
FORTY-SEVENTH LEGISLATURE.

HOUSE.

No. 23.

STATE OF MAINE.

EXECUTIVE DEPARTMENT, }
Augusta, January 23, 1868. }

To the Senate and House of Representatives:

I have the honor to transmit a copy of the Report of the recent examination of the bed of Penobscot river, under direction of the United States Engineer and Coast Survey Departments, with plans for removing obstructions and estimates of cost.

J. L. CHAMBERLAIN.

REPORT

On the Survey of Penobscot River, above Hampden, Me., with proposed plan for the improvement of its navigation, and an estimate of its cost, by Bvt. Brig. Gen. George Thom, Lieutenant Colonel of Engineers.

The survey of Penobscot river above Hampden, Me., ordered under an "Act approved June 23d, 1866, making appropriations for the repair, preservation and completion of certain public works, &c., &c.," was placed in my charge in November, 1866, too late in the season to commence work upon it.

By an arrangement made, in April last, with Prof. Peirce, Superintendent of the U. S. Coast Survey, a surveying party was assigned by him to this work under the charge of Mr. James A. Sullivan, Sub-Assistant U. S. Coast Survey, with instructions to report to me for such surveys and observations as I should indicate. On the 29th of June, when Mr. Sullivan reported to me, I gave him such instruction as I thought necessary (see appendix "A") "to ascertain the nature, extent and cause of the existing obstructions to the navigation of the river between Hampden and Bangor, and to procure the information necessary to make an estimate of the cost of the removal and prevention of those obstructions." Additional instructions were subsequently given to him as occasions arose during the progress of the survey.

The survey was completed during the month of October; and on the 4th inst. I received from Mr. Sullivan his final report thereon, (see appendix "B,") together with an hydrographic field sheet of that part of the river surveyed by him, a copy of which is herewith transmitted.

The report and map are very creditable to him; and they show clearly and satisfactorily, in much detail, the present condition of the river, with the extensive obstructions to its navigation that have already been caused by the deposit of slabs, edgings and sawdust, which, for many years past, have been thrown into the river from the numerous saw-mills near Bangor. These obstructions still continue, without hindrance, to be formed by the same cause; and unless prevented by proper and stringent laws, the navigation of this river will, at no distant day, be entirely obstructed above

Hampden and probably still lower down. At present these obstructions lie principally between "Seven Pine Point" (a short distance above "Crosby's Narrows") and Independence Rock in the harbor of Bangor—a distance of three and a half miles—covering an area of about 320 acres, to an average depth of 10 feet, being, in some localities, more than 18 feet in depth. These deposits form an entangled mass, the solid contents of which exceed 5,000,000 cubic yards. The depth of these deposits has been ascertained by numerous borings, carefully made with iron rods.

From all these examinations it has been ascertained that the river, instead of having, as formerly, a wide, clear and unobstructed channel of three fathoms in depth, at low water, all the way up to Bangor, has now a narrow, tortuous and uncertain channel with but eight or nine feet of water, at *lowest* water.

The *lowest* water in dry seasons, it is stated, is about three feet lower than the mean low water observed during the survey. The ordinary rise and fall of the tide at Bangor is from $12\frac{1}{2}$ to 13 feet approximately.

There are also obstructions in the Penobscot below Hampden in the vicinity of Winterport, at Indian Point above Bucksport, and at Orphan's Island, where bars, composed more or less of *sawdust*, are said to be forming and rapidly increasing.

In addition to these obstructions, there are several rocks in the harbor of Bangor, which are very dangerous to navigation, the most important of which are—

1st, Independence Rock, below and near the lower end of the planing-mill wharf. This rock appears to be a continuation of the ledge at the steamboat wharf. It projects about six feet, on an average, above its general base, for a length of about fifty feet, the highest point having less than two feet of water upon it in the *lowest* stages of the river—there having been but four feet upon it, at mean low water, during the survey.

2d, The ledge at the steamboat wharf. This is about thirty feet long, with an average depth on its top of about five feet below the *mean low water* observed during the survey—the highest point of the rock having not more than two feet of water upon it in the *lowest* stages of the river.

3d, Gulliver's Rock, abreast of steamboat wharf. This is apparently a boulder, containing about six cubic yards.

4th, Ledge in the channel near Green's pier, and distant about forty-five feet to the eastward of the pier. This ledge is about

fifteen feet long on its top, and has about eight feet of water upon it in the *lowest* stages of the river.

All these ledges have been examined and surveyed with the aid of a submarine party, and their dimensions and positions have been carefully determined. In addition to these, there are several boulders scattered over the bed of the river.

The importance of this river and the harbor of Bangor (which is at the head of its navigation) can well be understood on referring to the accompanying letter from Hon. John H. Rice, Collector of Customs at Bangor, Me., (see appendix "C.") in which he furnishes valuable and reliable statistics concerning its commerce. The benefit that would be derived from the improvement of its navigation would be almost incalculable, could it be restored to its *original* condition. This, however, would involve the expenditure of millions, which it would not be advisable to do. Nor would it be advisable to undertake its improvement to any extent whatever, unless the general government, by suitable and stringent legislation, can and *will* protect its navigable waters from injury and ruin. The same cause which has produced the vast deposits in Penobscot river, is still in operation, and continues to *increase* those deposits; and so it is with nearly all the navigable rivers in Maine. It is therefore urgently and respectfully recommended that this matter be brought to the attention of Congress at an early day, with a view to securing such legislation as will hereafter effectually protect the navigation of all its navigable waters.

Any plan to be considered for improving the navigation of this river must embrace, 1st, The removal of the deposits above Hampden, so as to open a new channel of sufficient capacity for navigation; and, 2d, The removal of the sunken rocks in the harbor of Bangor.

The depth of this channel must be confined within two limits, viz: The greatest desired depth of water which can be had up to Bangor (i. e., three fathoms in the lowest stages,) and two fathoms, which is not more than is required for the ordinary commerce of the river. The width of the channel should not be less than 150 feet, which would be no more than sufficient to enable two vessels of ordinary size to pass each other.

The following estimates are submitted for channels of twelve and eighteen feet in depth, in the lowest stages of the water, and 150 feet in width, between Seven Pine Point and Bangor, (a distance of three and one-half miles,) viz:

SURVEY OF PENOBSCOT RIVER.

1st.—12 FEET CHANNEL.

For excavating 100,000 cubic yards slabs, edgings and sawdust, (to be deposited 20 miles below,) at \$1 per cubic yard,	\$100,000
For excavating Independence Rock to its base, 12½ feet below low water, 212 cubic yards, at \$35 per cubic yard,	7,420
For excavating ledge at steamboat wharf to its base, in a depth of 12 feet below the <i>lowest</i> water, 80 cubic yards, at \$35,	2,800
For removing Gulliver's Rock, six cubic yards, at \$35,	210
For excavating ledge near Green's pier, to a depth of 12 feet below <i>lowest</i> water, 18 cubic yards, at \$35,	630
	\$111,060
Add 10 per cent. for contingencies,	11,106
	\$122,166
Total,	\$122,166
or say \$125,000.	

2d.—18 FEET CHANNEL.

For excavating 590,000 cubic yards slabs, edgings and sawdust (to be deposited 20 miles below,) at \$1 per cubic yard,	\$590,000
For excavating Independence Rock, as above, 212 cubic yards, at \$35 per cubic yard,	7,420
For excavating ledge at steamboat wharf, as above, 80 cubic yards, at \$35 per cubic yard,	2,800
For removing Gulliver's Rock, six cubic yards, at \$35 per cubic yard,	210
For excavating ledge near Green's pier, to depth of 18 feet below the lowest water, 50 cubic yards, at \$35 per cubic yard,	1,750
	\$602,180
Add 10 per cent. for contingencies,	60,218
	\$662,398
Total,	\$662,398
or say \$665,000.	

To effect a "permanent completion of the work" will be impossible, unless by some stringent and effectual legislation on the part of the State or General Government, the slabs, edgings and saw-

dust are prevented from being thrown into the river from the saw-mills, which is still being done to the great injury of the navigation of the river.

Should an appropriation be made for this improvement, the sum of \$75,000 could be profitably expended upon it during the next fiscal year.

The following additional information is furnished in compliance with the law of Congress providing for this survey :

It is in the collection district and port of Bangor, Me.

Fort Knox (which is one of the largest forts in the United States) is being built for the protection of this river and the harbor of Bangor. It is located on its right bank, about 20 miles below Bangor.

At Fort Point, which is about six miles further down, at the mouth of the river, there is a government lighthouse.

The amount of revenue collected at Bangor during the fiscal year ending June 30th, 1867, was \$54,697.09.

As to the "amount of commerce and navigation that would be benefited by the completion" of the proposed work, I respectfully refer you to the letter of Hon. John H. Rice, U. S. Collector of Customs at Bangor, (see appendix "C,") in which the requisite information is very fully stated.

(Signed)

GEO. THOM,

Lieut. Col. of Engineers, Bvt. Brig. Gen. U. S. A.

U. S. ENGINEER'S OFFICE, }
Portland, Me., Nov. 16, 1867. }

STATE OF MAINE.

IN HOUSE OF REPRESENTATIVES, }
January 23, 1868. }

Read, and on motion of Mr. HARTWELL of Oldtown, laid on
the table and ordered to be printed.

S. J. CHADBOURNE, *Clerk.*