

Quebec Harbour Commissioners' datum :—

From R. Steckel's determination of actual zero of tide scale	0.94
From elevation of Admiralty B.M., by St. G. Boswell	0.95
At 24.00 feet below coping of Louise Dock	0.98
Admiralty datum, and Tidal Survey datum	0.00

Bench-marks along the St. Lawrence, below Quebec.—In the more recent Admiralty surveys of the Lower St. Lawrence, from Quebec to the Saguenay, Bench-marks were established as already noted, to fix or define the level of "Low-water at ordinary spring tides," to which the soundings of the charts are reduced.

If there were continuous levels along the St. Lawrence to connect these different Bench-marks, the tide levels could all be referred to one uniform datum. This would be of special interest in so large an estuary, which may fairly be considered as extending to Point de Monts, and thus to have a total length of 230 miles. It would then be possible to follow satisfactorily the actual levels of high and low water in their progress up the estuary, and the effect of storms in raising or lowering them.

The geodetic levels taken by Mr. Steckel, of the Department of Public Works, when they are worked out, will furnish a basis from which to obtain this result, and the tidal records now secured will then have additional interest from a physical point of view.

For the present we have adopted for the tide levels, an arbitrary vertical scale with its zero at 100.00 feet below the Bench-mark in each locality. This method avoids negative values, and it gives in the most convenient manner the true relative heights of all tide levels, including the low-water datum of the charts. For brevity, we will omit the details of the tide levels, and give only a list of the Bench-marks which were made use of, at the tidal stations that were in operation during the season of 1900. These tide levels are published in the Tidal Survey Report of December, 1901, pages 15 to 20.

Crane Island.—The soundings in the West Narrows, Beaujeu Channel, are reduced to the level of low water ordinary springs, at 25 feet 4 inches below the base of the Crane Island light house. (See note on Admiralty Chart No. 318.) This is the shallowest point in the river below Quebec.

Grosse Isle.—At Grosse Isle there are two wharves on the side of the island facing the channel of the river. The Admiralty Bench-