

## PROVINCE OF NEW BRUNSWICK.

## DREDGING AT BATHURST.

Bathurst harbour at the mouth of the Nipisiguit River is 2 cables wide at the entrance between Alston and Carron points.

Outside the harbour there is a bar with only 7 feet at low water and 14 feet at high water spring tides. The distance from the outside of the bar in 18 feet of water to the entrance of the river is  $1\frac{1}{2}$  miles; and for the whole of the distance the narrow channel is between sandy shoals.

In the entrance between the sandy points, there are 18 to 34 feet of water.

Within the entrance there is an extensive and well sheltered basin nearly 3 miles long and 2 miles wide, but nearly dry at low water, excepting the channels of the four rivers, which, after uniting their streams below Bathurst, flow through it to the entrance, forming by their junction what is called the Main Channel.

During the fiscal year 1892-93, the dredge "Canada" remained in Bathurst from the 8th of July to the 5th of November, and worked in the main channel on three bars, one near the entrance called the "Ripple bar," where the channel was deepened to 10 feet over a width of 160 feet and a length of 400 feet. The second one nearly half-way in the main channel, called the "Ballast bar" where the channel was deepened to 10 feet over a width of 160 feet and a length of 450 feet. The third one at the junction of the Tetagouche River, where a cut 130 feet in length by 100 feet, to a depth of 8 feet was made, the total quantity of sand removed being 10,050 cubic yards, at a cost of \$4,110.43 or 27.03 cents per cubic yard.

## DREDGING AT THE MOUTH OF THE MIRAMICHI RIVER.

The Miramichi River empties into Miramichi Bay. It is navigable for all vessels which can cross the outer and inner bars, the minimum depth over these bars being 16 feet at low water and 20 feet at high water.

The ship channel from the Gulf of St. Lawrence to the entrance proper of the river is very tortuous, and considerable dredging has been done by the Dominion Government both to straighten and deepen it.

The Miramichi Bay is 13 miles long from Fox and Portage Island to Sheldrake Island (where the river may be said to commence) and 7 to 8 miles wide. The depth of water across the bay is on an average 16 feet.

The distance from Sheldrake Island to the town of Chatham is 7 miles up river, and to Newcastle 12 miles. Both these towns have splendid frontage on the river, with 30 to 35 feet in depth.

The principal obstructions to deep navigation are the outer bar, the Horse-shoe shoal and the inner bar.

During the fiscal year 1892-93, the dredge "St. Lawrence" worked on these three bars, deepening the channel to 21 feet, but it was again filled up, and there are only 18 feet in the channel to-day.

The quantity of materials (sand and gravel) removed was 35,725 cubic yards at a cost of \$7,016.88 or 19.06 cents per cubic yard.

## DREDGING IN THE RICHIBUCTO RIVER.

The entrance of the Richibucto River is about 1,800 feet in width, and lies between two sand bars, several miles in length, called the north and south beaches.

The Richibucto is navigable for boats nearly to the head of the tide, a distance of about 22 miles, and any vessel which can pass the bar may be taken 13 miles up river.

The bar at the mouth is extremely dangerous owing to the fact that the channels shift constantly, and also on account of the strength of the ebb-tide. The bar extends from the north beach for 2 miles in a parallel line with the south beach. It is of