

excellent railroad, about 20 miles long, connects this iron mine with the main line of the I.C.R., but at present the mine is not operating.

The South-West District.—This part of the province is considered separately, because it is the only part of the province which has those physical characteristics which would seem to indicate promising water-power possibilities, such as lakes for storage purposes and rocky river basins. It includes the St. Croix River, already discussed, the Magaguadavic, the Lepreau, the Musquash Rivers and a number of smaller streams.

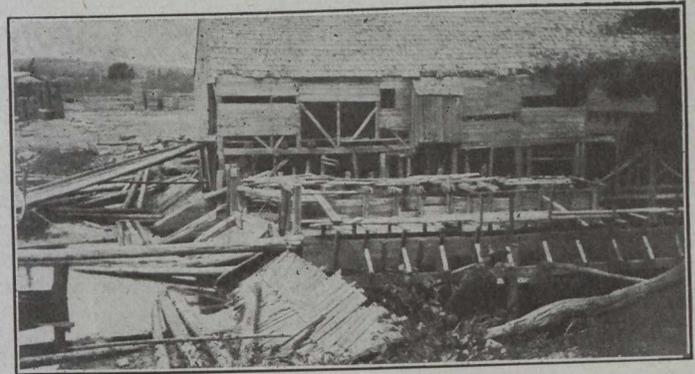
Practically all the rivers in this district admit of developments of one kind or another. The available heads are low, and in general the drainage areas are small, though some opportunities exist for artificial regulation of flow. Apart from the St. Croix River, which has already been discussed, and is shown to be of considerable importance, the only other outstanding river in this district is the Magaguadavic. At St. George Fall, which is partly developed by a pulp company, with 3,000 horse-power installed, there is a tributary drainage area of 688 square miles with a head of 45 feet. Several other sites exist on this river with slightly smaller drainage areas and heads from 16 to 20 feet. Storage can be provided on a number of lakes in the basin.

Other Rivers.—The Miramichi, with its various branches, the Restigouche, Upsalquitch, Canaan and Salmon Rivers are all of large size, but in general have no pronounced falls or rapids of appreciable magnitude, and, furthermore, are absolutely devoid of lakes which might be used for artificial regulation. The Restigouche and Miramichi are tidal for considerable distance from their mouths. In a few cases, notably on the Miramichi and Upsalquitch, and generally near the upper waters of these streams, low falls and flat rapids occur, with high, rocky banks, where heads of some magnitude might be created by high dams. Such developments are, of course, expensive.

As a general thing, even on the smaller streams, few falls or rapids occur, and head for small developments, a number of which are in operation for local purposes, must be obtained almost entirely by dams. Fur-

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moderate or low-head sites are not plentiful or well distributed. And yet at Grand Falls on the St. John, Aroostook Falls and Grand Falls on the Nepisquit, the outstanding water-powers entirely within the province, New Brunswick possesses water-power assets of no small magnitude which will undoubtedly become of more and more importance. For the present, the size of these powers is somewhat of a disadvantage. With the possible exception of Grand Falls, they are too small to attract large users of power, such as chemical industries, to their immediate vicinity, and, on the other hand, are



Sackville River, N.B., Typical of a Great Number of Small Mills Found in Any Part of the Country.

too large and too far removed from present industrial centres to permit of immediate development.

Undoubtedly the time will come when the increase in existing industrial and railway centres and the creation of new centres, aided by the knowledge of water-powers ultimately available, will warrant long distance transmission lines from these sites.

It is certainly most urgent that adequate investigations should be undertaken leading to comprehensive administration, and it is just possible that it will be shown that, in relation to its present and prospective needs, New Brunswick is better off for water-powers than has generally been supposed.

Prince Edward Island.—The Province of Prince Edward Island certainly has no water-powers of commercial magnitude except in a very small way. It is solely an agricultural community, and has many small streams which doubtless could be used to advantage by individual farmers through the medium of small hydro-electric developments installed by local labor. In these days, when every effort is being made to stimulate agricultural production, apparently a good purpose could be served by indicating to the farmers just what might be done with the small brook which is to be found on most farms.

There are quite a number of small water-driven mills in operation, and in the early days, before the land was entirely cleared of timber, many sawmills were driven by water-power.

The area of the Island is 2,184 square miles, with a population of about 94,000, which shows a larger population per unit of area than any other province in the Dominion. The length from end to end is 130 miles and the width varies from 2 to 30 miles. Practically all the land is cultivated, and the highest elevation is only about 300 feet above sea-level. The average annual precipitation is from 36 to 40 inches.

Tidal Power.—The enormous energy exhibited by the great sweep of the Bay of Fundy tides, with an



Sackville River—A Typical Log-driving Dam.

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General.—The conspicuous absence of lakes for natural or artificial regulation, combined with only a moderate rainfall, and that not evenly distributed, is a serious handicap from a water-power standpoint. Furthermore, no opportunities for creating high head developments to thereby compensate somewhat for small flows at certain times of the year are available, and even