

**ANNUAL REPORT OF THE
CHIEF OF ENGINEERS TO THE SECRETARY OF WAR
FOR THE YEAR 1870**

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SAUGATUCK HARBOR

Owing to the lateness of the season, after the plans and estimates for the improvement of this harbor had been made, a contract with R. A. Conolly was executed August 2, 1869, without the usual advertising for furnishing and driving piles and framing timber, at the following rates:

For furnishing oak piles, at 13 cents per foot.

For furnishing beech piles, at 10 cents per foot.

For furnishing hemlock piles, at 8 cents per foot.

For driving piles, \$2 each.

For framing putting in place, and bolting timber, 13 cents per lineal foot of timber used in construction.

This contract expired October 31, 1869. Owing to causes over which the contractor had no control, he failed to complete his work, and the contract was extended to August 30, 1870, at which time he fully hopes to finish the work. The timber iron slabs and stone were bought in open market. During the fiscal year, 1,200 feet of revetment (shown in black on accompanying tracing) were completed. The following are the items of expenditures during the fiscal year:

135,864 feet board measure pine timber, at \$11.50 per M	\$1,562.43
20,102 feet board measure oak timber, at \$16 per M	321.64
14,930 lineal feet oak piles, at 13 cents per lineal foot	1,940.90
6,179 lineal feet beech piles, at 10 cents per lineal foot	617.90
11,972 lineal feet hemlock piles, at 8 cents per lineal foot	957.76
28,404 pounds iron drift bolts, at 3 1/2 cents per pound	994 14
8,285 pounds iron screws, bolts, and washers, at 5 cents per pound	414 25
80 cords of stone, at \$10 per cord	800.00
379.49 cords of slabs, at \$1.90 per cord	717 21
	\$ 8,326.23

403 piles driven, at 2 per pile	806.00
6,826 lineal feet timber framed, at 13 cents per lineal foot	887.38
Transportation of iron from Chicago	55.02
Superintendence	1,305.20
Office expenses	345.74
	3,399.34

	11,725.57
Part payment of dredge	1,500.00

Total expenditures	13,225.57
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Amount allotted	\$30,000.00
Expended during fiscal year ending June 30, 1870	- 13,225.57

Amount unexpended July 1, 1870, (which amount will be expended in carrying out the existing contract)	16,774.43
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Appropriated by act approved July 12, 1870	10,000.00
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The long slab pier on the south side of the channel works under the influence of a northwest sea and it may be necessary to secure it by a facing and backing of piles. This will cost about \$6,000. The remaining \$4,000 will most probably have to be used next spring in dredging a channel along the face of the revetment now being built.

I would renew my recommendation of last year to build out a north pier and to revet the channel bank on north side, as shown in accompanying sketch. The cost of this, together with the necessary dredging, would be \$59,300.98, which sum can be profitably expended during the fiscal year ending June 30, 1872.

Saugatuck is in the collection district of Grand Haven. It is not a port of entry.

There is a light-house of the sixth order on the north bank of the river situated on a rise of 18 feet.

ENTERED

Articles	Quantity
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Vessels number	994
Tonnage	117,376
Crews	7,331
Lumber M feet	4,309
Shingles M	6,184
Pickets M	100
Wood cords	195
Railroad ties	2,000
Hides bundles	11,287
Merchandise packages.	162

CLEARED

Articles	Quantity
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Vessels number	1,025
Tonnage	114,314
Crews	7,511
Lumber M feet	45,481
Lath M	5,291
Shingles M	64,445
Pickets M	100
Staves M	51
Wood cords	5,086
Bark cords	60
Railroad ties	44,100
Peaches bushels.	3,900
Flour barrels	770
Leather pounds	483,666
Merchandise packages.	398