

crops; and second, to so control the larger floods as to prevent them from doing injury. It is true that these major floods may occur when crops are on the low lands, but such an occurrence is rare, and the best that can be hoped for is to neutralize their effects as much as possible. A number of reservoirs in various parts of the world have been built having these dual functions in mind and there appears no reason why they would not succeed on the Kennebecasis, provided satisfactory sites can be found.

Water Powers

The water powers of New Brunswick were investigated by the Commission of Conservation this summer (1918), and pending the publication of its report it is not desirable to discuss them at any length here. Previous reports of the conservation commission estimate the total "low water 24-hour horse power for 8 months, theoretical" for the St. John River and tributaries at about 200,000. They estimate the power at Grand Falls at 120,000, and the following table relating thereto is copied from their report:—

Year	Max.	Min.	Mean	DISCHARGE IN C.F.S.		Total Yearly run-off in ins. on drainage area
				per sq. mi.	Mean	
1908	83,840	1,300	13,047	1.576	21.48	
1909	103,120	1,675	14,691	1.774	24.46	
1910	38,400	1,525	9,987	1.206	14.99	

The power is very easy of development and the initial cost per h.p. should be very low. Regarding storage for river regulation there are no large lakes, but there are a considerable number of small ones, chiefly in Maine. The International Commission pertaining to the St. John has collected a lot of data on this and kindred subjects but their reports have not yet been published. Another disadvantage of the Grand Falls power site is its distance from any large centre of population. St. John is 145 miles and Quebec city

160 miles away. Cheap power, however, always attracts industries. The experience of the Ontario Hydro-Electric Commission is a striking instance of this. The following table shows the growth of their output since organization:—

Horse-power.	
1910	8,000
1911	12,000
1912	28,700
1913	50,470
1914	82,161
1915	110,654
1916	150,000
1917	205,000
1918	250,000

The present time seems most opportune for placing the New Brunswick Water Powers under a commission

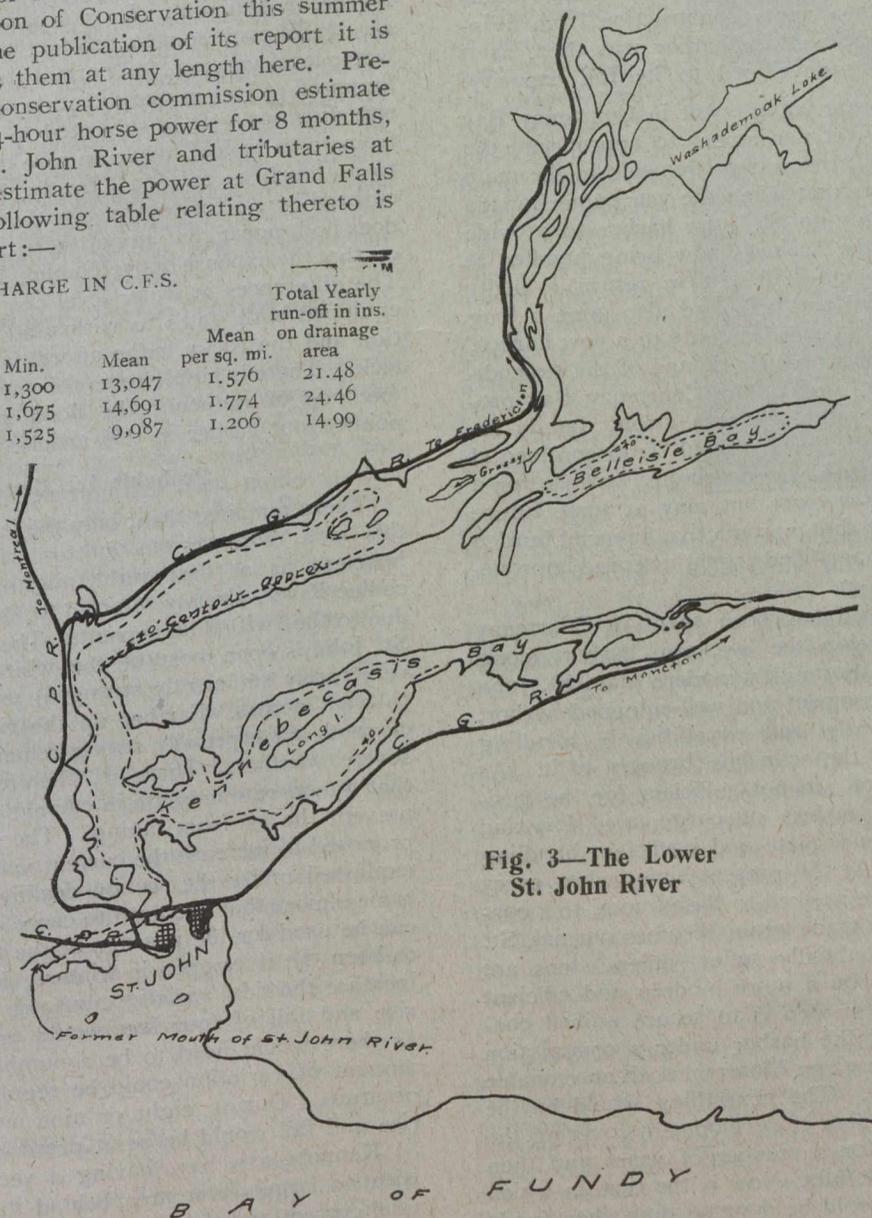
similar to that which is so efficiently managing those in Ontario. The fuel shortage and the increased demand for power caused by the war make it desirable to develop all the hydro-electric energy for which there is a market in sight. Moreover, practically all of New Brunswick's powers are as yet unharnessed, and it should therefore be possible for the commission to secure practically a clear field and to develop these powers in such a way that the public may get the full benefit therefrom.

St. John Harbor

St. John city ranks second among Canadian ports in the total of its imports and export trade, being surpassed only by Montreal. Its total trade for the fiscal year 1917 is given as \$206,087,220. It has a shorter rail haul to and from the Canadian interior than any other ice free port in Eastern Canada. Its harbor is easy of entrance, open the whole year round and never affected by ice. From it, steamship lines run direct to the United Kingdom, Europe, South Africa, New Zealand, Australia, West Indies, and United States ports.

St. John harbor is a striking example of the evils of divided control, and development proceeding without a comprehensive and carefully worked out plan. The present harbor facilities are the results of the activities of the C.P.R., the city and the Dominion Departments of Public Works, Railways and Canals, and Marine and Fisheries,

Fig. 3—The Lower St. John River



each acting more or less independently of the rest. As usual under such conditions, the more energetic and efficient organization secured the best that was going regardless of the needs of the others or the best interests of the port as a whole.

The C.P.R. and the Harbor

However, in partial justification of the C.P.R.'s hold on St. John harbor, it must be confessed that most of the port's sea borne traffic is handled by that road to and from the west, therefore it is perfectly proper that most of the ocean terminals should be placed where most con-