THE FORESTS OF PRINCE EDWARD ISLAND

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“WHEN THE FRENCH first arrived on Prince Edward Island the land was well covered with forests. There is little information to be found regarding the forests of the province until the taking over by the British although records show that in the year 1738, the year of the great conflagration, a forest fire swept over the greater part of the island destroying deer and other animals in its course. It was supposed later that this fire was responsible for the absolute disappearance of deer but probably this disappearance can be more safely assigned to the agencies of mankind.

“In 1763 a stop was put to the cutting of pine on the island which was to be reserved for the British navy. The pine groves were considered at that time the finest that America could boast. These groves were situated very close to the water's edge and many trees were two or three feet in diameter. Captain Holland who made the original survey of the island states the following in connection with the timber on the island 'red and white oak neither of which are in abundance or large growth; beech and maple very good; black and white birch, the former of which is a useful and handsome wood. The pine is exceedingly large and fine. In some places is found the curled maple which takes an excellent polish. Spruce of many kinds is the universal produce of the whole island.' So it seems that at this date there was considerable timber on the island.

“In 1820 Mr. Charles C. Gardner of Charlottetown wrote 'the whole island when viewed from a distance at sea looks as though there were not a tree on it. The trees grow so close together, and are so equal in height, that in spring their dark color resembles heather. Of all the different kinds of woods on the island the beech when growing separate by itself is the most beautiful. Hemlock grows in clusters. Some of it is found of an amazing size. Pine is not found but in detached trees here and there in the woods and is now cut, everywhere, near the shores.'¹ Mr. Gardiner also states that the ground that had been burned over by the great fire of 1738 is still discernible being covered with spruce, balsam fir, and white birch. During the early settlement of the island the forests were depleted by fire and through cutting to supply materials in connection with ship building, which industry was of primary importance during that period.

During the past one hundred and fifty years forest conditions on the island have changed many times. Gone are the virgin forests of old; second-growth stands have taken their place. These second-growth forests are composed of a divers number of species the most common of which are red and white spruce, balsam fir, red maple, white birch, and yellow birch. Black spruce, larch, and cedar are found on the wetter areas. Other species present in moderate quantities are beech, sugar maple, and jack pine. Cedar is found mainly in the northwestern section of the island, but not in commercial

¹ From report of J. C. Veness

quantities. Jack pine is very common at the eastern end of the island, and at present supports a small pitwood export industry. Pine and hemlock are very rare.

Today, in the true sense of the word, forests hardly exist for they partake of the nature of woodlots rather than country-wide expanses of forests. These conditions have been brought about by uncontrolled cutting and forest fires, and the clearing of land due to increased demands of agriculture. In the beginning, after the cutting of some large timber, the people began to clear large areas of land for agricultural purposes with little regard for the safe-keeping of the forests. Trees were regarded as enemies and naturally treated as such for at that time the people knew little about proper utilization of woodlands. Now, however, it is the belief of government officials of Prince Edward Island that land clearing has ceased for many years. The average size of the farm on the island is now about 93 acres with 24 acres in woodland. It is apparent while touring across the country that many old fields are being allowed to revert to forests, and these are generally being stocked by white and red spruce. In most cases these fields were submarginal farm-lands which did not pay their way in agricultural crops.

One of the outstanding characteristics of island woodlots is their even-aged nature. The majority of woodlots have originated from logging, fire, or cultivated fields. Many of the pure even-aged stands have originated from grain fields, and conversations with old-timers support this statement. These pure stands bear watching for signs of infestation as it is generally believed that they are more susceptible to epidemic attacks from insects and diseases than mixedwood stands. The trees on the woodlots which have originated from cultivated grain fields are very fast growing, and have the ability to grow very well even when considerably crowded. These statements are in line with what was quoted earlier in the text, "The trees grow so close together, and are so equal in height, that in spring their dark colour resembles heather." Fast-growing spruce trees are being used in increasing amounts for windbreaks and hedges.

In some localities, particularly between Charlottetown and Summerside, there is a gentle roll to the countryside and many farms situated on slopes are hard to work and not suited to farming. Erosion is evident where no trees are present on the hilltops. Mr. R. C. Parent, Superintendent of the Dominion Experimental Farm at Charlottetown, does considerable agricultural extension work and he stated that he will make forestry one of the topics of conversation among the farmers encouraging the planting of trees on submarginal farm lands, and the planting of trees on denuded lands and hilltops to prevent erosion. Mr. Parent pays particular attention to Illustration Farms and the fact that managed woodlots have been established in connection with these Illustration Stations will allow close co-operation between forestry and agriculture.

81 per cent of the woodland on the island is of the nature of farm woodlots all of which are privately owned. The remaining 19 per cent of the forests are divided among corporations and individuals.

From statistics and from data gathered by survey parties an attempt has been made to get an overall picture of the forest resources and forest depletion on P.E.I. in order to determine the percentage of land area which should be in forests together with the growth in these forests in order to supply the people with all their wood needs.

389,120 acres or approximately 23 per cent of the land area of Prince Edward Island is forested. Since total production in 1945 amounted to 12,271,000 cubic feet this means a yearly depletion of 31 cubic feet per acre over the whole forested area of the island. This is not a cut which is destined to ruin the forests of the island. Up until a short time ago no wood was exported from the island but recently the eastern section of the island has been busily engaged in a pitwood export industry which if continued will surely devastate the forested area of this region and deprive its citizens of a future wood supply.

At the present time about half of the lumber used on the island is imported, and for fuel a large percentage of the population use coal. It would be beneficial if all wood requirements of the people were met at home. If this were done it would mean that off each acre of forested land about 65 cubic feet of wood would have to be cut each year. Since most of the forests of Prince Edward Island are in the nature of farm woodlots 65 cubic feet per acre per year is a growth figure which could be easily maintained. The farm owners are in a position to practise intensive management as they are in need of a stable supply of wood each year, and they are always in close touch with their properties. It might be mentioned again that the average size of the farm woodlot on the island is about 24 acres. This moderately sized woodlot is a factor in favour of partial cuttings which are necessary if woodlots like these are to survive.

It is realized that of the total area of forested land a proportion of this would be practically bare of trees while other areas would be fully stocked. In order to bring the former areas into full production an extensive planting program might have to be carried out. While on moderately stocked woodlots 65 cubic feet per acre per year could be attained it is unlikely that most of the farmers will practise intensive management for some time to come, and for this reason extensive planting especially on submarginal farm lands would make up for this in a small way. This is necessary also because insects and disease will probably continue to take a heavy toll of present forest resources.

SUMMARY OF FINDINGS

1. Today, the forests of Prince Edward Island are comprised almost entirely of second growth stock.
2. Most of the forested area is divided into relatively small sections, commonly called farm woodlots. The average sized farm woodlot is now about 24 acres.
3. The great majority of these woodlots are privately owned; a relatively small number are held by corporations and individuals.
4. It is generally believed that land clearing has ceased for many years. It is evident that many submarginal farm lands are being allowed to revert to forests.
5. The majority of woodlots on the island are even-aged.

6. The soil on Prince Edward Island compares very favourably with the soils in other parts of the Acadian Region. As Halliday indicates, the red soils which are characteristic of the island are probably the most fertile in the region.
7. The N.F.P. plots, established in 1939, are for the most part situated at the roadside of main highways—thus they are of maximum value as demonstration plots. These plots are well distributed over the whole of the island, and cover most forest conditions.
8. It is apparent that most tree species have the ability to grow very well even when considerably crowded.
9. Although growing exceptionally well, a large number of N.F.P. plots with the exception of spruce stands have suffered to some extent from insects or fungus attacks.
10. Windfall has occurred on many plots which are not fully stocked. Many of the N.F.P. plots on the island are surrounded by fields in which case occurrence of windfall was common on the outer fringes of the plots. When unprotected it is considered advisable to leave strips of trees standing around the edges of the woodlots to provide shelter for the interior of the woodlot.
11. Although pruning has added to the appearance of the N.F.P. stands, it has, in some cases, encouraged the development of rot or abnormal outgrowths, especially in hardwood stands. On some beech trees, for instance, knobby, wart-like outgrowths formed where the branches were pruned.
12. On the N.F.P. plots reproduction of yellow birch, white pine, and hemlock is practically non-existent in one or two instances. Despite the even-aged nature of the stands, reproduction of most other species is good with the exception of spruce in even-aged pure stands.
13. Most N.F.P. woodlot owners think of managed woodlots in terms of park-like stands, and do not take as much interest in their woodlots if they fail to present this appearance.
14. It is realized that the N.F.P. stands were probably marked too lightly for thinning in 1947 (present knowledge of growth, however, on these woodlots does not support this statement). The stands were marked lightly because of the following reasons: (1) fear of windfall, (2) woodlot owners' attitudes, (3) evidence of exceptionally good growth.
15. In connection with the establishment of the permanent sample plots it was not possible to plot a cumulative frequency curve of numbers of trees by diameter classes in the field because of the missing trees removed in the 1939 thinnings and the deterioration of the stumps since that time.
16. The forests of Prince Edward Island are utilized primarily for fuelwood and lumber, and secondarily for fence posts and shingles.
17. Sustained yield of the forests of Prince Edward Island can be realized under the following conditions:
 - (a) cessation of the pitwood export industry;
 - (b) partial cuttings or a rotational system of clear cuttings;
 - (c) extensive planting on submarginal farmlands and on hilltops, etc.;
 - (d) constant attention to biological destructive factors.