

APPENDIX B.2

CHRONOLOGIC SUMMARY OF CONSTRUCTION AND DREDGING IN THE ST. CLAIR RIVER

(Calendar years 1852-1857, fiscal years thereafter)

Calendar Years

1852. St. Clair Flats: A survey began at the mouth of the south channel; little changes compared to a survey made 10 years earlier.
- 1853
to
1854. No construction and/or dredging information found.
1855. Improvements were proposed for the St. Clair Flats, south channel.
1856. A chart of the St. Clair River was released, including soundings.
1857. Operations commenced for the deepening of the channel through the St. Clair Flats: Cut 40-45 ft. wide, 14 ft. deep, excavated from the river channel to deep water in Lake St. Clair; 23,420 cu. yds. of material removed (final channel to be 250 ft. wide and 13 ft. deep).

Fiscal Years

1858. St. Clair Flats: Excavation was continued; width ranged from 170 ft. to 275 ft. (averaged 230 ft.), depth 13 ft. ; United States (Corps) started excavation, 125 ft. wide and 12-13 ft. deep; Canada widened channel after U. S. ran out of funds; total amount of excavation 150,760 cu. yds; excavation completed; width 230 ft. and depth 13 ft.
- 1859
to
1862. No construction and/or dredging information found.
1863. St. Clair Flats: Survey (soundings) taken of dredged channel.

1864. No construction and/or dredging information found.
to
1866.
1867. St. Clair Flats: Complete departure from existing navigation channel; on March 2, 1867, Congress approved a plan of improvement for a new straight canal thru shoal; canal to be 300 ft. by 13 ft. by 1 1/2 mi., diked and banked 5 ft. above water.
1868. St. Clair Flats Ship Canal: Work started; no estimates of dredged amounts available.
1869. St. Clair Flats Ship Canal: Dredged 4,320 lin. ft. to full width and depth.
1870. St. Clair Flats: Remaining to be done is the leveling of the bottom of the canal to a uniform depth, at which time vessels will be allowed to pass through.
- Appropriations were provided for the completion and protection of the earth of the canal banks.
1871. St. Clair Flats Ship Canal: Completed; opened on July 25, 1871.
- An extensive shoal existed at the mouth of the Black River in the St. Clair River; a project was adapted for dredging bar and middle ground to a depth of 15 ft.
1872. In some places, effective depth had been reduced to 11-1/2 ft.; proposed additional dredging.
- Dredging at the mouth of the Black River commenced. Various river shoals were dredged to a 15 ft. depth.
1873. Entire River: Dredging was started on miscellaneous shoals to obtain a 16 ft. depth in a 200 ft. wide channel.
1874. St. Clair Flats Ship Canal: Work to deepen the canal to 16 ft. and a 200 ft. width was nearly completed; 194,657 cu. yds. dredged.
1875. St. Clair Flats Ship Canal: Dredging to 16 ft. depth completed.
1876. St. Clair River at the Mouth of the Black River: 67,000 cu. yds. removed from the middle ground under the appropriations made by the acts approved June 23, 1874 and March 3, 1875.

The bar at the junction of the Pine and St. Clair Rivers was dredged.

- St. Clair Flats Ship Canal: The existing works have been kept in repair and about 2,800 additional willow-cuttings planted on the piers.
1877. Improvement of St. Clair River at the Mouth of the Black River: This work was closed on September 30, 1876, due to lack of funds.
- St. Clair Flats Canal: Minor repairs were made on the canal banks.
1878. Work at the mouth of the Black River completed; 257,200 cu. yds. excavated.
1879. Improvement of St. Clair River at the Mouth of the Black River: Dredging of the Port Huron middle ground was completed to give 15 ft. soundings over it.
- St. Clair Flats Canal: The heads of the canal banks were secured by pile protection and other minor repairs were made.
1880. St. Clair Flats Canal: The expansion of the canal resulted in securing a channel 200 ft. wide with a depth of not less than 16 ft.
1881. St. Clair Flats Canal: Some repairs were conducted to acquire a straight channel 200 ft. wide.
1882. St. Clair Flats Canal: Some repairs were conducted to acquire a channel 200 ft. wide.
1883. St. Clair Flats Canal: Some work conducted to acquire a straight channel. The dikes on either side of the canal were formed of the material excavated from the channel. This material was deposited in large crib pockets made of timber. Lake sides of the dikes were protected by shorter sheet-pilings.
1884. St. Clair Flats Canal: The condition of the superstructure was decayed and needed to be renewed; a single row of sheet-piling was insufficient and needed to be reinforced; the channel lakeward was gradually shoaling and needed to be improved by dredging.
1885. St. Clair Flats Canal: Minor repairs were required; 4,282 cu. yds. removed during June 1885.
1886. St. Clair Flats Canal: Minor repairs involved in the operation and care of the canal were carried out; cavities in the dikes were filled with cedar bark, the willows growing on dikes were trimmed and planks were placed on the lake side of the dikes, the entire amount of dredging under contract was 64,580 cu. yds., of which 60,298 cu. yds. were dredged during this Fiscal Year and 4,282 cu. yds.

during June, 1885. Of the total amount dredged and removed, 7,546 cu. yds. were from the head of the canal and 57,034 from the foot.

1887. St. Clair Flats Canal: The present plan for improving the canal contemplated driving a double row of sheet-piling to a depth of 26 ft. along the channel face of each dike, dredging the area between them to a depth of 20 ft., continuing the channel above and below the canal to the same depth as the river and lake and rebuilding the wooden superstructure. The necessity for this work was immediate and urgent.

Minor repairs involved in the operation and care of the canal were made.

1888. Minor repairs involved in the operation and care of the canal were made.

1889. St. Clair Flats Canal: Under an appropriation made by the River and Harbor Act of August 11, 1888, 4,082 lin. ft. of new sheet-piling had been placed in the Fiscal Year (project plan called for a channel bounded on each side by a dike 7,221 ft. long). It was expected that the funds available would be enough to complete about 8,200 lin. ft. and that this will be accomplished on or before December 1, 1889, making a total of about 10,700 lin. ft. of new work and leaving about 3,800 lin. ft. of new sheet-piling yet to be constructed.

During the first days of September 1888, a "blockade" of vessels occurred at the canal, damaging vessels and the canal, requiring immediate restoration of the channel; 56,117 cu. yds. of material removed.

Redredged, at the mouth of the Black River, to a depth of 16 ft.

1890. St. Clair Flats Canal: No dredging or other significant work was done.

Commercial sand dredging in the river dates back to calendar year 1890, when large quantities of sand were removed from the north channel downstream of Algonac, Michigan (dredging continued until 1922).

1891. St. Clair Flats Canal: Under a contract dated November 28, 1890, 490 running ft. of revetment was completed; under another contract, dated November 28, 1890, 43,496 cu. yds., scow measure, were excavated. On June 30, 1891, a channel 18 ft. in clear depth and 150 ft. wide extended from an 18 ft. curve in the St. Clair River, about 900 ft. above the canal, down into the canal for a total length of about 3,890 ft.; the dredged channel occupied the east half of the northern part of the canal.

1892. On June 30, 1892, the pile revetment along the channel face of each dike was completed and a channel 18 ft. in clear depth extended from the 18 ft. curve in

St. Clair River, about 900 ft. above the canal, for the full width of the canal (about 300 ft.) and throughout its entire length; thence gradually widening to 380 ft. in a distance of 300 ft. below the canal, thence with a width of 380 ft. for a further distance of 2,400 ft. Dredging was continued during the Fiscal Year until July 15, 1892.

Redredging at the mouth of the Black River, continued.

1893. On June 30, 1893, a channel, 18 ft. in depth, extended from the 18 ft. curve in the St. Clair River, about 900 ft. above the canal, for the full width of the canal (about 300 ft.) and throughout its entire length; thence gradually widening to 380 ft. at a distance of 300 ft. below the canal, thence with a width of 380 ft. a further distance of 3,300 ft.

The pile revetment along the channel face of the dikes had been completed, the rebuilding of the decayed portions of the timber superstructure constituted the work yet to be done.

1894. St. Clair Flats Canal: No work was done during the Fiscal Year and conditions remained as stated in the previous year (portions of timber superstructure decayed). During October 1893, damage done to the east and west dikes by steamers was repaired.

1895. No construction and/or dredging information found.

1896. Above the Head of the St. Clair River: A 2,400 ft. by 21 ft. channel was nearly completed; east 1/2 completed and opened to navigation (prior to Fiscal Year 1897, 483,882 cu. yds., scow measure, removed); west 1/2 nearly completed (December 1892-September 1896, total 483,536 cu. yds., scow measure, removed).

1897. Redredging at the mouth of the Black River started in June 1897; 729 cu. yds. excavated.

1898. Middle Ground Shoal St. Clair: 45,729 cu. yds. excavated to restore 16 ft. depth; 55,579 cu. yds. excavated to eliminate sharp bend in ship channel and to increase the width from 750 ft. to 1500 ft.

1899. Removal of Shoals Near Stag Island: 44,636 cu. yds. excavated to obtain a clear channel 20 ft. deep.

1900. No construction and/or dredging information found.

1901. St. Clair Flats Canal: 17 ft. shoal at lower approach removed; 15,395 cu. yds. dredged.
- Squirrel Island and Grand Pt: Shoals removed; 16,003 cu. yds. dredged.
- Stag Island: Series of shoals near foot of island removed; 44,860 cu. yds. (clay, sand and small stones) dredged.
- On August 4, 1900, the steamer Fontana was wrecked in the narrows at the head of the river. On September 22, 1900, the steamer Martin was wrecked at the same location.
1902. St. Clair Middle Ground: 12,274 cu. yds. removed.
- Lower End of Stag Island: 51,481 cu. yds. removed.
- Grande Pointe: 22,998 cu. yds. removed.
1903. Lower Approach to the St. Clair Flats Canal: 28,806 cu. yds. of sand and clay removed.
- St. Clair Flats Canal Lower Entrance: 60,997 cu. yds. removed, increasing channel width from 80 to 200 ft.
- Middle Ground Shoal Opposite the Mouth of Black River, Port Huron: 82,569 cu. yds. removed.
1904. Lower Approach to the St. Clair Flats Canal and the Arthur House Shoal: 47,663 cu. yds. removed.
- Squirrel Island, St. Clair, Middle Ground and Stag Island: 352,517 cu. yds. of material excavated.
- Lower End of Lake Huron: 60,512 cu. yds. removed.
1905. Construction of a Second Channel from Lake St. Clair up into St. Clair River: At the end of the Fiscal Year, the new channel had been dredged to a width of 150 ft. and a depth of 18 ft. for a length of 4,317 ft.; 2,558 ft. of pier revetment had been built.
- Building a custodian's dwelling and boathouse.
- Grosse Point Cut and Lower Approach to the St. Flats Canal: 56,936 cu. yds. removed.

1906. Construction of Second Channel: Work continued; since commencing a contract on July 15, 1904, the upper pierhead and 7,146 lin. ft. of revetment have been built and 1,261,237 cu. yds. of material excavated.
1907. Construction of Second Channel: Work completed on October 17, 1906. During the Fiscal Year, the lower pierhead and 74 lin. ft. of revetment were built and 783,564 cu. yds. of material excavated.
- Repairs were made to the east dike by placing tie-rods.
- A self-registering water gauge was placed on the upper end of the east pier.
1908. No known removal of material; also, no construction information found.
1909. The rules and regulations for navigating the Stag Island channel were enforced.
- In calendar year 1909, commercial interests began to remove sand and gravel from the head of the river (between 1909 and 1925 about 3-1/2 million cu. yds. of material were removed, most above the Dry Dock gauge).
1910. A survey was conducted of the shoal in the St. Clair River opposite Port Huron, Michigan, and the rules and regulations for navigating the Stag Island Channel in the river was enforced.
1911. Surveys were conducted in the St. Clair River opposite Grande Pointe, and in Lake St. Clair from the head of the St. Clair Flats Canal to the lower end of the Grosse Pointe Channel, and an examination was made of the channel at the foot of Lake Huron.
1912. A survey was made of the shoal at the foot of Lake Huron, and examinations were made of sections in the St. Clair River.
- St. Clair Flats Canal: 8,456 tons of stone were placed on and around piers. The east pier had been riprapped on the east side for its entire length with rubblestone.
- 1913 to 1914. No construction and/or dredging information found.
1915. Ship Channel in Lake St. Clair at and Below St. Clair Flats Canal: Removed 36,993 cu. yds., scow measurement, of shoaled material for restoration of project depths (20 ft.) and nearly to project width (300 ft.) of the east or upbound channel; 30% of work completed.

1916. Ship Channel in Lake St. Clair at and Below St. Clair Flats Canal: Work in progress at the end of Fiscal Year 1915 was continued and completed in September 1915; a total of 160,442 cu. yds. removed, 123,449 cu. yds. during Fiscal Year; dredging resumed in April 1916, at close of year, a total of 231,796 cu. yds. had been removed.
1917. No construction and/or dredging information found.
1918. Three self-registering water level gauges were installed near the head of the river.
1919. No construction and/or dredging information found.
1920. Bids for dredging a new channel along the Port Huron water front were opened.
Black River Shoal: Removed between calendar years 1920-1922.
1921. Port Huron Shoal West Channel: Removed 323,463 cu. yds. of mainly sand and clay.
1922. Port Huron Shoal West Channel: Removed 4,877 cu. yds., scow measure, of mainly sand and clay; between April 6 and 17, 1922, on east side of channel, removed 25,560 cu. yds., bin measure, of sand, gravel and silt; on April 13, 1922, at the foot of Lake Huron, removed 1,120 cu. yds., bin measure, of sand and gravel.
Reconstruction of East Dike at St. Clair Flats Canal: 108,990 cu. yds. removed, work completed October 31, 1921.
Port Huron Middle Ground Shoal: Removed 62,094 cu. yds., scow measure, of material.
1923. Middle Ground Shoal: Removed 287,328 cu. yds., scow measure, of material.
Port Huron West Channel and Middle Ground Shoal: Removed 46,987 cu. yds., bin measure, of scattered shoals of sand, gravel and silt.
Foot of Lake Huron: Removed shoaling from channel, to the extent of 95,416 cu. yds., bin measure.
1924. Middle Ground Shoal: Removed 44,929 cu. yds., sand, gravel and silt, used for commercial purposes.
Canals: Dredged to restore project depths, 56,351 cu. yds. removed.

1925. Middle Ground Shoal: Removed 54,075 cu. yds. of material, used for commercial purposes; additional 42,959 cu. yds., bin measurement, removed from a channel length of about 4,000 ft..
- Lower End of Lake Huron, East Half of 800-ft. Channel: Excavated 212,477 cu. yds., place measurement, for length of about 2 miles.
- Shoals Removal and Deepening of West Half of Channel: Removed 93,168 cu. yds., scow measurement, within a channel length of about 5,500 ft.
- Head of Russell Island: Removed 163,700 cu. yds. of material.
- In calendar year 1925, sand and gravel dredging was prohibited in the United States waters and shortly thereafter in Canadian waters.
1926. Lower End of Lake Huron: Shoals removed from east half of 800-ft. channel for length of about 2 miles completed, west half of channel maintenance dredging completed, 359,944 cu. yds., scow measurement, removed in Fiscal Year.
- Head of Russell Island: Removed 8,860 cu. yds. of shoal material, place measurement.
1927. No construction and/or dredging information found.
- 1928 Sand and gravel dredged by private parties under permits.
to
1929.
1930. Westerly Edge of Downbound Channel at Port Huron, Michigan: Removed 79,284 cu. yds., bin measure.
1931. Westerly Edge of Downbound Channel at Port Huron, Michigan: Removed 61,937 cu. yds., bin measure.
- Shoal at Roberts Landing: Removed 120,721 cu. yds., bin measure.
1932. Sand and gravel dredged by private parties under permits.
1933. Dredging to present project depth was done at the foot of Lake Huron; 198,052 cu. yds., place measure, removed.
- Dredging for a 25 ft. deep navigation channel began in June 1933 and was completed in October 1936.

1934. Surveys were made and studies were continued with the view of placing submerged weirs at the head of the river to provide compensation for channel deepening.

Foot of Lake Huron: Dredging under a continuing contract was discontinued on November 2, 1933; a total of 1,132,240 cu. yds., place measure, removed from the shoal; contract was about 64% completed.

Roberts Landing Shoal: 963,383 cu. yds., bin measure, removed between October 11 and November 30, 1933; work about 30% completed.

South Channel: 2,220,032 cu. yds., bin measure, removed; work about 99% completed.

St. Clair to Marysville: 17,633 cu. yds., place measure, removed; contract about 1% completed.

Marine City Shoal: Contract was started on April 19, 1934 and finished on May 16, 1934. A channel having a least depth of 25 ft. and a minimum width of 1,000 ft. was in existence at this locality.

Head of Russell Island Shoal: Contract dredging was started on October 21, 1933, discontinued for the season on December 23, 1933, resumed on April 5, 1934 and discontinued on May 19, 1934; a total of 214,533 cu. yds., place measure, removed; contract about 67% completed.

Channel Above St. Clair Flats Canal: Dredging in this area was included in the contract for the removal of the west dike and deepening of the east and west channels.

1935. Foot of Lake Huron: Dredging started on June 14, 1933, and was completed on September 16, 1934; the total amount of material removed under this contract was 1,682,560 cu. yds., place measure.

Marysville to Port Huron: Removed 220,449 cu. yds., place measure.

St. Clair to Marysville: Removed 1,472,820 cu. yds., place measure.

Roberts Landing Shoal: Dredging by the U.S. sea-going hopper dredge Meade, during the period from August 23 to October 18, 1934, during which time this dredge removed 409,023 cu. yds., bin measure; dredging by the U.S. sea-going hopper dredge Taylor, during the period from September 24 to December 10, removed 908,176 cu. yds., bin measure.

Marine City Shoal: Removed 212,392 cu. yds., place measure.

Head of Russell Island: Contract dredging started on October 21, 1933 and was completed on September 5, 1934; the total amount of material removed was 309,479 cu. yds., place measure.

Channel Above St. Clair Flats Canal: Dredging in this area was included in the contract for removal of the west dike and deepening of the east and west channels.

1936. Roberts Landing Shoal: 214,948 cu. yds. of shoal material, bin measure, removed.

Marysville to Port Huron: Contract dredging in this section of the river was started October 5, 1934 and was completed on March 30, 1936; total quantity removed under this contract amounted to 950,822 cu. yds. of shoal material, place measure.

St. Clair to Marysville: Contract dredging over this area started May 26, 1934 and was completed November 8, 1935; total quantity removed under the contract amounted to 1,623,603 cu. yds., place measure.

Roberts Landing Shoal: Submarine grading contract started October 10, 1935 and was completed December 3, 1935; the total area graded amounted to 390,433 sq. yds.

1937. St. Clair to Port Huron: 915 cu. yds. of boulders and wreck of an old steamer removed.

Roberts Landing Shoal: 34,496 cu. yds., bin measure, removed.

1938. Upbound Channel East of Stag Island Near the Lower End of Island: 14,315 cu. yds. of boulders, gravel and clay, bin measure, removed; work completed November 1, 1937.

1939. Shoal Opposite the Mouth of Black River: 22,012 cu. yds., bin measure, removed.

Shoals in the Lower St. Clair River: 93,119 cu. yds. removed.

1940. Lower St. Clair River: 235,832 cu. yds., bin measure, removed from shoals.

1941. Lower St. Clair River: 156,813 cu. yds., bin measure, removed from shoals.

Upper St. Clair River: 10,790 cu. yds., bin measure, removed from shoals.

St. Clair Flats Canal: Maintenance shoal removal, 129,637 cu. yds.

1942. Lower St. Clair River: 270,635 cu. yds., bin measure, removed from shoals.

- Upper St. Clair River at the Mouth of the Black River: 21,879 cu. yds., bin measure, removed from shoals.
1943. Lower St. Clair River: 52,648 cu. yds., bin measure, removed from the Russell Island Shoal.
- Canadian Side of the Southeast Bend: Under contract, dated August 24, 1942, 244,138 cu. yds., pay place measure removed; work completed November 11, 1942.
1944. Channel at the Foot of Lake Huron: 236,710 cu. yds., bin measure, removed.
- South Channel: 108,437 cu. yds., bin measure, removed; dredging completed.
1945. Obstructions removed from the Southeast Bend.
1946. Southeast Bend: 105,567 cu. yds., bin measure, removed.
1947. No construction and/or dredging information found.
1948. Stag Island: Shoals removed in up-bound channel; 19,738 cu. yds., bin measure, removed.
- Head of Russell Island: 49,239 cu. yds., bin measure, of shoals removed.
- Foot of Lake Huron: 12,984 cu. yds., bin measure, of shoals removed.
1949. Mouth of the Black River: 67,044 cu. yds., bin measure, removed.
1950. South Bend: 45,888 cu. yds., bin measure, of shoal material removed.
1951. Russell Island and Grande Pointe to Squirrel Island: 135,486 cu. yds., bin measure, of shoal material removed.
1952. Commercial sand and gravel dredged.
1953. No construction and/or dredging information found.
- to
- 1954.
1955. Southeast Bend Channel: 124,277 cu. yds., bin measure, removed.
1956. St. Clair Flats Channel: 210,965 cu. yds. of shoal material removed.

1957. Shoals at the mouth of the Black River, head of Russell Island, Squirrel Island and Grande Pointe were removed in the amount of 133,299 cu. yds., bin measure.
1958. No construction and/or dredging information found.
1959. Foot of Lake Huron Channel: 183,587 cu. yds. of clay removed.
1960. Foot of Lake Huron Channel: Work continued.
- Dredging for a 27 ft. deep navigation channel began in April 1960 and was completed in 1962.
1961. Two contracts awarded for deepening the channel from Stag Island to Marine City and from Algonac to the Southeast Bend reach.
- Deepening at the Foot of Lake Huron Channel: Project completed, dredged 330,656 cu. yds. of clay.
- Channel from Port Huron to Stag Island: Deepened to a project depth of 27.4 ft.; 42,354 cu. yds. and 377,100 sq. yds. (uniform depth) of gravel and clay dredged with a clamshell; project completed.
- Stag Island: Channel deepened to a project depth of 27.3 ft.; 697,425 cu. yds. of clay and sand removed.
- Project to Remove Shoals from Russell Island to the Southeast Bend Cut-off Channel: 143,000 cu. yds. of sand removed.
- The work of deepening the Southeast Bend Cut-off Channel continued.
1962. Foot of Lake Huron Channel: 12,500 cu. yds. removed; project completed.
- Channel from Port Huron to Stag Island: 107,003 sq. yds. of miscellaneous shoals removed; project completed.
- Stag Island: 17,694 cu. yds. of clay and sand removed, contract work completed; 484,244 sq. yds. (uniformed depth) of shoals removed by hired labor (plant operated by the U.S. Government), work to be continued next year.
- Deepening the Channel Between Stag Island and Southeast Bend: 372,551 cu. yds. of clay and sand removed under the contract; work completed.

The removal of miscellaneous shoals was continued; 313,618 cu. yds. of sand and clay removed.

Southeast Bend Channel: Dredged sand and clay to a project depth of 27.1 ft., under the contract; 7,740 cu. yds. dredged by hired labor (plant operated by the U.S. Government); work completed.

1963. Channel at Stag Island: 1,200 cu. yds. of sand and clay removed with leveling of dump ground.

Stag Island to Southeast Bend: 91,928 cu. yds. of sand, clay and gravel removed.

Construction of a snow fence to prevent sand from drifting into channels was completed.

Hydraulic model studies for compensating works was initiated by the Waterways Experiment Station, Vicksburg, Mississippi.

1964. Hydraulic model studies for compensating works continued.

Stag Island to Southeast Bend: 29,775 cu. yds., scow measure, of sand and clay removed, along with sunken vessels and obstructions.

Channel Near Port Huron and Between Stag Island and Southeast Bend: 22,575 cu. yds., scow measure, removed.

Maintenance Dredging Over Various Areas: 174,506 cu. yds. of shoal material, bin measure, removed.

1965. Hydraulic model studies for compensating works continued.

Maintenance Dredging Over Various Areas: 93,957 cu. yds. of shoal material, bin measure, removed.

1966. Hydraulic model studies for compensating works continued.

Maintenance Dredging Over Various Areas: 205,056 cu. yds., bin measure, and 48,150 cu. yds., scow measure, removed.

1967. Hydraulic model studies for compensating works continued.

Maintenance Dredging: 129,966 cu. yds. of shoal material, bin measure, removed.

1968. Hydraulic model studies for compensating works continued.
Maintenance Dredging: 121,434 cu. yds. of shoal material, bin measure, removed.
1969. Maintenance Dredging: 131,664 cu. yds. of shoal material, bin measure, removed; obstructions were located and removed.
1970. Channel modifications to accommodate larger Great Lakes vessels under construction and minor design studies for compensating works continued.
Maintenance Dredging: 129,221 cu. yds. of shoal material, bin measure, removed; obstructions located and removed.
1971. Model study for the compensating works completed.
Maintenance Dredging: 155,578 cu. yds. of shoal material removed; obstructions located and removed.
1972. Maintenance Dredging: 26,337 cu. yds. removed; obstructions located and removed.
1973. Maintenance Dredging: 8,800 cu. yds. of shoal material, scow measure, removed; obstruction located and removed.
1974. Maintenance Dredging: 51,949 cu. yds. of shoal material, bin measure, removed; obstructions located and removed.
1975. Maintenance Dredging: 54,512 cu. yds. of shoal material, bin measure, removed; obstructions located and removed.
1976. Maintenance Dredging: 25,343 cu. yds. of shoal material, bin measure, removed; obstructions located and removed.
1977. Maintenance Dredging: 12,155 cu. yds. of shoal material, bin measure, removed.
Disposal area facilities at Harsens Island constructed.
1978. Maintenance Dredging: 24,803 cu. yds. of shoal material, bin measure, removed; obstructions located and removed.
Performed maintenance of disposal area facilities at Harsens Island.
1979. Maintenance Dredging: 86,926 cu. yds. of shoal material, bin measure, removed; obstructions located and removed.

1980. Maintenance Dredging: 22,076 cu. yds., bin measure, removed.
Performed maintenance of disposal area at Harsens Island.
1981. Maintenance Dredging: 27,696 cu. yds. of shoal material, bin measure, removed.
Performed maintenance of disposal area at Harsens Island.
1982. Extended navigation season environmental studies performed.
Located and removed obstructions.
Maintenance Dredging: 37,564 cu. yds. of shoal material, bin measure, removed.
Continued the maintenance of disposal area.
1983. Extended navigation season environmental studies continued.
Maintenance Dredging: 106,973 cu. yds., bin measure, removed.
Maintained disposal area at Gull Island.
Operated booster pump in connection with dredging.
Located and removed obstructions.
1984. Extended navigation season environmental studies continued.
Maintenance Dredging at the Foot of Lake Huron: 71,795 cu. yds. of shoal material, bin measure, removed.
Located and removed obstructions.
1985. Extended navigation season environmental studies continued.
Located and removed obstructions.
Maintenance Dredging: 71,629 cu. yds. removed; works completed.
1986. Extended navigation season environmental studies continued.
Located and removed obstructions.

- Performed minor maintenance of disposal area.
1987. Extended navigation season environmental studies continued.
- Continue to locate and remove obstructions.
- Maintenance Dredging: 92,233 cu. yds. removed.
1988. Continued to locate and remove obstructions.
- Maintenance Dredging: 193,160 cu. yds. removed; work completed.
1989. Continued to locate and remove obstructions.
1990. Continued to locate and remove obstructions.
- Maintained disposal area.
- Maintenance Dredging at Point Edwards, Blue Water and Lower River: 16,500 cu. yds. removed.
1991. Continued to locate and remove obstructions.
1992. Contract for Maintenance Dredging was Awarded: 68,187 cu. yds. of shoal material was removed; contract 67% completed.
- Continued to locate and remove obstructions.
- Dock repairs performed.
- Maintained disposal area.
1993. Performed safety maintenance.
- Continued to locate and remove obstructions.
- Repaired the North and South Piers.
- A contract was awarded for maintenance dredging of the Outer Channel. Dredging to begin next Fiscal Year.
- Mobilization for beach nourishment in conjunction with maintenance dredging was performed.

