

The Problem of Sable Island.

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The Dominion Experimental Farms report for 1910 contains an interesting reference to the results of the planting done some twelve years ago (May and June, 1901), described at length in the report for the year referred to. Unfortunately the final report is an unfavourable one, only a few of the trees and plants then planted having survived.

Sable Island is one of the most dangerous spots on the eastern Canadian coast-line. It is formed entirely of white sand, and lies about ninety miles from the nearest point on the Nova Scotia coast, and about 153 miles from Halifax.

Its area has been considerably reduced by the action of wind and water on the sand. The present length of the island is about twenty-one miles, and its width, at its widest point, somewhat over a mile. Early surveys gave the length of the island as forty miles and its width two miles and more. Dangerous shoals and sand-bars extend on all sides, and the strong currents from north and south often carry vessels out of their course, while, in addition to this, fogs are frequent; naturally wrecks are many. The planting was undertaken, at the request of the Marine Department, chiefly with the object of preventing the damage done to the island by the wind. Naturally, the further the destruction of the island is carried, the greater becomes the danger from the shoals and sand-bars.

No trees grow naturally on the island. The choice of species to be planted was based largely on observations made by Dr. Wm. Saunders (then Director of Experimental Farms) on a visit to Brittany, France, where much work in the reclaiming of sand-dunes has been done.

The species and numbers of each species planted on the island were as follows: *Pinus pinaster* (maritima), (cluster pine), 10,000; *Pinus sylvestris* (Scotch pine), 10,000; *Pinus sylvestris rigaensis* (Riga pine), 10,000; *Pinus laricio nigricans* (Austriaca), (Austrian pine), 10,000; *Pinus montana* (Mountain pine), 5,000; *Pinus montana mughus* (Dwarf mountain pine), 2,500; *Pinus strobus* (White pine), 2,500; *Picea excelsa* (Norway spruce), 10,000; *Abies balsamea* (Balsam Fir), 2,500; *Picea canadensis* (White spruce), 2,500; *Picea mariana* (Black spruce), 1,000; *Juniperus virginiana*, (Red cedar), 1,000; *Juniperus communis*, (Common juniper), 1,000; *Thuja occidentalis*, (Eastern Arbor-vitae), 500. Of the broad-leaved species there were used the following: Manitoba maple, (*Acer Negundo*), 500; *Acer platanoides* (Norway maple), 500; *Betula alba* (European white birch), 2,000; *Gleditsia triacanthos* (Honey locust),

2,000; *Salix longifolia* (Long-leaved willow), 1,000. Planting was started on May 18th, the trees being found in good condition, in spite of having been packed up for six weeks.

The first plantation was made on a sandy bluff near the north shore, fairly well covered with the common sand-binding grass (*Arenaria ammophila*), the trees being planted two and a half to three feet apart each way in a soil composed of pure sand.

One considerable area, to which the name of Gourdeau Park was given, was found to be covered to the depth of several inches with a black, peaty soil, mixed with sand and underlaid with pure sand. On this were growing common juniper (*Juniperus communis*), cranberry (*Empetrum nigrum*), wax myrtle (*Myrica cerifera*), blueberry (*Vaccinium*), wild rose and other plants. The planting was completed on June 17. Artificial fertilizers were used to some extent, these comprising nitrate of soda, muriate of potash, superphosphate of lime and quicklime. Sea-bird droppings were plentiful all over the island. In 'Gourdeau Park' the soil was ploughed.

The climate of the island is not extreme. During the years 1898 to 1901 (inclusive) the highest temperature registered by the thermometer was 78 degrees Fahrenheit and the lowest 5 degrees Fahrenheit. The winds, however, are very high and constant and gales are frequent.

At the End of the First Season.

From August 13 to October 3 the weather was very dry, and from September 21 to September 26 a continuous gale blew, ranging in direction from southwest to north, which 'burned' the leaves off the deciduous trees. All the pines, however, except the white pine, looked well and had made a good growth. Some of the spruces survived but few looked promising.

A memorandum prepared by Mr. Boutellier, the superintendent of the island, for the Director of Experimental Farms, on March 23, 1910, summarized the result of the plantations: At 'Station No. 4,' where 2,000 trees and shrubs were planted, he found alive but fifteen Austrian pine, five mountain pine, sixteen Scotch pine, twelve maritime (cluster) pine, two Norway spruce and one black spruce. 'They were all spread out on the ground,' the memorandum runs, 'and were about one foot high. In summer they run up to the top of the rank grass that grows around them, perhaps quite two feet.' At 'No. 3 Station,' where 5,000 plants and shrubs were planted, the only one mentioned in the report is a