

Sand Heads, Strait of Georgia.—Three additional years, from November 1, 1898, to November 24, 1900; and from January 16, 1901, to January 27, 1902. This will serve to improve the accuracy of the tide tables at Vancouver and other ports throughout the Strait of Georgia, which are dependent upon this as a principal station.

PUBLICATION OF TIDE TABLES, AND IMPROVEMENTS IN THEIR ACCURACY.

The publications of this Survey during the past year, continue to be reviewed in British and foreign periodicals as in former years, which is of service in making them widely known. The requests received for tide tables, and for other information, is continually on the increase.

Tide Tables for British Columbia.—These comprise complete tide tables for Victoria, B.C., and for Sand Heads in the Strait of Georgia, a locality centrally situated in that strait, and well suited as a reference station for the ports around it. Tidal differences for Vancouver, New Westminster, Nanaimo and Baynes Sound are given with these tables; as well as the turn of the current in First Narrows, Burrard Inlet. They have met with so much appreciation that the edition printed has been increased from 500 to 800 copies, to meet the demand for them.

It is a real service to mariners that accurate tide tables are available since these were first published in 1901; as the information for British Columbian waters given in the United States tide tables, was far from reliable. This was unavoidable in the circumstances; the tide itself being of a different type, as explained in a former report. Regarding the accuracy of the present tables, Mr. F. N. Denison, who is continuing the tidal observations at Victoria, writes: "Your Victoria tidal predictions are almost perfect, as proved by plotting them upon the actual records, and are greatly admired and appreciated by those who have seen the comparison." The captain of the steamer *Otter*, of the Canadian Pacific Navigation Co., also writes at the end of January, 1902: "During 1901, I often used the tables for that year, and am greatly pleased to say that I found the times of high and low water given in the tables, wonderfully correct. I see the tables for 1902 are a distinct advance on the tables for 1901, as constants are given for Nanaimo, Vancouver and Baynes Sound, ports that I frequently visit; and I find that in the short time I have used this year's tables, they are as exact for the above ports as the tables for 1901 were for Victoria and the Sand Heads."

The tide tables have been reprinted one month at a time, by the *Times* and the *Colonist* of Victoria. The new information now issued with them, is mentioned further on in this report, where the further results now secured are explained.

Quebec, Father Point, Halifax and St. John, N.B.—In this set, the accuracy of the tide tables for Quebec has been further improved by extending the basis from which they are calculated for 1903, from four to six years of observation. This improvement is an important one, in view of the full information now issued with these, for the whole of the tidal portion of the St. Lawrence, from Three Rivers to Gaspé. The tide tables for Father Point, were published for the first time in 1902; and those for 1903 are also deduced from the Quebec tide tables by the method described in last report. Hereafter these tables will be calculated directly from the astronomical elements determined by analysis, as already explained.

In this set of tables, tidal differences are also given for the whole of the Bay of Fundy; and for the Atlantic coast of Nova Scotia.

These tide tables were again supplied to the leading Canadian and British almanacs, willing to publish them in whole or in part. An addition of 800 copies, reprinted from Greenwood's Almanac, was found insufficient to meet the increased demand for them; and accordingly for 1903, the quantity has been increased to 1,000. The various newspapers have also done something in the way of re-publishing these tables, or in giving the time of high water daily, much in the same way as in former years.