, with wood yards in Charlottetown advertising for the delivery of 400 to 500 cords of wood annually. The amount of wood required for home heating was considerable. For example, under the heading "Products of the Forest," the 1881 census records 159,629 cords of firewood.

While the efficiency of wood heating systems changed greatly over the decades, the use of wood as the primary source of home heating appears to have continued unabated until the advent of fuel oil in the mid-20th century. For several decades thereafter, wood use decreased but the rapid increase in oil prices in the 1970s reversed this trend. Today, Islanders still consume approximately 129,000 cords of wood a year for home heating needs.

Fuelwood was also needed for a wide variety of industrial uses. One of the most important of these was kilning. Kilns were used for brick making, lime production, pottery production, and, possibly, glass making. Some of these kilns were fueled by wood; others reportedly used charcoal. In 1861, 48 lime kilns produced 22,821 barrels of lime, while nine brick kilns turned out 1,331,000 bricks. Operations of this magnitude required large amounts of wood fuel or charcoal. It seems probable that the charcoal was produced locally since the process is very simple and can be carried out virtually anywhere in the province.

Another fuelwood consumer was syrup manufacturing. The primary sweetener available to the Micmac and the early European settler was the sap of the sugar and red maple. In the early years of production, the trees were cut; a V-shaped notch led to a drip stick

*For example, Cunningham and Prince (in Tamped Clay and Saltmarsh Hay) estimate that lime slacking required 60 hours of cooking time over a charcoal base.

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The need for curved as well as straight timbers is demonstrated by this cross-section of a ship's hull from Ralph S. Johnson's forests of Nova Scotia (Halifax: Department of Lands and Forests and Four East Productions, 1986).
ending at a birch bark container. In later years, spiles of elderberry, stag-

born sumac, carved wood, or metal were placed in drill holes to direct the sap into wooden or metal containers. In the case of very sweet trees, the sap itself could be drunk, but the only way to store the product was as a syrup, (which required bottles or jugs) or as a granular sugar. This required boiling, and boiling required fuelwood. As late as the 1890s, Islanders were still produc-
ing 25,000 pounds of maple sugar a year (equivalent to approximately 3,125 gallons of maple syrup). Using today’s very efficient maple syrup boiling arches, this would require less than 175 cords of dry hardwood fuel. But imagine the amount of fuel required when the boiling was done in several pots sus-
pended over a banked open fire! This was the method used in the 19th cen-
tury maple syrup industry.

Another drain on timber resources was steam production. After the advent of the wood-fired steam boiler in the mid-1800s, a number of sawmills oper-
ated their saws on steam power produced from wood waste. One such mill was operated by William Doyle of Mount Stewart and was capable of processing 10,000 feet of lumber a day. According to Kenneth Battersby, one of the Island’s early electrical plants also used wood for firing its boiler. Un-
fortunately, the volume of wood used, the length of time the plant operated — even its identity — is not supplied.

Steam also figured largely in one of the Island’s most remarkable growth stories, lobster canning. In 1870, 6,711 pounds of lobster were canned; 12 years later, in 1882, the figure was 4.5 million pounds. By 1901, 227 canneries were operating on Prince Edward Island. These units obviously required large

amounts of heat, but there are few references to the types of fuel used in canning during the early part of the cannery boom. This is yet another area for research.

Rounding off this survey of fuelwood-consuming industries are potash, soap-

making, and blacksmithing. (Potash was made by burning seaweed; soap

was produced by percolating water through hardwood ashes, then evapor-

ating the resulting solution.) Early settlers in other parts of British North

America certainly engaged in the production of soap and potash, and it is

reasonable to assume that Island colonists were no exception, but no extant

references to either activity have been found. No such mystery attends the

blacksmith’s trade. In a society where horses were essential to work and

travel, and most farm implements were made of iron, the blacksmith was an

important figure. In 1881, there were 623 blacksmiths practising their trade

on Prince Edward Island, and for decades before and after, blacksmiths were

common in every Island community. It is likely that a fairly large pro-

portion of these individuals used charcoal to fuel their furnaces. Once again,

though, there is no way to estimate the amount of fuelwood consumed annually in this trade.

Forest Fires

Island forests have been destroyed to clear farmland and to supply the needs of Island industry. But destruction has also come in less deliberate fashion. Forest fires have been a common oc-
currence since the 1720s.

Serious fires ravaged the coniferous and mixed forests in various areas of

Table 1.
Selective Summary of Export Statistics for Prince Edward Island
(from the Journals of the House of Assembly)

<table>
<thead>
<tr>
<th>Year</th>
<th>Timber (tons)</th>
<th>Lathwood (cd.)</th>
<th>Boards &amp; Planks (bd. ft.)</th>
<th>Deals (bd. ft.)</th>
<th>Scantling (bd. ft.)</th>
<th>Shingles (no.)</th>
<th>Bark (cd.)</th>
<th>Firewood (cd.)</th>
<th>Treenails (pcs.)</th>
<th>Ship Knees (pcs.)</th>
<th>Sleepers (pcs.)</th>
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<td>1832</td>
<td>4,601.25</td>
<td>170</td>
<td>539,645</td>
<td>678,450</td>
<td>191,140</td>
<td>1,445,000</td>
<td>113</td>
<td>16</td>
<td>6</td>
<td>16</td>
<td>16</td>
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<tr>
<td>1848</td>
<td>9,947</td>
<td>560.5</td>
<td>1,671,670</td>
<td>320,012</td>
<td>225,000</td>
<td>658,000</td>
<td>113</td>
<td>16</td>
<td>6</td>
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<tr>
<td>1850</td>
<td>7,476.5</td>
<td>352</td>
<td>1,184,000</td>
<td>1,787,015</td>
<td>262,000</td>
<td>451,000</td>
<td>81</td>
<td>16</td>
<td>6</td>
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<td>1859</td>
<td>4,133</td>
<td>166.5</td>
<td>382,641</td>
<td>3,056,943</td>
<td>95,377</td>
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<td>6</td>
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</table>

1. Includes 551 pcs. shipped from Baie-aque
.plus 460 tons hemlock, and 2,041 tons hardwood.
2. Imported 36,000 ft. of spars.
3. Imported 129,225 ft.
4. Imported 18,000 ft.
5. Imported 899,000 bd. ft. from New Brun-
wick and Nova Scotia.
7. Imported 902,000 bd. ft. of deals from New
Brunswick and Nova Scotia.
8. Imported 4,191,080 shingles from New
Brunswick.

Ives Mill, Montague, c. 1920.
Acadian Ile St. Jean in 1724, 1736, and 1742. Writing in 1764-65, Samuel Holland described the aftermath of the 1736 and 1742 fires: “The woods up the north coast from East Point as far southward as the Hillsborough River and to Bedford Bay on the west in about the year 1740 [sic], was entirely destroyed by fire. It was so extremely violent that all the fishing vessels at St. Peters and Morell were burned.” (This was probably a crown fire, as relatively pure, mature hardwood burns much less aggressively than softwood.) Holland’s description of mature woodland and the continued availability of firewood in these same areas suggest that this fire was probably restricted to the coastal spruce forest, mixed forest, and coniferous bogs.

Unlike much of Canada, lightning does not appear to have been the cause of many Island fires. In fact, the primary cause of forest fires seems to have been the land-clearing practices of early settlers. The danger was recognized, of course. In 1815, Lieutenant Governor C. D. Smith issued a proclamation forbidding the practice of burning trees and brush, but serious forest fires continued to occur. One destroyed the church and some buildings at St. Margarets in eastern Kings County in 1821. In the same decade, Walter Johnstone wrote that “burnt woods are to be seen in the neighbourhood of almost any settlement.” In 1825, Lieutenant Governor John Ready introduced measures to prevent improper burning of woods. By that time, most land clearing was being done by the girdling method. Just the same, the problem persisted. Even in the late 1800s, local newspapers often described an Island obscured by smoke from land-clearing fires. Today, virtually all wildfires on Prince Edward Island are associated with man.*

Forest Conservation

The heavy demands placed by man on Island forests have wrought many changes. They have also underscored the need for conservation. As early as the 1820s, warnings were being issued to prospective settlers to ensure that they realized the necessity of reserving a portion of their woodland for fuel. By the mid-1800s, John Lewellin could observe, “a few judicious individuals have commenced permanent fences by

planting quicksets; other plants, the spruce, fir, and Cedar have been tried...” At that time, however, there was no real sense of forest conservation.

Concern over the lack of logs and depletion of Island forests culminated in 1904 in the passage of “An Act Respecting a Forestry Commission,” which established a three-man commission to prepare a report on the state of Island forests. Its report was submitted on March 31, 1904. After exploring timber demand, timber production, and forest management techniques in Europe and other parts of Canada, the Commissioners concluded that “A timber famine is in sight.” Their recommendations aimed at both education and reforestation. The report suggested that instruction on tree planting be given to children in public schools (and that two or three acres of land be acquired at each school for experimental work). Teachers, meanwhile, would receive instruction on tree planting, pruning, and cultivation. As further encouragement, the commissioners urged the proclamation of Arbor Day as a public holiday, “in which schools and all persons interested in the work, would devote a few hours to tree planting.” In addition, the report advocated the creation of a forest tree nursery, the transplanting (and subsequent maintenance) of wild tree seedlings of appropriate species into shelterbelts and hedgerows, and the planting of trees and application of forest enhancement methods in areas reserved for woodlots. The Forestry Commission’s recommendations were in many ways far-seeing. It would be years, however, before meaningful action would be taken.

Conservation and forest management developed gradually as the 20th century unfolded. The first known forest tree nursery was established in 1939 at Dalvay in the Prince Edward Island National Park. Seedlings produced there were used both in reforestation efforts in the Park and in other areas across the province. Another important step was taken during 1938, when the Deputy Minister of Agriculture, Walter R. Shaw, sent 28 young men on an eight-week forestry course at Acadia Forest Experiment Station in Fredericton, New Brunswick. This was followed by a National Forestry Program for Prince Edward Island, which used graduates of the 1938 course to lead six-man crews in establishing forestry improvement cuts (demonstrations of cuts designed to improve forest production) in highly visible locations on well-travelled roads. When war curtailed the program in 1941, it was replaced by a series of public lectures and newspaper articles encouraging management of the farm woodlot.

In 1946, Robert Cotton, a wealthy businessman and founder of the Rural Beautification Society, approached then-Premier Walter Jones with an offer of $100,000 to endow a provincial nursery that would supply planting materials to Islanders in order to improve home surroundings, public areas and roadsides, and generally to encourage rural beautification. His offer was accepted, the Cotton Memorial Trust was established, and in 1951, the first shipments were made.*

*Landclearing was not the only human activity that caused escape forest fires. Author Ralph Johnson was able to attribute major forest fires in Nova Scotia to railway crews using smudge fires to fend off insects. Similar problems probably occurred here.

*The Cotton Trust continues. It is presently administered by the Bunbury Nursery.
In March, 1950, a provincial Forestry Act was passed, and in October, 1950, the Province hired its first forester, J. Frank Gaudet. The following January, a Forestry Division was formed and an additional forester, Wendell M. Profitt, was hired. In March, 1952, a cost-shared Forestry Agreement was signed with Ottawa, and a separate forest nursery was opened at Beach Grove. Federal funds continued to support forest management programs through the next three decades. In addition to tree planting and initial efforts at Crown Land management, various forest extension programs, a sawmill survey, and a forest inventory were undertaken in the 1950s and ’60s.

The signing of the Comprehensive Development Plan in 1969 provided funds for continued work in forest development, including the reclamation of poor stands and reforestation. The Forestry Division also began tree breeding in an effort to improve the quality of tree stock and to overcome certain chronic problems affecting specific tree species. The first efforts with white spruce (in 1969) were followed by selective breeding experiments with red spruce, yellow birch, butternut, and red oak in the 1970s. Mixed results with the hardwoods, coupled with recommendations from forestry consultants that the Division concentrate on coniferous species, led to the discontinuance of this “Acadian forest renewal” effort in 1979. In its place an expanded seedling production program was instituted with coniferous trees. Conservation efforts proceeded on other fronts as well: land management (through incentives referred to as the “Policy Five Program”), extension, research and development, forest inventory, training, and equipment acquisition. In April, 1984, the

Prince Edward Island/Canada Forest Resource Development Agreement was signed, providing for a further expansion of forestry programs on both private and Crown lands. And so, 83 years after the release of the Forestry Commission’s Report, its recommendations have been in large measure implemented. The primary exception is the inclusion of a forestry course in the Island schools curricula. The struggle for conservation goes on.

Conclusion

Gautama Buddha once described the forest as “a peculiar organism of unlimited kindness and benevolence that makes no demands for its sustenance and extends generously the products of its life activity: it offers protection to all beings, offering shade even to the axemman who destroys it.” The earliest European settlers to Prince Edward Island were not quite so kind in their descriptions of the forest which blanketed the young colony. They treated the forest as an enemy or, at best, a resource to be exploited. Island trees served home and industry in a multitude of ways, with little thought given to the future of the renewable resource.

The concept of land stewardship emerged as the Island forest declined. Today, Islanders have an opportunity to return to future generations a more dynamic and stable forest. In the spring of 1987, Prince Edward Island was the first province in Canada to approve a Provincial Conservation Strategy. On August 20, 1987, the Provincial Minister of Energy and Forestry tabled a white paper titled “A Forest Policy for Prince Edward Island.” These two documents outline a philosophy of forest conservation and renewal. The benefits of present investment in conservation and resource management will in large part be reaped by future generations. In this way, Island woodland will remain truly “the people’s forest.”

Sources

This paper is the result of research undertaken in the spring of 1985 for an illustrated lecture, “The People’s Forest,” presented as part of the Third Annual Island Lecture Series in 1985. I dedicate it to the theme “Wildlife ’87: Gaining Momentum,” the celebration of the centennial of wildlife conservation in Canada.

By necessity, much of the information on the structure, age, and use of the original forest had to be interpreted from a wide spectrum of information, some of which is conflicting. Any errors in interpretation, of course, are mine. The source materials are many and varied, including provincial census records, annual reports of the provincial Forestry Division and Forest Nursery Division, and Journals of the House of Assembly.

Besides those mentioned in the text, secondary sources included the following. Useful general sources include A. B. Warburton, A History of Prince Edward Island; A. H. Clark, Three Centuries and the Island; and Francis Blanchard’s The Acadiaons of Prince Edward Island. Natural history information came from Francis Bain’s The Natural History of Prince Edward Island, H. A. Fowells Silvics of Forest Trees of the United States, and Ralph Johnson’s Forests of Nova Scotia. For the Micmacs, I recommend Nicolas Denys’s The Description and Natural History of the Coasts of North America. Denys discusses the interaction between Micmac and forest in his Concerning the Ways of the Indians. Sources for the early European-contact and French periods include D. C. Harvey’s classic, The French Regime in Prince Edward Island, and Blanchard. For the early British period, one should consult the 1765 survey maps and descriptions of Samuel Holland and Willis Chipman’s “The Life and Times of Samuel Holland, Surveyor General, 1764-1801”; D. C. Harvey (ed.), Journeys to the Island of St. John; John Stewart’s Account of Prince Edward Island (1806); and Edward Walsh’s “Account of Prince Edward Island, 1803,” in issue 13 (Spring-Summer, 1984) of The Island Magazine.

There are a multitude of books on Island history; among them the most useful have been Robert Albion’s Forests and Sea Power, and Basil Greenhill and Ann Giffard’s Wescountrymen in Prince Edward’s Isle. The most important sources on the maple syrup industry were F. Coons’s Sugar Bush Management for the Maple Syrup Producers, and C. O. Willet and C. H. Hill’s The Maple Syrup Producer’s Manual. Finally, the interested researcher may wish to consult Robert Cunningham and John B. Prince’s Tamped Clay and Saltmarsh Hay and Leonard Everett Fisher’s The Tanners. A more complete list of sources is available on request.

I am indebted to Harry Baggole for assisting me to undertake the original research for this article and to Edward MacDonald for his editing and encouragement. In closing, I would like to express my thanks to Frank Gaudet and Dr. Steve Manley. The former introduced me to the marvels of the Island’s forest; the latter introduced me to its complexities.