

"Grand Bar," forty-three miles from Tobique, is about a mile in length. A large boulder which lies in the channel at the head of the bar should be taken out. There is a good straight channel between the shoal and the western shore, with nowhere less than four feet water.

Between Grand Bar and Woodstock there are no obstructions to free navigation.

Woodstock is the highest point on the river as yet reached by railway. It is distant from St. John, by the river 145 miles, and by rail from St. John 137 miles, from St. Stephen eighty-four miles, and from St. Andrews ninety-four miles.

The ordinary rise of the freshet between Grand Falls and Fredericton is sixteen feet above lowest summer level.

St. John River between Woodstock and Fredericton.

About two and a-half miles below Woodstock, the river widens suddenly at a place called Bedell's Cove, and the current being thereby checked, the debris is allowed to sink. The water is in consequence becoming more shallow every year. Dredging, and a more rigid enforcement by the local authorities of the law prohibiting the discharge of saw-dust and other mill refuse into the rivers, are the only remedies for this evil.

At "Dibblee's Rapids," three miles below Woodstock, there are two channels divided by a large gravel bar. The eastern channel is the deeper, but is so crooked and rocky that steamers cannot pass through it with safety. Mr. MacLauchlan improved the western channel by the removal of numerous reefs and boulders, and by the erection of a wing-dam 520 feet long, and between two and four feet high, extending diagonally upwards from the end of the bar towards Fraser's Island. He states that this "had the effect of deepening the channel over a foot during the lowest water." The dam should be repaired and lengthened to about 1,200 feet.

There are some boulders at "Bett's Rapids" and "Brook's Bar," which obstruct the channel, and should be taken out.

"Belvior" Bar commences at the foot of Cronk's Island, about eighteen miles from Woodstock, and extends obliquely down and across the river nearly a mile. Mr. MacLauchlan cut a channel through it in 1853, 300 feet long, 130 feet wide, and giving three feet of water. As I found this depth of water when I passed, I presume the cut still remains clear. There are some boulders which it would be well to remove.

At the Meductic Rapids or Falls, the width of the river does not exceed 250 feet, the bed is rocky, and the fall being five feet in little more than half a mile the current runs with great velocity. Large sums of money have been expended at this place, and the navigation of what was once a most dangerous rapid has been rendered comparatively safe. It is, however, I think, capable of still further improvement. A wing-dam, about 300 feet long should be projected from the western shore, at the head of the rapid, where there is a reef which would form a good foundation and support for the structure. There are several boulders and a small ledge about two thirds way down the rapids, which could be removed without much expense. A point of coarse shingle which juts out from the eastern shore should also be cut away. These improvements would enable steamers to take a better position for running the rapids.

At "Sheogomoc Brows," "Nachawickak Bar," and "Quiou's Bar," several boulders should be removed.

A wing-dam from the eastern shore at the head of "Koac" Island would be beneficial, but is not absolutely necessary.

At "Tapley's Bar," the channel has a good depth.

The next obstruction is "Bear Island Bar," where more money has been expended than at any other point on the river, and apparently to but little purpose. The natural set of the current after passing down on the eastern side of Hog Island is abruptly across the western side of Bear Island, but about one third down Bear Island the water shoals to a depth of two feet, in consequence of being wasted over an extensive gravel beach. Mr. Grant in 1850 and 1851 attempted to close the western channel by a strong