

STATEMENT A.—Summary of work done, and amounts paid to contractors, for the improvement of the Illinois River, from 1869 to June 30, 1878—Continued.

Number of bars going downstream.	Designation of bar.	Amount of dredging, 1869 to 1878.	Amount paid for dredging.	Dimensions of low-water channel, referred to low-water surface of 1867.				Date of improvement.	Remarks.	
				Before improvement.		After improvement.				
				Approximate width.	Approximate depth.	Length dredged.	Width.			Depth.
25	Devil's Elbow.....	Cubic yards 42,298.5	\$10,468.88	Feet 75	Feet 2.5	Feet 2,750	Feet 150	Feet 4.5	1871	Channel filled up to 2 feet.
25do.....	16,312.0	4,078.00	75	1.8	1,400	60	4.0	1877	Restoration of channel.
26	Bath Chute, entrance to.....	30,811.0	7,702.75	100	2.0	2,500	140	4.0	1877	Bars Nos. 1 and 2, head of Grand Island.
27	Sugar Creek.....	49,800.0	12,349.75	20	1.0	1,200	110	4.0	1875	
27do.....	27,816.0	2,301.68	50	2.8	7,600	120	3.3	1876	Restoration of channel.
28	Toll-gate.....	18,436.4	2,186.80	30	2.2	2,500	60	4.5	1871	
29	Beardstown.....	60,022.1	14,855.46	40	2.2	5,300	150	4.5	1871, '72, '73	
29do.....	4,101.0	1,173.48	For restoration of channel.	For restoration of channel.	1,800	60	4.0	1876	
30	Morris Island.....	36,893	6,155.77	40	2.3	4,000	150	4.5	1871	
31	McKee's Creek.....	32,901	6,212.25	50	2.5	3,000	120	4.0	1875	
32	Naples Bar, No. 1.....	35,371	8,500.45	50	1.8	6,000	150	4.5	1872	
33	Naples Bar, No. 2.....	7,315	8,048.20	50	2.0	6,000	105	4.0	1876	
34	Gar Island or Naples Flats.....	53,172	13,293.00	25	2.0	8,600	105	4.0	1875	
35	Blue River.....	22,386	3,592.51	50	2.3	2,250	150	4.5	1872	
36	Little Blue River.....	22,483	3,495.21	50	2.5	1,500	140	4.0	1875	
37	Slim Island.....	20,436	3,737.68	40	3.0	3,400	140	4.0	1876	
38	Bedford.....	2,435	3,651.80	40	3.0	400	140	4.0	1876	
39	Pilot Peak.....	16,632	4,656.96	50	3.0	3,400	140	4.0	1876	
40	Buckhorn.....	28,094	7,841.12	75	2.0	5,200	140	4.0	1876	
41	Grand Pass.....	8,324	2,330.72	75	2.0	2,300	140	4.0	1876	
42	Pearl Shoals.....	12,825	3,335.19	100	2.5	1,900	120	4.0	1875, 1877	
43	Otwells.....	636	3,150.00	100	2.0	220	40	4.0	1877	

44	Spar Island.....	15,041	3,983.99	100	2.8	1,500	150	4.0	1875
45	Fisher's.....	17,760	4,440.00	100	2.0	3,500	100	4.0	1877, 1878
46	School House.....	15,898	3,974.50	50	2.5	2,400	150	4.0	1875
47	Apple Creek, No. 1.....	18,053	5,054.84	50	3.0	1,650	120	4.0	1875
48	Apple Creek, No. 2.....	17,604	4,401.00	100	1.7	8,700	110	4.0	1874, '75, '76
49	French.....								
Totals.....		811,434.9	235,785.39			123,320			

(a) Total dredging, 811,434.9 cubic yards, cost, \$235,785.39
 (b) Time-work by dredge, snagging, casting on dams, &c., 1,655^m 23^m, cost, 17,050.77
 (c) Brush and stone dams: \$9,408.98
 3,976 cords brush, cost, 15,749.15
 5,370.7 cubic yards stone, cost, 3,958.95
 26,393 linear feet piles, cost, 29,117.08
 Making about 6,000 linear feet..... 62,358.00
 Foundations Copperas Creek lock, cost, 450.00
 (d) Removing wreck near Peru, cost, 344,762.14
 (e) Aggregate of amounts paid to contractors, items (a), (b), (c), (d), and (e).....

STATEMENT B.—Amounts allotted to, and appropriated for, the improvement of the Illinois River from 1869 to 1878, inclusive.

Act approved April 10, 1869, for repairs, preservation, &c., of river and harbor works, allotted.....	\$84,150 00
Act approved July 11, 1870, appropriated.....	100,000 00
Act approved March 3, 1873, appropriated.....	100,000 00
Act approved June 23, 1874, appropriated.....	75,000 00
Act approved March 3, 1875, appropriated.....	75,000 00
Act approved August 14, 1876, appropriated.....	40,000 00
Act approved June 18, 1878, appropriated.....	75,000 00
Total from 1869 to June 30, 1878.....	549,150 00

STATEMENT C.—Statement derived from annual reports, showing total expenditures applied to improving the Illinois River, from the beginning of work in 1869 to June 30, 1878.

Total amount expended from June 30, 1869, to June 30, 1872.....	*\$171,601 47
Total amount expended during fiscal year ending June 30, 1873.....	13,829 34
Total amount expended during fiscal year ending June 30, 1874.....	52,796 75
Total amount expended during fiscal year ending June 30, 1875.....	82,796 02
Total amount expended during fiscal year ending June 30, 1876.....	73,434 56
Total amount expended during fiscal year ending June 30, 1877.....	52,067 72
Total amount expended during fiscal year ending June 30, 1878.....	24,490 72
Total expenditures to June 30, 1878.....	471,016 58

* This amount is arrived at by the following process:	
There was allotted from act of April 10, 1869.....	84,150 00
There was appropriated July 11, 1870.....	100,000 00
Total appropriated to June 30, 1872.....	184,150 00
The balance available June 30, 1872, per financial statement, Report Chief of Engineers for 1872, page 281.....	12,548 53
Difference assumed as expended.....	171,601 47

LETTER OF THE CHIEF OF ENGINEERS.

OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., November 18, 1878.

SIR: In the further prosecution of the improvement of Illinois River, by whatever plan that may hereafter be adopted, more or less dredging will always be necessary, and it would appear from the accompanying report of Capt. G. J. Lydecker, Corps of Engineers, the officer in charge, herewith submitted, that such works will be more economically done with machinery owned and operated by the government.

I beg leave, therefore, to recommend that so much of the appropriation of \$75,000, of June 18, 1878, as may be necessary, be applied to the construction or purchase of requisite machinery, and that the balance be applied to operating expenses and the purchase of materials (brush and stone) for continuing the construction of dams and jetties; the work to be done by hired labor and the materials purchased in open market.

The present time appearing opportune for the consideration of the various improvements on the Illinois River, having in view the preparation of a plan for its permanent and radical improvement, it was deemed advisable, before taking steps towards the application of the funds now available, to inquire particularly into the present condition of this work. With this view, and by instructions from this office, Captain Lydecker transmitted the report which I now submit, in which he gives a history

of the improvements made to the present time, showing what general plan has been adopted and how far the expenditures have been applied to carrying out that plan, and what changes have been found necessary during the progress of the work, &c.

Captain Lydecker's report leads to the conclusion that while a radical improvement might be effected by means of dredging and wing-dams, its cost would exceed the cost of a slackwater system, and the improvement would be less certain, and would require considerable annual expenditure for maintenance.

Captain Lydecker appears to be correct in his conclusions, but until the question of continuing the slackwater system below the locks already built by the State of Illinois is sanctioned by Congress, the expenditure of the present appropriation can only be applied, as heretofore, to the continuation of the plan of dredging and wing-dams.

Very respectfully, your obedient servant,

A. A. HUMPHREYS,

Brigadier-General and Chief of Engineers.

Hon. GEO. W. McCRARY,
Secretary of War.

[Indorsement.]

Approved.
By order of the Secretary of War.

JOHN TWEEDALE,
Acting Chief Clerk.

NOVEMBER 19, 1878.
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