

*Resulting relations between the turn of the current and the time of the tide.*—When the latest Admiralty surveys of the St. Lawrence were made in 1885 to 1889 by Staff Commander W. F. Maxwell, the turn of the current was ascertained at a number of points with reference to the time of high and low water. The results of these determinations are given on the charts. But unfortunately the time of the tide itself was not known; as there were then no tide tables for the St. Lawrence to refer to, or any data by which it could be ascertained. It was not until the present tidal observations of 1900 were obtained and reduced, that data for the tide itself were secured. These observations therefore make the previous Admiralty determinations practically available to mariners for the first time. The localities for the tidal observations were carefully chosen with this object in view.

The division of the region into two parts in which the tides are referred to Quebec and Father Point respectively, has the further advantage of reducing the variation in the differences during the course of the month, to the least possible amount; which makes the constant differences now published, more closely accurate; because the variation is allowed for, by the method already described, in the calculation of the tide tables for Father Point itself. A further improvement will only be secured when an analysis of the tidal record at Father Point is made, and tide tables calculated independently and directly therefrom. The tidal relations with Father Point as now established, have in either case a permanent value, however.

The relations between current and tide as given on the charts, have been already published in a tabular form in the last Report, and need not be repeated. The final results are given in the table below; which to sum up, is based on the following information:—(1.) On time of the tide throughout the Lower St. Lawrence as ascertained by the simultaneous observations above referred to. (2.) On the relations between the currents and the tide as given on the Admiralty charts. The turn of the currents at L'Islet and in the Traverse however are based on observations by the Tidal Survey in 1900, as above explained. All results obtained by the use of this table, are in Eastern standard time, for the 75th meridian west of Greenwich.

Tidal Streams in offing of localities given.	Flood Stream begins after or before L. W.	Ebb Stream begins after or before H. W.	Duration of Flood stream.	Duration of Ebb stream.
After or before Low Water or High Water at Quebec:	h. m.	h. m.	h. m.	h. m.
Quebec Harbour.....	1 10 after..	1 05 after..	5 00	7 30
St. Laurent.....	0 31 "	0 54 "	5 00	7 25
Berthier.....	0 10 "	0 25 "	5 05	7 20
Grosse Isle.....	0 19 before.	0 08 "	5 10	7 10
L'Islet.....	1 19 "	0 57 before.	5 30	6 50
After Low Water or High Water at Father Point:—				
In Upper Traverse.....	3 52 after..	3 13 after..	5 25	7 00
In Lower Traverse.....	3 57 "	3 35 "	5 45	6 45
Orignaux Point.....	2 18 "	2 45 "	5 55	6 30
In Brandy Pot Channel.....	2 04 "	1 46 "	6 05	6 20
Tadoussac.....			6 08	6 15
Green Island.....			6 00	6 24
Bie Island.....			5 50	6 34

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## TIDE

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