

APPENDIX B.1

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

(Calendar years 1797-1859, fiscal years thereafter)

Calendar
Years

NOTE: No construction and/or dredging information found for those years not listed.

- 1797 to 1798. The first canal was constructed by the Northwest Fur Co. on the Canadian side of the St. Marys Rapids. This canal had one small wooden lock, 38 ft. long, 8-3/4 ft. wide and a 9 ft. lift.
1814. The Northwest Fur Co. Lock was destroyed by United States troops from Mackinac Island (War of 1812).
1822. The United States Army built a raceway and sawmill at Sault Ste. Marie, Michigan.
1839. The State of Michigan started the construction of a lock, but the work was stopped by United States troops, because it interfered with the United States mill race.
- 1853 to 1855. The first ship canal, known as the State Canal, was built on the United States side of the rapids, length 1-1/2 miles, width at the bottom 64 ft., width at the water surface 100 ft. and depth 13 ft., with two tandem locks of masonry each 350 ft. long and 70 ft. wide with a 9 ft. lift and depth over miter sills 11-1/2 ft.
1956. Lake George Flats: A bill to improve the flats was approved.
1857. Dredging began for a 300 ft. wide, 12 ft. deep channel through the west channel of the Lake George Flats; 29,649 cu. yds. of material removed.
1858. Dredging of the west channel at the lower end of Lake George was abandoned after 17,937 cu. yds. of material removed. A new channel (middle channel) was surveyed; 90,124 cu. yds. of material dredged to a depth of 15 ft., width 100-135 ft. and length 1 mile.
- The East Neebish Rapids were partly improved; 412 cu. yds. of material removed; dredging began for a depth of 16-18 ft. and width of 300 ft.

1859. A channel was opened entirely across the Lake George Flats, width 125-150 ft..

(Calendar years this far, fiscal years follow)

Fiscal
Years

1863. Lake George Flats: Survey (soundings) taken of dredged channel.

1866. A recommendation for the excavation of the middle channel of Lake George to a width of 300 ft. and a depth of 14 ft. was approved; it was suggested that the channel should be of uniform width as far as possible through its entire length.

1867. The improvement of the Lake George middle channel to a width of 200 ft. and depth of 14 ft. was started; 80 cu. yds. of material dredged.

1868. Lake George Middle Channel: 138,415 cu. yds. dredged.

1869. Lake George Middle Channel: 76,342 cu. yds. dredged; width 200 ft. and depth 14 ft.

1870. Lake George Middle Channel: 26,397 cu. yds. dredged; due to the lack of funds, only a channel 14 ft. deep and a minimum width of 150 ft. was dredged.

1871. An enlargement of the State Lock approaches was started by the United States government; canal to be 100 ft. wide at the water surface (5 ft. below coping) and 73.5 ft. wide at its bottom (20 ft. below the coping). A recommended depth of 15 ft. was later increased to 16 ft. This work was completed in 1884.

Miscellaneous shoals were dredged above and below the State Lock, and at the head of Rains Island; 30,383 cu. yds. of rock and 4,307 cu. yds. of gravel removed. No depths were recorded. Boulders were removed from the river.

1872. A contract was awarded for continuing the enlargement of the canal and building a revetment of timber and ballast-stone. The expenditure of the first appropriation included the removal and rebuilding of a guard-lock.

During the year, 17,741 cu. yds. of rock and 26,839 cu. yds. of gravel removed. In addition, 57,681 cu. ft. of revetment was placed in the work and the guard-gates rebuilt.

1873. The State Canal enlargement work was continued.

Weitzel Lock excavation by the United States government was started; lock to be 515 ft. long, 80 ft. wide and 17 ft. deep over the miter sills (plane of reference 585.0 ft. above mean tide at New York). Work on this lock was completed in 1882.

St. Marys Falls Canal: 32,120 cu. yds. of framing, 23,377 cu. yds. of revetment, 40,404 cu. yds. of rock and 20,572 cu. yds. of gravel removed.

1874. A survey of the Hay Lake Channel was made to estimate the cost of its improvement. The opening of this channel involved the expense of rock-excitation though West Neebish Rapids.

St. Marys Falls Canal: Work continued to deepen and widen old prism and the construction of the pier-revetment and lock-pit for new lock.

1875. Under contracts dated February 9 and December 7, 1871, the excavation of the lock-pit and the placing of the lock floor was completed. A contract was entered into for the face-stone and the masonry work and backing-stone of the new locks. The pier on the north side of the canal next to the old locks was completed, and a contract was entered into for about 500 ft. of the proposed pier on the south side of the entrance to the enlarged canal, which is to serve as a dock for landing the large amount of material which will be required in the construction of the new locks.

1876. St. Marys Falls Canal: The contract of February 9, 1871, for deepening and widening the head of the canal, was completed; as also the contract of May 19, 1873, for excavating the pit and laying the foundation-floor for the new locks, and the contract of May 22, 1875 for constructing about 400 ft. of the pier on the south side of and below the proposed new locks and the excavation incident thereto.

1877. St. Marys Falls Canal: 54,637 cu. ft. of cut stone, about one-fifth of all required for the new locks, was delivered; 113,373 cu. ft. of masonry, about one-sixth of all required, laid in the walls. The arm between the south pier at the foot of the new locks and the shoreline was filled in to the level of the shore, and the banks of the canal near it's lower end were raised.

1878. A shoal about one mile below the canal was dredged to a 13 ft. depth (no reference plane recorded).

Work on the lock continued.

1879. Dredging to a depth of 13 ft. was done near the head of Rains Island (no reference plane recorded).

Dredging was started on miscellaneous shoals in the lower river to obtain a 16 ft. deep channel.

1880. Various river shoals were improved to a 16 ft. depth.

1881. On September 1, 1881, the first boat passed through the Weitzel Lock. Work on minor details of the lock was continued.

Twenty miscellaneous shoals in the river, between the locks and Lake Munuscong, had been dredged to 16 ft. by the close of the Fiscal Year (no reference plane recorded).

East Neebish Rapids: The Canadian government suspended dredging operation, which had been in progress for about 5 years. The channel was never completed.

1882. Lake George: Some dredging was done at the lower end of the middle channel; no data recorded.

Some dredging was done in the East Neebish Rapids and on four shoals in the lower river; no data recorded.

1883. The approaches above and below the locks were dredged an additional 4 ft. in depth (no reference plane recorded); 10,912 cu. yds., scow measure, of material removed and 75% of the area cleaned.

Sailors Encampment: A rock shoal in this vicinity was removed and 1,200 cu. yds. of bottom cleaned; a channel 100 ft. wide and 17 ft. deep was completed (no reference plane recorded).

East Neebish Rapids: The west channel, was dredged to a depth of 17 ft. and a width of 150 ft. (no reference plane recorded); 14,361 cu. yds. removed.

Lake George: The middle channel, at the lower end, was completed to a width of 150 ft. and a depth of 17 ft. (reference plane 583.491, levels of 1877).

Course 6, Middle Neebish Channel: Dredging operations were started in the upper 9,000 lin. ft. of the channel, width 100 ft., depth 19 ft. (reference planes, 583.195 at upper end, 582.509 at lower end, levels of 1877); 2,200 cu. yds., place measure, removed.

1884. The lock approaches were cleaned to a depth of 16 ft. (no reference plane recorded).

Sailors Encampment: Shoals in this vicinity were removed.

Course 6, Middle Neebish Channel: 118,180 cu. yds., place measure, removed.

1885. Course 6, Middle Neebish Channel: 91,086 cu. yds., placed measure, removed.

1886. Course 6, Middle Neebish Channel: The work of 1885 was stopped due to a shortage of funds; 104,857 cu. yds., place measure, removed, giving a minimum depth of 15.9 ft. throughout the entire length of the channel (width not given).

Shoal 27, Sailors Encampment: Surveys indicated that 6,644 cu. yds., place measure, removed since 1882.

1887. Poe Lock: Construction was started on cofferdams to enclose the State Lock so that it could be removed and replaced by a new lock, to be known as the Poe Lock, length 800 ft., width 100 ft., depth over miter sills 22 ft. (16.8 ft. at low water datum 579.4, levels of 1903) and a single lift of about 18 ft.

Course 6, Middle Neebish Channel: Dredging operations were started to widen the channel to 300 ft. and to deepen it to 20 ft. (reference plane same as in 1883); no yardage recorded.

A water power canal was planned to be built through the city of Sault Ste. Marie, Michigan, with the intake above and the outlet below the United States canal. Construction was started, but was later discontinued when the company failed.

1888. The Canadian Pacific R.R. steel truss bridge, known as the International Bridge, was built across the river at the head of the rapids.

A rock shoal near the International Bridge was drilled and blasted.

Canadian Canal: Built on the north side of the rapids, it was 1 - 1/8 miles long, 150 ft. wide and 23 ft. deep, with a lock 900 ft. long, 60 ft. wide and 22 ft. deep (17.0 ft. at the 1934 low water datum 579.4, levels of 1903). This canal was opened September 9, 1895.

The Edison Sault Light and Chandle-Dunbar Power Co. built a dike to form a headrace to a new powerhouse, construction of which was also started.

Course 1, Bayfield Channel: 32,165 cu. yds. of material removed from in front of the Fort Brady pier; depth 20 ft. (no reference plane).

Course 6, Middle Neebish Channel: 34,301 cu. yds., place measure, removed.

1889. Poe Lock: The cofferdam construction was continued and excavation was started.
- The rock shoal near the International Bridge was dredged to a depth of 18 ft. (no reference plane recorded).
- The Ontario Water, Light and Power Co. (the Lake Superior Power Co.) began to build a power canal in Sault Ste. Marie, Canada.
- Clay (46,520 cu. yds.) removed from Little Rapids and used as a cofferdam fill at the lock.
- Course 6, Middle Neebish Channel: 45,373 cu. yds., place measure, removed and 200 lin. ft. of dike built along the north side of the channel.
1890. Poe Lock: The cofferdam was completed.
- Clay (15,200 cu. yds.) removed from Little Rapids for cofferdam fill at the lock.
- Course 6, Middle Neebish Channel: About 1,650 lin. ft. of dike built and 78,011 cu. yds., place measure, of material removed.
1891. Poe Lock: Excavation and pier construction for the lock were continued and masonry work was started.
- Courses 2 and 3, Little Rapids Channel: Dredging was started for a channel 24,750 ft. long, 300 ft. wide and 20 ft. deep, extending from the Bayfield Channel to a point one half mile upstream from Six Mile Point (reference plans 583.77 at upper end and 582.97 at lower end, levels of 1877); 11,989 cu. yds., place measure, removed.
- Course 5, Middle Neebish Channel: Dredging started in the lower 16,000 ft. for a channel 300 ft. wide and 20 ft. deep (reference plane 583.195, levels of 1877); 15,447 cu. yds., place measure, of material dredged.
- Course 6, Middle Neebish Channel: Dredging was started, for a channel 300 ft. wide and 21 feet deep in rock areas, and 20 ft. deep in other than rock areas (reference plane same as in 1883); 118,654 cu. yds., place measure, removed, and 2,150 lin. ft. of dike built.
1892. Courses 2 and 3, Little Rapids Channel: 565,608 cu. yds., place measure, removed.
- Course 5, Middle Neebish Channel: 288,399 cu. yds., place measure, removed.
- Course 6, Middle Neebish Channel: 207,724 cu. yds., place measure, dredged. The

dike along the north side of the channel was completed, making the total length 6,140 ft.

1893. Round Island Shoals 1 and 2: The dredging of channels with a total length of 3,000 ft., width 300 ft. and depth 21 ft., through two shoals, was started (reference plane 601.55, levels of 1877); 10,430 cu. yds., place measure, removed.

Lock Approach: 82,604 cu. yds., place measure, of Potsdam sandstone dredged from the west approach; improved depth to be 25 ft. (reference plane 601.87, levels of 1877).

Little Rapids Channel: 2,300 lin. ft. of dike built between Sugar Island and Island No. 1, to compensate the increased cross sectional area caused by the newly dredged navigation channel, and thus maintain the water level above this point.

Courses 2 and 3, Little Rapids Channel: 1,003,763 c. yds., place measure, removed.

Course 5, Middle Neebish Channel: 515,867 cu. yds., place measure, dredged.

Course 6, Middle Neebish Channel: A 1,300 ft. compensating dike was built from the upper end of the dike to Sugar Island; 140,846 cu. yds., place measure, dredged.

Course 7, Middle Neebish Channel: Dredging was started in Course 7, including the angles at either end; 18,500 lin. ft. of channel, 300 ft. wide and 21 ft. deep to be improved (reference plane 581.728, levels of 1877); 33,407 cu. yds., place measure, removed.

Angle Courses 8 and 9, Middle Neebish Channel: Drilling and blasting operations were started.

Course 9, Middle Neebish Channel: The removal of a shoal about 1-1/2 miles below Sailors Encampment was started; length 4,000 ft., width 300 ft. and depth 21 ft. (reference plane 581.478, levels of 1877); 22,215 cu. yds., place measure, removed.

The Edison Sault Electric Co. extended their forebay to include the flow through the two southerly spans (No. 1 and 2) of the International Bridge.

1894. Round Island Shoals 1 and 2: 61,798 cu. yds., place measure, removed.

Lock Approach: 100,523 cu. yds., place measure, removed from the west approach.

Courses 2 and 3, Little Rapids Channel: 269,052 cu. yds., place measure, removed.

Course 5, Middle Neebish Channel: 302,097 cu. yds., place measure, removed, making the entire course 20 ft. deep with a minimum width of 300 ft.

Course 6, Middle Neebish Channel: 224,369 cu. yds., place measure, removed.

Course 7, Middle Neebish Channel: 164,201 cu. yds., place measure, removed.

Angle Courses 8 and 9, Middle Neebish Channel: 13,478 cu. yds., place measure, removed.

Course 9, Middle Neebish Channel: 211,640 cu. yds., place measure, removed, completing the removal of a shoal 1-1/2 miles below Sailors Encampment.

Lake George: 59,843 cu. yds., scow measure, of material removed to widen "the elbow" for a length of 2,600 ft. (no width recorded).

1895. Round Island Shoals 1 and 2: A small amount of clean-up was done to complete a channel 300 ft. wide and 21 ft. deep.

Lock Approach: 71,712 cu. yds., place measure, removed from the west approach.

Angle Courses 1 and 2: Dredging was started to remove part of a shoal to a depth of 21 ft. (reference plane 583.77, levels of 1877); 5,038 cu. yds., place measure, removed.

Courses 2 and 3, Little Rapids Channel: 446,986 cu. yds., place measure, removed, completing a channel 300 ft. wide and 20 ft. deep.

Shoals near Nine Mile Point were partly cleaned up to a depth of 21 ft. (reference plane 582.97, levels of 1877); 345 cu. yds., place measure, removed.

Course 6, Middle Neebish Channel: A small amount of cleanup was done, completing a channel 300 ft. wide and 20 ft. deep.

Course 7, Middle Neebish Channel: 232,571 cu. yds., place measure, removed.

Course 8 and 9, Middle Neebish Channel: 60,820 cu. yds., place measure, removed.

In the calendar year 1895, the power canal on the Canadian side of the rapids was completed by the Lake Superior Power Co.

1896. Vidal Shoals: Removal of several shoals to a depth of 21 ft. (reference plane 601.87,

levels of 1877) was started; channel width 600 ft.; 48,630 cu. yds., place measure, removed.

Poe Lock: The lock was opened for navigation on August 3, 1896.

Lock Approaches: The improvement of the west approach to a depth of 25 ft. was continued; 53,762 cu. yds., place measure, removed.

Excavation and pier work were started in the approaches to the new Poe Lock; 20,362 cu. yds., place measure, of rock and 105,620 cu. yds., place measure, of other materials removed.

Course 1, Bayfield Channel: 26,438 cu. yds., place measure, removed from a shoal to a depth of 20 ft. (reference plane 584.37, levels of 1877).

Angle Courses 1 and 2: 37,973 cu. yds., place measure, dredged, completing the removal of part of a shoal to a depth of 21 ft.

Course 3, Little Rapids Channel: The removal of a shoal off Six Mile Point and the widening of Course 3 was started; depth 21 ft. (reference plane 583.97).

Shoals near Nine Mile Point were cleaned to a depth of 21 ft. by removing 1,008 cu. yds., place measure.

Course 7, Middle Neebish Channel: 217,437 cu. yds., place measure, dredged, completing the entire channel to a depth of 21 ft. and a width of 300 ft.

Courses 8 and 9, Middle Neebish Channel: 29,276 cu. yds., place measure, removed.

1897. Vidal Shoals: 3,144 cu. yds., place measure, of rock and 84,039 cu. yds., place measure, of other than rock removed.

Lock Approaches: The deepening of the west approach to 25 ft. was completed by the removal of 710 cu. yds., place measure.

Poe Lock: The excavation and pier work in the lock approaches were completed; 13,490 cu. yds., place measure, of rock and 18,898 cu. yds., place measure, of other than rock removed.

Course 2, Little Rapids Channel: 242,722 cu. yds., place measure, dredged in the widening of the channel an additional 150 ft. in the lower 8,250 lin. ft. (depth 20 ft.) (reference plane 583.17, levels of 1877).

Course 3, Little Rapids Channel: 407,992 cu. yds., place measure, removed.

Nine Mile Point: 6,939 cu. yds., scow measure, removed from a shoal southeast of the Point.

Angle Courses 5 and 6, Middle Neebish Channel: 1,750 lin. ft. of the channel was widened to 150 ft. and a depth of 21 ft. (reference plane 582.87, levels of 1877); 55,236 cu. yds., place measure, removed. Clean up of the original channel was started; 1,512 cu. yds., scow measure, removed.

Course 6, Middle Neebish Channel: The widening of the lower 9,000 lin. ft. of channel an additional 300 ft. was started (depth 21 ft.) (reference plane 581.77, levels of 1877); 50,642 cu. yds., scow measure, removed.

Courses 8 and 9, Middle Neebish Channel: 27,101 cu. yds., place measure, removed, completing a channel 300 ft. wide and 21 ft. deep.

Lake Munuscong: A shoal off Point Aux Frenes, about 400 ft. by 1,400 ft., was dredged to a depth of 21 ft. (reference plane 581.47, levels of 1877). Completed in Fiscal Year 1898, material removed in two years was 379 cu. yds. of rock and 25,580 cu. yds., place measure, of other than rock.

1898. Round Island Shoal No. 1: The dredging of a channel 4,000 ft. long, 800 ft. wide and 23 ft. deep (reference plane 601.55, levels of 1877) was started; 94,641 cu. yds., scow measure, removed.

Round Island, Shoal No. 2: The dredging of a channel 2,900 ft. long, 800 ft. wide and 23 ft. deep (reference plane 601.55, levels of 1877) was started; 55,281 cu. yds., scow measure, removed.

Vidal Shoals: The widening of the channel to 600 ft. was completed by the removal of 156 cu. yds., place measure, of material other than rock. Dredging was started to remove a rock shoal and make the channel 1,000 ft. wide and a depth of 21 ft. (reference plane 601.87, levels of 1877); 39,267 cu. yds., scow measure, removed. Completed in 1899, a total of 64,628 cu. yds., place measure, removed.

Lock Approaches: 3,137 cu. yds., place measure, removed at the site of the movable dam in the west approach of the Poe Lock.

Construction of the power canal through Sault Ste. Marie, Michigan, was again resumed. The canal was completed in 1902; length 12,000 ft., width at bottom 162 ft., 200 ft. at surface and depth 24 ft.

Course 3, Little Rapids Channel: The widening of this channel was completed by the removal of 752 cu. yds., place measure.

Angle Courses 5 and 6, Middle Neebish Channel: Clean-up work was completed by the removal of 59,878 cu. yds., scow measure.

Course 6, Middle Neebish Channel: The widening to 300 ft. of 9,000 lin. ft. of channel at the lower end was completed. Dredging was started to deepen 2,600 lin. ft. of the channel starting about 9,000 ft. below the upper end; width 300 ft. and depth 21 ft. (reference plane not recorded); 30,620 cu. yds., scow measure, removed.

1899. Round Island Shoal No. 1: 89,766 cu. yds., scow measure, removed.

Round Island Shoal No. 2: 150,541 cu. yds., scow measure, removed.

Lock Approaches: 3,716 cu. yds., place measure, removed from the west approach to the Weitzel Lock; 656 lin. ft. of cribbing were added to the northeast pier of the Poe Lock. The east approach of the Weitzel Lock was dredged to a depth of 22 ft.; 12,507 cu. yds, place measure, removed.

Course 6, Middle Neebish Channel: 68,445 cu. yds., scow measure, removed.

1900. Round Island Shoal No. 1: A channel 800 ft. wide and 23 ft. deep was completed. The total quantity of material removed, during three years work, was 143,622 cu. yds., place measure.

Round Island Shoal No. 2: A channel 800 ft. wide and 23 ft. deep was completed. The total quantity of material removed, during three years work, was 143,522 cu. yds., place measure.

Course 1, Bayfield Channel: 3,120 cu. yds., scow measure, removed from in front of Brady pier.

Course 6, Middle Neebish Channel: The deepening to 21 ft. of a 2,600 lin. ft. section was completed. The total quantity of material removed, during three years work, was 93,835 cu. yds., place measure.

Angle Courses 6 and 7, Middle Neebish Channel: 14,360 cu. yds., scow measure, removed to restore the channel to a 21 ft. depth and to widen its turn.

1901. Angle Courses 6 and 7, Middle Neebish Channel: The turn was widened an additional 90 ft. by the removal of 42,204 cu. yds., scow measure, of material.

Angle Courses 8 and 9, Middle Neebish Channel: 14,120 cu. yds., scow measure, removed to widen the turn about 35 ft.

1902. Compensating Works: The Lake Superior Power Co., of Sault Ste. Marie, Canada, began the construction of four compensating gates on the north side of the river, 150 ft. above and parallel to the International Bridge. They will control a width of about 225 ft., or the equivalent length of span No. 9 of the bridge above which they are located. The north span (No. 10) was closed by a fill.

Course 2, Little Rapids Channel: Dredging started, to widen the upper section by 300 ft. and the lower section by 150 ft., making the width of the channel 600 ft. for its entire length of about 19,300 ft., with a 21 ft. depth (reference plane 580.2 at upper end, 579.5 at the lower end, levels of 1877); 918,983 cu. yds., scow measure, removed.

1903. The construction of a cofferdam was started in the west canal to enclose an area along the north side, which was to be widened.

Course 1, Bayfield Channel: 171,500 cu. yds., of material dredged by private interests in the Kemp and Chesbrough slips and in front of the Chesbrough, Hickler and Water Power Co. docks. A test cut was started through a shoal on the north side of the channel (depth 21 ft.) (low water datum 580.3, levels of 1877); 2,785 cu. yds., scow measure, removed.

Course 2, Little Rapids Channel: 1,907,755 cu. yds., scow measure, removed.

Courses 4 and 5, West Neebish Channel: Dredging of a test cut 30 ft. wide and 14 ft. deep, with pits 25 ft. deep every 500 ft., was started in a proposed West Neebish route; 17,835 lin. ft. of cut was made and 197,009 cu. yds., scow measure, removed.

Angle Courses 6 and 7, Middle Neebish Channel: The turn was widened 125 ft. for a length of 2,000 ft., with a 21 ft. depth (low water datum 578.9, levels of 1877), by the removal of 72,803 cu. yds., scow measure.

Angle Courses 7 and 8, Middle Neebish Channel: Dredging was started to widen the turn (depth 21 ft.) (low water datum 578.9, levels of 1877); 56,672 cu. yds., scow measure, removed.

Angle Courses 8 and 9, Middle Neebish Channel: Dredging was started to widen the turn (depth 21 ft.) (low water datum 578.9, levels of 1877); 24,642 cu. yds., scow measure, removed.

In the calendar year 1903, the first water was diverted through the power canal through Sault Ste. Marie, Michigan.

1904. Course 1, Bayfield Channel: A test cut to a depth of 21 ft. was completed with the removal of 10,201 cu. yds. of material, scow measure.

Course 2, Little Rapids Channel: Widening of the channel work was completed; 248,797 cu. yds. of material, scow measure, removed. The total place measure of material removed under the widening job was 2,647,905 cu. yds. Dredging to a depth of 21 ft. was started in that portion of the channel which was in use before the widening; 113,081 cu. yds., place measure, removed.

Course 3, Little Rapids Channel: Deepening of the channel to 21 ft. (low water datum 579.6 at upper end, 579.3 at lower end, levels of 1877) was started; 16,636 cu. yds., place measure, removed.

Shoals near Nine Mile Point: Removal of material to a depth of 22 ft. commenced (low water datum 579.3, levels of 1877); 9,317 cu. yds., place measure, removed.

Courses 4 and 5, West Neebish Channel: 9,100 lin. ft. of the 30 ft. wide test cut dredged, completing the work; 93,234 cu. yds., scow measure, removed. Dredging operations commenced in 32,282 lin. ft. of new channel through lower Course 4 and all of Course 5; width 300 ft., depth 21 ft. (low water datum 579.3, levels of 1877); 115,432 cu. yds., place measure, removed.

Course 6, West Neebish Rock Cut: Construction of cofferdams, roadways and cable towers was started in preparation for excavating a new channel in the "dry"; length 13,300 ft., width 300 ft. and depth 22 ft. (low water datum varied from 579.3 at upper end to 578.8 at lower end, levels of 1877).

Courses 7 and 8, West Neebish Channel: Dredging of 19,272 lin. ft. of new channel, extending from Kemps Point to deep water below Winter Point, was started; width 300 ft., depth 21 ft. (low water datum 578.8, levels of 1877); 10,809 cu. yds., place measure, removed.

Twin Island, Pt. Aux Frenes and two other Shoals in Lake Munuscong: Dredging to a 22 ft. depth (low water datum 578.8, levels of 1877) was started. The amount of material removed is included in Courses 7 and 8, West Neebish Channel, quantities.

Course 7 and 8, Middle Neebish Channels: Widening of the channels was completed with the removal of 49,638 cu. yds., scow measure.

Course 8 and 9, Middle Neebish Channel: 59,963 cu. yds., scow measure, removed.

1905. The west canal cofferdams were completed; length about 2,000 ft.. Excavation was not started until 1908, because land titles could not be obtained.

The Edison Sault Electric Co. started the construction of a new powerhouse north of the one built in 1888.

Course 2, Little Rapids Channel: 282,217 cu. yds., place measure, removed, completing a channel 21 ft. deep and 600 ft. wide throughout the length of the course.

Course 3, Little Rapids Channel: 484,414 cu. yds., place measure, removed.

Shoals near Nine Mile Point: The removal of material to a 22 ft. depth was completed; 71,247 cu. yds., place measure, excavated.

Courses 4 and 5, West Neebish Channel: 2,306,407 cu. yds., place measure, removed.

Course 6, West Neebish Rock Cut: 183,807 cu. yds., place measure, of rock, and 9,294 cu. yds., place measure, of other than rock, removed.

Courses 7 and 8, West Neebish Channel: 1,709,450 cu. yds., place measure, removed.

Shoals at Twin Islands and Pt. Aux Frenes, and two other shoals in Lake Munuscong: Yardage included in Courses 7 and 8, West Neebish Channel.

Courses 8 and 9, Middle Neebish Channel: Widening of the channel was completed with the removal of 80 cu. yds., scow measure; maximum width 825 ft.

Crab Island: One 7 cu. yd. boulder was removed.

1906. Vidal Shoals: Dredging of a channel 1,000 ft. wide and 22 ft. deep (low water datum 601.6, levels of 1877) was started; 10,067 cu. yds., scow measure, removed.

Course 1, Bayfield Channel: Shoals for a distance of 1,000 ft. south of the range line were removed to a depth of 21 ft. (low water datum 580.3, levels of 1877); 111,206 cu. yds., scow measure, removed. Dredging was started to remove that part of a shoal lying between the range line and a line 500 ft. north; 69,640 cu. yds., place measure, removed.

Course 3, Little Rapids Channel: 697,309 cu. yds., place measure, removed.

Courses 4 and 5, West Neebish Channel: 2,617,099 cu. yds., place measure, removed.

Course 6, West Neebish Rock Cut: 591,484 cu. yds., place measure, of rock, and 31,737 cu. yds., place measure, of other than rock, excavated.

Courses 7 and 8, West Neebish Channel: 1,273,904 cu. yds., place measure, removed.

Shoals at Twin Island and Pt. Aux Frenes, and two other shoals in Lake Munuscong: Yardage included in Courses 7 and 8, West Neebish Channel.

Angle Courses 5 and 6, Middle Neebish Channel: Widening of the turn was started; (depth 21 ft.) (low water datum 579.2, levels of 1877); 241,804 cu. yds., place measure, removed.

Squaw Island Shoal: 5,700 cu. yds., scow measure, removed to give a clear depth of 22 ft. (low water datum 578.8, levels of 1877).

1907. The construction of the Edison Sault Electric Company's powerhouse was completed.

Round Island Shoal No. 1: 3,500 lin. ft. of channel was widened 200 ft. by the removal of 69,440 cu. yds., place measure; width of channel 1,000 ft. and depth 23 ft. (low water datum 601.5, levels of 1877).

Round Island Shoal No. 2: Dredging was started to widen 3,000 lin. ft. of channel an additional 175 ft.; depth 23 ft. (low water datum 601.5, levels of 1877); 75,548 cu. yds., place measure, removed.

Vidal Shoals: 11,836 cu. yds., scow measure, removed.

Course 1, Bayfield Channel: 23,320 cu. yds., place measure, removed.

Course 3, Little Rapids Channel: 172,850 cu. yds., place measure, removed; completing a channel 21 ft. deep, with a minimum width of 600 ft. throughout the length of the course.

Course 4, Lake Nicolet: Dredging was started to deepen the section from the lower end of Course 3 to the 21 ft. contour in Lake Nicolet (low water datum 579.3, levels of 1877); 172,273 cu. yds., scow measure, removed.

Courses 4 and 5, West Neebish Channel: 300 ft. channel, 21 ft. deep, was completed with the removal of 802,631 cu. yds., place measure.

Course 6, West Neebish Rock Cut: 681,873 cu. yds., place measure, of rock, and 166,700 cu. yds., place measure, of other material, excavated.

Courses 7 and 8, West Neebish Channel: 462,658 cu. yds., place measure, removed.

Shoals at Twin Island and Pt. Aux Frenes and two other shoals in Lake Munuscong: Yardage included in Courses 7 and 8, West Neebish Channel.

Angle Courses 5 and 6, Middle Neebish Channel: 166,452 cu. yds., place measure, removed, completing the widening of the turn.

Courses 5 and 6, Middle Neebish Channel: 41,856 cu. yds., scow measure, removed from various shoals.

Course 9, Middle Neebish Channel: Removal of part of Shoal 28, one and one half miles below Sailors Encampment, was started (depth 21 ft.) (low water datum 578.8, levels of 1877); 25,512 cu. yds., place measure, removed.

1908. Round Island Shoal No. 2: 390 cu. yds., place measure, removed, completing a channel 975 ft. wide and 23 ft. deep.

Vidal Shoals: 1,190 cu. yds., scow measure, removed.

Lock Approach: The widening of the west canal by an additional 125 ft., length 3,700 ft. and depth 24.6 ft. (low water datum 601.5, levels of 1877) was started; 39,401 cu. yds., place measure, dredged.

Davis Lock: Construction of a cofferdam was started and 19,457 cu. yds., place measure, were removed from the pit; lock dimensions - 1,350 ft. long, 80 ft. wide and 24.5 ft. deep.

Course 1, Bayfield Channel: Widening was completed with the removal of 6,743 cu. yds., place measure, of material. An additional 44,790 cu. yds., scow measure, removed from 3 small shoals, making a channel 1,500 ft. wide and 21 ft. deep (low water datum 580.5 at foot of canal, and 580.2 at head of Little Rapids, levels of 1877).

Course 4, Lake Nicolet: 173,243 cu. yds., scow measure, removed, completing the deepening to 21 ft.

Course 6, West Neebish Channel: 236,425 cu. yds., place measure, of rock, and 121,573 cu. yds., place measure, of other material, removed.

Courses 7 and 8, West Neebish Channel: 176,459 cu. yds., place measure, removed, completing the channel to a 21 ft. depth and removed four shoals in Lake Munuscong to a 22 ft. depth.

Shoals at Twin Islands and Pt. Aux Frenes and two other shoals in Lake Munuscong: Yardage included in Courses 7 and 8, West Neebish Channel.

Course 6, Middle Neebish Channel: The deepening of 8,320 lin. ft. of the 300 ft. side channel to 22 ft. (low water datum 579.1 at upper end, 578.9 at lower end, levels of 1877) was started; 5,370 cu. yds., place measure, removed.

Course 9, Middle Neebish Channel: 121,924 cu. yds., scow measure, removed, completing the dredging of Shoal 28.

1909. Vidal Shoals: 1,803 cu. yds., scow measure, removed.

Lock Approach: 230,043 cu. yds., place measure, removed in widening the west canal.

Davis Lock: Cofferdam and pier construction in progress; 97,733 cu. yds., place measure, excavated from lock pit.

Course 6, West Neebish Rock Cut: Cofferdams were removed, completing the 300 ft. wide channel to a 22 ft. depth; 13,445 sq. yds., vertical face of guide wall built. At the completion of the excavation in this course, the West Neebish Channel was opened to navigation.

Course 5, Middle Neebish Channel: Dredging was started to deepen the lower 18,540 lin ft. of channel to 21 ft. (low water datum 579.3, levels of 1877) with a width of 300 ft.; 171,781 cu. yds., place measure, dredged.

Course 6, Middle Neebish Channel: 219,819 cu. yds., place measure, removed.

Courses 6 and 7, Middle Neebish Channel: Dredging was started to deepen to 21 ft. (low water datum 578.9, levels of 1877) the lower end of Course 6 and all of Course 7; minimum width 300 ft.; length 25,600 ft.; 229,850 cu. yds., place measure, removed.

Angle Courses 8 and 9 and Course 9, Middle Neebish Channel: Improvement to a depth of 22 ft. (low water datum 578.8, levels of 1877) was started in 5,400 lin. ft. of channel extending from the turn to Mill Dock, Sailors Encampment; minimum width 300 ft.; 13,211 cu. yds., place measure, dredged.

1910. Vidal Shoals: 395 cu. yds., scow measure, removed in an attempt to make the 1,000 ft. wide channel 22 ft. deep; however, the least depth remained 21 ft.

Lock Approach: 198,044 cu. yds., place measure, removed in widening the west canal. The wall construction was started. The movable dam superstructure was started in the west canal. Mitering gates were built and put into place near the movable dam; span 108 ft. The northeast pier was extended into 168 ft.

Davis Lock: Cofferdams around the pit were completed and 182,191 cu. yds., place measure, excavated.

Course 5, Middle Neebish Channel: 360,513 cu. yds., place measure, removed, completing the dredging to a 21 ft. depth.

Course 6, Middle Neebish Channel: Improvement to a 22 ft. depth was completed with the removal of 30,057 cu. yds., place measure.

Courses 6 and 7, Middle Neebish Channel: 361,659 cu. yds., place measure, removed.

Angle Courses 8 and 9 and Course 9, Middle Neebish Channel: 44,981 cu. yds., place measure, dredged.

1911. Lock Approaches: 42,511 cu. yds., place measure, removed in widening the west canal. Wall construction was in progress. The movable dam was completed. Work was started on a new north canal west of the Davis Lock. Six cribs were placed at the northwest pier and construction of a cofferdam to enclose the site of the new canal was started; 48,236 cu. yds., place measure, removed.

A new headrace for the Edison Sault Electric Co. was started. The old one was on the site of the new canal. Cofferdams and dikes were built to enclose the area, extending from the powerhouse westerly to about 200 ft. above the International Bridge and including spans 2 and 3 of the bridge; 6,894 cu. yds., place measure, removed.

Davis Lock: 194,086 cu. yds., place measure, removed.

Courses 6 and 7, Middle Neebish Channel: 524 cu. yds., place measure, removed, completing the improvement to a 21 ft. depth.

Angle Courses 8 and 9 and Course 9, Middle Neebish Channel: 29,303 cu. yds., place measure, removed.

1912. Lock Approaches: The west canal widening was completed with the removal of 6,623 cu. yds., place measure. The work on the new west canal leading to the Davis Lock was continued; 158,670 cu. yds., place measure, removed. Wall construction was continued. The east approach to the Davis Lock was started; 17,248 cu. yds., place measure, removed.

New Headrace: Dike construction continued and 24,558 cu. yds., place measure, of material excavated. Span No. 1 of the International Bridge was closed by a fill and a steel truss was removed. Spans 2, 3 and 4 were included in the headrace. Three Stoney sluice gates were built on the north side of the powerhouse to compensate for the cutting off of the natural flow of the rapids.

Davis Lock: Pit excavation was completed with the removal of 18,322 cu. yds., place measure. Concrete masonry work was started.

Angle Courses 8 and 9 and Course 9, Middle Neebish Channel: 14,371 cu. yds., place measure, removed.

1913. Lock Approaches: 459,394 cu. yds., place measure, removed from the new west canal to the third lock. Wall construction was continued. Crib work was continued on the east approach piers of the locks and 40,624 cu. yds., place measure, of material removed from the east approach to the Davis Lock. The construction of bascule section of the International Bridge across the north canal was started.

New Headrace: 5,320 cu. yds., place measure, removed, completing the Edison Sault Electric Co. headrace.

U.S. Powerhouse Tailrace: An improvement of the tailrace was started; 2,855 cu. yds., place measure, dredged and the dike was extended.

Davis Lock: The floors and culverts were practically completed and wall construction was in progress.

Sabin Lock: Pit excavation was started; 66,707 cu. yds., place measure, removed; lock dimensions - 1,350 ft. long, 80 ft. wide and 24.5 ft. deep.

Angle Courses 8 and 9 and Course 9, Middle Neebish Channel: 55 cu. yds., place measure, removed, completing the deepening to 22 ft.

1914. Lock Approaches: 273,256 cu. yds., place measure, excavated from the new west canal; wall construction continued.

The pier and wall construction continued east of the locks and 87,096 cu. yds., place measure, removed from the east approach to the Davis Lock.

The construction of the bascule bridge was practically completed.

An addition to the building of the United States Powerhouse and the installation of a new 450 kw. generator was started.

Tailrace: Improvement was completed; 6,295 cu. yds., place measure, removed.

Davis Lock: Masonry work was practically completed; miscellaneous work was in progress.

Sabin Lock: 172,721 cu. yds., place measure, excavated. A cofferdam was built at the west end.

1915. Lock Approaches: 3,938 cu. yds., place measure, removed from the new west canal above the Davis and Sabin Locks, completing the work; depth 24.6 ft. (low water datum 601.5). The dredging of the east approach to the Davis Lock and a section of the east approach to the Weitzel and Poe Locks was completed. Pier construction was also completed.

The United States Powerhouse addition was completed and part of the machinery was installed.

Davis Lock: Masonry work was completed and the gates and machinery placed, permitting the lock to be opened to navigation on Oct. 21, 1914. Various items of the work remained to be completed.

Sabin Lock: 194,775 cu. yds., place measure, removed, completing the excavation of the pit.

The Michigan Northern Power Co. started to deepen the area above the entrance to their power canal; 150,200 cu. yds., place measure, dredged.

Compensating Works: The Michigan Northern Power Co. started work on eight compensating gates (No. 9 to 16 incl.), above spans 6 and 7 of the International Bridge.

1916. The installation of the new unit at the United States Powerhouse was completed.

U.S. Powerhouse Tailrace: Dredging was started in the powerhouse tailrace to deepen it to 10 ft.; length 2,250 ft.; 21,281 cu. yds., place measure, removed.

Davis Lock: Grading, construction of walks and miscellaneous work was carried out, practically completing the lock.

Sabin Lock: Concrete masonry work was started.

The Michigan Northern Power Co. removed 16,923 cu. yds., place measure, from the area above the entrance to their power canal, completing this work.

Compensating Works: The concrete piers and sluiceways were completed and four gates installed.

1917. Tailrace: 32,184 cu., yds., place measure, removed.

Sabin Lock: The masonry work and construction of guard gates were in progress, 65% completed.

Compensating Works: The remaining four gates of the Michigan Northern Power Co. work were placed and the work completed. Gates 9 to 16, inclusive, were completed in 1917.

The Great Lakes Power Co. of Sault Ste. Marie, Canada, started the construction of compensating gates No. 5 to 8, inclusive. Gates 1 to 4, inclusive, were completed in 1902.

Davis Lock: Incidental work was accomplished.

1918. Tailrace: 5,398 cu. yds., place measure, removed, completing the deepening.

Sabin Lock: Masonry work, machinery installation, gate construction, etc. were in progress.

East Approach to Sabin Lock: Pier construction and the dredging of an area of about 700 ft. by 200 ft., depth 24.5 ft. (low water datum 580.6, levels of 1903), was started; 98,486 cu. yds., place measure, removed.

Compensating Works: Construction of gates 5 to 8, inclusive, was continued.

Vidal Shoals: The channel was dredged to a depth of 22 ft. (low water datum 601.2, levels of 1903); 120,579 cu. yds., scow measure, removed.

1919. Sabin Lock: Masonry work was completed and gates were placed. Machinery installation and miscellaneous work continued.

East Approach to Sabin Lock: Pier construction and dredging were completed; 30,425 cu. yds., place measure, removed.

Compensating Works: Construction of the Canadian gates No. 5 to 8, inclusive, were finished, completing 16 gates across the head of the rapids.

Vidal Shoals: The channel was widened to 1000 ft., project completed.

1920. Sabin Lock: The lock was opened to navigation on September 13, 1919; minor items remained to be finished.

Bayfield Channel: 375 cu. yds., scow measure, removed.

1921. Sabin Lock: The work was completed, except for a few minor details.

The construction of an emergency dam in the north canal of the west approach to the locks was started.

The construction of a dike between the south end of the compensating gates and the headrace dike was started (Compensating Works completed).

Course 8, West Neebish Channel: 21,016 cu. yds., scow measure, removed from the channel near Moon Island.

1922. The construction of an emergency dam for the north canal, west approach to the locks, was continued.

The dike at the south end of the compensating works was completed, cutting off the last natural flow of the rapids.

Little Rapids Channel: 1,157 cu. yds., scow measure, removed.

Bayfield Channel: 312 cu. yds., scow measure, removed.

Course 6, West Neebish Channel: 401 cu. yds., scow measure, removed.

Course 8, West Neebish Channel: 110,966 cu. yds., place measure, removed from a shoal formed near Moon Island; (depth 21 ft.) (low water datum 579.6, levels of 1903).

1923. Vidal Shoals: The widening of a 1,000 ft. wide channel to 1,500 ft. was started; length 5,394 ft., depth 22 ft. (low water datum 601.1, levels of 1903); 45,000 cu. yds., place measure, removed.

The construction of an emergency dam in the north canal of the Davis and Sabin Locks was completed.

Bayfield Channel: Dredging of the channel to a depth of 22 ft. (low water datum 580.3, levels of 1903) was started; 16,237 cu. yds., scow measure, removed.

1924. Vidal Shoals: 100,669 cu. yds., place measure, removed.

Bayfield Channel: Deepening of the anchorage and maneuver area, south of the channel, was started; 235,936 cu. yds., place measure, removed.

Bayfield Channel: 47,889 cu. yds., scow measure, and 84,758 cu. yds., place measure, removed.

Angle Courses 4 and 5, West Neebish Channel: 7,957 cu. yds., bin measure, removed.

Course 6, West Neebish Channel: 170 cu. yds., scow measure, removed.

Course 8, West Neebish Channel: 7,940 cu. yds., scow measure, removed.

1925. Vidal Shoals: 7,498 cu. yds., place measure, dredged, completing the 500 ft. widening.

Headrace: Deepening of the United States powerhouse headrace to 11 ft. (low water datum 601.1, levels of 1903) for a width of 60 ft. and length of 2,200 ft. was started; 30,318 cu. yds., place measure, removed.

Bayfield Channel: The excavation in the anchorage and maneuver area below the locks was completed; 23,416 cu. yds., place measure, removed.

Course 1, Bayfield Channel: 18,515 cu. yds., scow measure, removed, completing the 22 ft. deepening.

Courses 4 and 5, West Neebish Channel: 15,728 cu. yds., bin measure, removed.

Course 5, West Neebish Channel: 53,838 cu. yds., scow measure, dredged from a shoal to restore the 21 ft. depth.

Course 6, West Neebish Channel: 770 cu. yds., scow measure, removed.

Course 8, West Neebish Channel: A shoal near Moon Island was partly removed by dredging 15,487 cu. yds., bin measure, of material.

- Course 6, Middle Neebish Channel: 2,787 cu. yds., scow measure, removed.
1926. Headrace to United States Power Plant: 654 cu. yds., place measure, removed, completing the deepening.
- Course 8, West Neebish Channel: 42,000 cu. yds., scow measure, removed, from the Moon Island channel, restoring a 21 ft. depth.
1927. Angle Courses 5 and 6, Middle Neebish Channel: 5,826 cu. yds., scow measure, removed.
1928. Angle Courses 4 and 5, West Neebish Channel: 14,567 cu. yds., bin measure, removed.
- Course 8, West Neebish Channel: 66,797 cu. yds., bin measure, removed from the Moon Island channel.
- Angle Courses 5 and 6, Middle Neebish Channel: 13,277 cu. yds., scow measure, removed.
- Angle Courses 7 and 8, Middle Neebish Channel: 11,277 cu. yds., scow measure, removed.
1929. Course 5, Middle Neebish Channel: Widening of the channel from 300 ft. to 500 ft. was started; length 16,900 ft. (depth 22 ft.) (low water datum 579.9, levels of 1903); 1,421,923 cu. yds., place measure, dredged.
- Course 6, Middle Neebish Channel: Widening of the entire channel from 300 ft. to 500 ft. was started (depth 22 ft.) (low water datum 579.9 to 579.7, levels of 1903); 351,823 cu. yds., place measure, of material other than rock, removed.
- Course 7, Middle Neebish Channel: Widening of the entire channel from 300 to 500 ft. was started (depth 22 ft.) (low water datum 579.7, levels of 1903); 400,694 cu. yds., place measure, removed.
- Course 5, West Neebish Channel: 127,792 cu. yds., bin measure, removed to maintain 21 ft. grade.
- Course 8, West Neebish Channel: 175,589 cu. yds., bin measure, removed.
1930. Northwest Pier Extension: A 1,200 ft. extension of the northwest pier above the locks was started; 300 ft. of crib and fill placed.

Course 5, Middle Neebish Channel: 13,459 cu. yds., place measure, removed, completing the widening.

Course 6, Middle Neebish Channel: 537,298 cu. yds., place measure, of rock and 615,249 cu. yds., place measure, of other material, removed.

Course 7, Middle Neebish Channel: 476,144 cu. yds., place measure, removed, completing the widening.

Course 9, Middle Neebish Channel: Widening of 5,900 lin. ft. of the channel, at the upper end, to 500 ft. was started (depth 22 ft.) (low water datum 579.6, levels of 1903); 7,913 cu. yds., place measure, of material, removed.

1931. Round Island, Middle Ground: Dredging of this area, adjacent to Round Island Shoal No. 1, was started; maximum length 4,800 ft., maximum width 3,000 ft., depth 27 ft. (low water datum 601.5, levels of 1903); 822,400 cu. yds., place measure dredged.

Northwest Pier Extension: All cribs were placed, filled and capped with concrete, completing the 1,200 ft. extension.

Course 6, West Neebish Rock Cut: Deepening of the 300 ft. wide channel to 27 ft. was started (low water datum 579.8 for upper end, 579.7 for lower end, levels of 1903), length 9,400 ft. Construction of cofferdams at each end of the cut was started.

Course 6, Middle Neebish Channel: 108,337 cu. yds., place measure, of rock, and 144,483 cu. yds., place measure, of other material, removed, completing a channel 500 ft. wide and 22 ft. deep.

Course 9, Middle Neebish Channel: 92,714 cu. yds., place measure, of rock, and 58,042 cu. yds, place measure, of material other than rock, removed, completing a channel 500 ft. wide and 22 ft. deep.

Angle Courses 5 and 6, Middle Neebish Channel: 15,489 cu. yds., scow measure, dredged to deepen the turn to 22 ft. (low water datum 579.8, levels of 1903).

Angle Courses 6 and 7, Middle Neebish Channel: 38,669 cu. yds., scow measure, dredged to deepen the turn to 22 ft. (low water datum 579.7, levels of 1903).

1932. Round Island, Middle Ground: 1,212,600 cu. yds., place measure, removed.

Round Island Shoal No. 1: Dredging to a depth of 27 ft. (low water datum 601.5, levels of 1903) was started; length 5,000 ft., width 1,000 ft.; 433,100 cu. yds., place measure, removed.

Round Island Shoal No. 2: The improvement of 9,800 lin. ft. of channel to a depth of 27 ft. (low water datum 601.5, levels of 1903) and a width of 1,000 ft. was started; 231,500 cu. yds., place measure, removed.

Vidal Shoals: The improvement of 9,300 lin. ft. of channel to a depth of 26 ft. (low water datum 601.2, levels of 1903) and a width of 1,500 ft. was started; 33,770 cu. yds., place measure, of rock and 175,960 cu. yds., place measure, of other material, dredged.

Course 4, Lake Nicolet: The dredging of 22,000 lin. ft. of channel, 1,500 ft. wide and 26 ft. deep (low water datum 580.0, at upper end, and 579.9 at lower end, levels of 1903) was started; 375,000 cu. yds., place measure, removed.

Courses 4 and 5, West Neebish Channel: The improvement of these courses to a depth of 25 ft. (low water datum 579.9, levels of 1903) was started; length 32,362 ft., width 300 ft.; 1,479,943 cu. yds., place measure, removed.

Angle Courses 5 and 6, West Neebish Channel: 196,045 cu. yds., place measure, removed in deepening the turn to 26 ft. (low water datum 579.9, levels of 1903), length 3,569 ft.

Course 6, West Neebish Rock Cut: The cofferdams were completed and 485,889 cu. yds., place measure, of rock, removed. A change order modified the depth to 28 ft.

Angle Courses 6 and 7, West Neebish Channel: Dredging was started to deepen the turn to 26 ft. (low water datum 579.6, levels of 1903), length 6,069 ft.; 185,355 cu. yds., place measure, removed.

Courses 7 and 8, West Neebish Channel: Deepening of the channel to 25 ft. (low water datum 579.6, levels of 1903) was started; width 300 ft.; 403,678 cu. yds., place measure, removed.

1933. Round Island, Middle Ground: 62,150 cu. yds., place measure, removed, completing the dredging to a 27 ft. depth.

Round Island Shoal No. 1: 12,910 cu. yds., place measure, removed, completing the dredging to a 27 ft. depth.

Round Island Shoal No. 2: 391,922 cu. yds., place measure, removed, completing the dredging to a 27 ft. depth.

Vidal Shoals: 62,290 cu. yds., place measure, of rock and 236,250 cu. yds., place measure, of other material, dredged.

Course 1, Bayfield Channel: Improvement of the channel to a depth of 26 ft. (low water datum 580.6 at upper end and 580.3 at lower end, levels of 1903) was started, length 8,300 ft.; 158,913 cu. yds., place measure, removed.

Angle Courses 1 and 2: Improvement of the turn to 26 ft. (low water datum 580.3 for Course 1 and 580.2 for Course 2, levels of 1903) was started, length 4,890 ft.; 111,395 cu. yds., place measure, removed.

Courses 2 and 3, Little Rapids Channel: Improvement of 20,840 lin. ft. of channel, extending from the upper end of the islands at Little Rapids to Six Mile Point, was started, width 600 ft., depth 25 ft. (low water datum 580.2 at upper end and 580.0 at lower end, levels of 1903); 425,300 cu. yds., place measure, removed.

Course 4, Lake Nicolet: 2,875,000 cu. yds., place measure, dredged.

Courses 4 and 5, West Neebish Channel: 436,120 cu. yds., place measure, dredged, completing the deepening to 25 ft.

Course 6, West Neebish Rock Cut: 42,105 cu. yds., place measure, of rock and 20,148 cu. yds., place measure, of other material, removed; also, cofferdams were removed.

Angle Courses 6 and 7, West Neebish Channel: 126,876 cu. yds., place measure, removed, completing the deepening to 26 ft.

Courses 7 and 8, West Neebish Channel: 661,896 cu. yds., place measure, removed, completing the deepening to 25 ft.

Crab Island Shoals: 18,180 cu. yds., place measure, dredged, making the least depth 28 ft. (low water datum 579.6, levels of 1903).

Winter Point Shoal: 774,877 cu. yds., place measure, removed (depth 22 ft.) (low water datum 579.6, levels of 1903).

1934. Vidal Shoals: 7,618 cu. yds., place measure, of rock and 22,166 cu. yds., place measure, of other material, dredged, completing the deepening to 26 ft.

Course 1, Bayfield Channel: 380,731 cu. yds., place measure, removed.

Angle Courses 1 and 2: 318,320 cu. yds., place measure, removed.

Courses 2 and 3, Little Rapids Channel: 645,000 cu. yds., place measure, removed.

Course 4, Lake Nicolet: 403,687 cu. yds., place measure, dredged, completing the channel to a depth of 26 ft.

Course 6, West Neebish Rock Cut: Cleanup of the channel to 26 ft. minimum depth was completed.

Lake Munuscong Channel: Dredging of sections of the channels from Twin Islands to Lime Island was started; length 19,700 ft., depth 26 ft. (low water datum 579.6, levels of 1903); 43,900 cu. yds., place measure, removed.

1935. Course 1, Bayfield Channel: 30,009 cu. yds., place measure, removed, completing the deepening to 26 ft.

Angle Courses 1 and 2: 108,829 cu. yds., place measure, dredged, completing the deepening to 26 ft.

Courses 2 and 3, Little Rapids Channel: 76,669 cu. yds., place measure, removed, completing the deepening to 25 ft.

Lake Munuscong Channel: 375,030 cu. yds., place measure, dredged, completing the deepening to 26 ft.

1936. Angle Courses 6-7 and 7-8, and Sailors Encampment, Middle Neebish Channel: 190,785 cu. yds., scow measure, removed.

1937. Brush Point Turn to Point Louise: 128,100 cu. yds., place measure, removed.

Angle Courses 6-7 and Sailors encampment, Middle Neebish Channel: 46,350 cu. yds., scow measure, removed.

1938. Brush Point Turn to Point Louise: 539,996 cu. yds., place measure, removed.

Angle Courses 5-6, 6-7, 7-8 and Courses 8 and 9, Middle Neebish Channel: 77,954 cu. yds., scow measure, removed.

Course 5, Middle Neebish Channel: 227,017 cu. yds., bin measure, removed.

1939. Courses 2 and 3, Little Rapids Channel; Courses 4,5,7 and 8, West Neebish Channel; Courses 8 and 9, Middle Neebish Channel; and East and West Approaches to the Davis and the Sabin Locks: 1,052, 615 cu. yds., bin measure, removed.

1940. Courses 5,6,7 and 9, Middle Neebish Channel; Round Island Course and Point Aux Frenes Turn in Lake Munuscong; and Approaches to the Davis and Sabin Locks: 1,315,748 cu. yds., bin measure, removed.
1941. Approaches to Davis and Sabin Locks; Courses 6 and Angle Courses 7-8, Middle Neebish Channel; and Course 6, West Neebish Channel: 8,514 cu. yds., scow measure, removed.
1942. MacArthur Lock: Excavation on the site of the old Weitzel Lock commenced, preliminary for the construction of a new lock.
- Angle Courses 7 and 8 and Courses 6 and 9, Middle Neebish Channel; East and West Approaches to Davis and Sabin Locks; and Course 1, Bayfield Channel: 149,022 cu. yds., scow measure, removed.
1943. MacArthur Lock: Excavation, preliminary for the construction of the new lock, was completed. Construction of the lock was practically completed; 187,609 cu. yds., place measure, of material removed from the east and west approaches to the lock.
- South Pier: The reconstruction of 2,042 lin. ft. of pier commenced.
- Angles Courses 5-6 and 6-7, West Neebish Channel; Course 1, Bayfield Channel; and East and West Approaches to Davis and Sabin Locks: 121,346 cu. yds., scow measure, removed.
1944. MacArthur Lock: 39,301 cu. yds., place measure, of material removed from the approaches to the lock. The lock was formally opened to traffic on 11 July 1943; finishing work continued.
- Southwest Pier: Reconstruction of the pier was completed; approximately 2,042 lin. ft.
- Michigan Northern Power Company Canal: Widening of the entrance to the canal was completed; 421,110 cu. yds., place measure, removed.
- Course 1, Bayfield Channel; Angle Courses 1-2; Angle Courses 5-6 and 6-7 and Course 6, West Neebish Channel; East and West Approaches to Locks: 70,002 cu. yds., scow measure, removed.
1945. Southwest Pier: The construction of a 1,200- ft. pier extension started.
- Brady Pier: Reconstruction of the pier started.

East and West Approaches to North Canal; East Approach to South Canal; Course 1, Bayfield Channel; Angle Courses 1-2, 5-6, 6-7 and Course 6, West Neebish Channel; Course 6 and Angle Courses 7-8 and 8-9, Middle Neebish Channel: 5,970 cu. yds., scow measure, removed.

1946. Southwest Pier: The construction of the 1,200-ft. pier extension was completed.
- Brady Pier: Reconstruction of the pier was completed.
- East and West Approaches to Locks and Various other Shoals: 4,945 cu. yds., scow measure, removed.
1947. East and West Approaches to Locks: 7,866 cu. yds., scow measure, removed.
1948. East and West Approaches to Locks: 6,125 cu. yds., scow measure, removed.
1949. MacArthur Lock: Lock finishing work completed.
- U.S. Power Plant: The construction of a new power plant started.
- East and West Approaches to Locks: 4,814 cu. yds., scow measure, removed.
1950. Course 1, Bayfield Channel: 28,012 cu. yds., scow measure, removed.
1951. East and West Approaches to Locks: 5,376 cu. yds., scow measure, removed.
1952. U.S. Power Plant: Construction of new power plant completed; generation of power started 1 November 1951 and dismantling of old power plant started.
- East and West Approaches to Locks: 5,277 cu. yds., scow measure, removed.
- Courses 7 and 8, West Neebish Channel: 124,126 cu. yds., bin measure, removed.
1953. U.S. Power Plant: Dismantling of the old power plant was completed, except for Unit 10 remotely controlled from the new power plant.
- East and West Approaches to Locks: 4,015 cu. yds., scow measure, removed.
- Course 5, Middle Neebish Channel: 5,570 cu. yds., scow measure, removed in the vicinity of Light 52.
1954. Shoals and Canal Approaches: 32,427 cu. yds., scow measure, removed.

1955. Shoals and Canal Approaches: 14,427 cu. yds., scow measure, removed.
1956. Shoals and Canal Approaches: 5,059 cu. yds., scow measure, removed.
1957. Shoals and Canal Approaches: 5,276 cu. yds., scow measure, removed.
1958. Frechette Point and Middle Neebish Channel: Dredging for a 27-ft. project depth started; 1,895,761 cu. yds. removed.
- Shoal Removal and Frechette Point Widening: 139,540 cu. yds. removed.
1959. Frechette Point Turn and Courses 5, 7, 9 and 10, Middle Neebish Channel: 1,720,350 cu. yds. removed.
- St. Marys River Shoals: 2,094 cu. yds. removed.
1960. Middle Neebish Channel project deepening completed.
- West Neebish Channel, Courses 6 and 7: Dredging for a 27-ft. project depth started.
- Round Island Shoals, Vidal Shoals and Angle Courses 1 and 2: Dredging operations started; 4,867,419 cu. yds. removed.
- Removal of shoals from the St. Marys River is now routine maintenance.
1961. Channel deepening work completed near Brush Point; Vidal Shoals Channel; Angle Courses 1-2, Course 4, Lake Nicolet Channel; Courses 4 and 5, West Neebish Channel; East Approach, South Canal; and in Lake Munuscong from Moon Island to Lime Island.
- Dredging was partially completed in the lower and Birch Point Course and Brush Point Course; Course 1, Bayfield Channel; Courses 2 and 3, Little Rapids Channel; and Angle courses 5-6 and 6-7, West Neebish Channel.
- New Poe Lock: The first stage of construction for a new second lock started in February 1961.
1962. Dredging started in the Point Iroquois Channel and anchorage area and Crab Island Shoal.
- Dredging was completed in Courses 1, 2, 3, 4, 6 and 7; Angle Course 5-6; Pipe Island Course; and West Neebish Channel.

1963. Dredging was completed in Birch Point Course, Brush Point Course and Crab Island Shoal.

New Poe Lock: The first stage of construction was completed in November 1962.

1964. Gros Cap Reef Channel: Dredging work was completed.

1965. Pt. Iroquois Shoal Channel: Dredging was practically completed.

New Poe Lock: In August 1964, construction was resumed on a redesigned lock.

1966. The construction of the New Poe Lock continued.

A contract for the Information Center was awarded.

A contract for the construction of an addition to and modification of an overlook platform was awarded and completed.

A contract was awarded for furnishing and installing power, control and lighting equipment for the New Poe Lock.

The new powerhouse and Unit 10 were operated and maintained.

Removal of shoals in the St. Marys River channels and canal approaches was accomplished.

1967. Cleanup of Pt. Iroquois Shoal Channel: Work was completed.

Dredging in Pt. Iroquois Anchorage Area: 1,356,590 cu. yds., bin measure, removed; 45 percent of work completed.

New Second Lock: The contract for the construction of the new second lock continued; approximately 86 percent of the work was completed.

The contract for the construction of the International Center was completed.

The contract for furnishing and installing power, control and lighting equipment for the new second lock was continued; approximately 40% was completed.

A contract for the construction of a scale operating model of the navigation lock was awarded and completed.

The new powerhouse and Unit 10 were operated and maintained.

The removal of shoals in St. Marys River Channels and Canal approaches was accomplished.

1968. An investigation of critical bends in the river, to determine the extent to which these bends require widening and deepening to accommodate the larger Great Lakes vessels under construction at the time, was initiated.

Dredging in Pt. Iroquois Anchorage Area: 1,229,096 cu. yds., bin measure, removed; 9% completed.

The New Second Lock: The contract for construction continued; approximately 99 percent of the work completed. The contract for furnishing and installing power, control and lighting equipment for the new second lock was continued; approximately 98 percent of the work was completed.

The new powerhouse and Unit 10 were operated and maintained.

The removal of shoals in St. Marys River Channels and canal approaches was accomplished.

1969. The investigation of critical bends in the river, to determine the extent to which these bends require widening and deepening to accommodate the larger Great Lakes vessels under construction at the time, was continued.

Dredging in Pt. Iroquois Anchorage Area: 2,301,778 cu. yds., bin measure, removed; 17% completed.

The contract for the construction of the new Poe Lock was completed. The contract for furnishing and installing power, control, and lighting equipment for the new Poe Lock was completed. The Poe Lock was dedicated and placed into regular operation on 26 June 1969.

The removal of shoals in St. Marys River Channels and canal approaches was accomplished.

Maintenance Dredging: 204,688 cu. yds., bin measure, of shoal material, removed.

1970. The investigation of critical bends in the river, to determine the extent to which these bends require widening and deepening to accommodate the larger Great Lakes vessels under construction, was continued.

The removal of shoals in St. Marys River channels and canal approaches was accomplished.

Maintenance Dredging: 29,159 cu. yds., bin measure, of shoal material, removed.

1971. Preconstruction planning to widen and deepen critical bends in the river, to accommodate the larger Great Lakes vessels under construction, was continued.

Construction contracts was awarded for widening of angle courses 5-6, 7-8, 8-9, 1-2, and 6-7.

The removal of shoals in St. Marys River channels and canal approaches was accomplished.

A gatehouse for the new Poe Lock was completed.

1972. A contract for the widening of angle courses 5-6, 7-8, and 8-9 was about 6% completed.

A disposal area for angle course 6-7 at Hen and Chicken Islands and on an alternate area for angle course 1-2 have been approved.

Dredging in the Point Iroquois Anchorage Area: 122,099 cu. yds. removed.

The removal of shoals in St. Marys River channels and canal approaches was accomplished.

1973. A contract for the widening of angle courses 5-6, 7-8 and 8-9 was awarded; contract was 77% completed.

Dredging and dragging in the Point Iroquois Anchorage Area: 40,123 cu. yds. removed.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

1974. A contract for the widening of angle courses 5-6, 7-8 and 8-9 was completed.

A contract for widening the turns at angle courses 6-7 (Middle Neebish Channel) and at angle courses 1-2 were awarded; the work in angle courses 6-7 was 28% completed; work on the site at angle courses 1-2 did not commence.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

1975. A contract for widening the turns at angle courses 6-7 (Middle Neebish Channel) and angle courses 1-2 continued.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
1976. A contract for widening the turns at angle courses 6-7 (Middle Neebish Channel) and angle courses 1-2 was continued.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
1977. A contract for widening the turns at angle courses 6-7 (Middle Neebish Channel) and angle courses 1-2 was continued.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
1978. A contract for widening the turns at angle courses 1-2 was continued.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
1979. A comprehensive inspection of the American gates on the St. Marys River compensating gates was completed.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
- Great Lakes Power Limited of Canada started redevelopment; cofferdams were erected in the tailrace to begin construction of a new powerhouse to replace the old Lake Superior Power Company Plant.
1980. A St. Marys River - Little Rapids Cut ice boom was installed.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
- Great Lakes Power Redevelopment: Cofferdams were constructed to close off the approach and tailrace, to begin excavation for deepening channels and to remove the old powerhouse.

1981. A St. Marys River - Little Rapids Cut ice boom was installed at the beginning of the winter season and removed at the end of the winter season.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
1982. A contract for the installation of frost tensioned rock anchors at piers 9 thru 16 was completed.
- A St. Marys River - Little Rapids Cut ice boom was installed in the beginning of the winter season and removed at the end of the winter season. The construction of ice stabilization islands was performed.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
1983. Compensating Works Structure: A contract was awarded for the placement of cement grout filled fabric bags for the repair of scoured areas beneath gates 9 through 16 of the structure.
- A St. Marys River - Little Cut ice boom was installed at the beginning of the winter season and removed at the end of the winter season; also, work on ice stabilization islands was performed.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
- Great Lakes Power Limited: Construction of a new powerhouse was completed; became fully operational in February 1983.
1984. A St. Marys River - Little Rapids Cut ice boom was installed at the beginning of the winter season and removed at the end of the winter season; also, work on ice stabilization islands was performed.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.
1985. A St. Marys River - Little Rapids Cut ice boom was installed at the beginning of the winter season and removed at the end of the winter season.
- The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

Fisheries Remedial Works: A low-head berm was constructed in the rapids area along the south edge of Whitefish Island.

1986. The Sabin Lock was out of service.

The St. Marys River - Little Rapids Cut ice boom was installed at the beginning of the winter season and removed at the end of the winter season.

Some work was done on the Compensating Gates.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

1987. The Canadian Lock was closed.

The Sabin Lock was out of service.

The St. Marys River - Little Rapids Cut ice boom was installed at the beginning of the winter season and removed at the end of the winter season.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

Repair of the Davis Lock Dewatering Gates: Contract awarded.

A contract was awarded and completed for sandblasting the Davis Lock and administrative buildings.

Repairs were made to the rock cut.

1988. The Davis Lock was out of service. Necessary repairs and improvements were made to structures and equipment.

A contract, which was awarded last Fiscal Year, for emergency repair to the hydro generator Unit 10 was 97% completed.

The St. Marys River - Little Rapids Cut ice boom was installed at the beginning of the winter season and removed at the end of the winter season.

Work was done on the Compensating Gates.

The St. Marys River channels and canal approach depths were surveyed by sweeping; removal of shoals was accomplished.

Repair of the Davis Lock Dewatering Gates: Contract 88% completed.

1989. The Davis Lock was out of service.

The St. Marys River - Little Rapids Cut ice boom was repaired.

Work was done on the Compensating Gates.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

Repair for the Davis Lock Dewatering Gates: Work was completed.

1990. The Sabin Lock was out of service.

The St. Marys River - Little Rapids Cut ice boom was repaired.

A small amount of work on the Compensating Gates was done.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

A study was performed with respect to winter maintenance of the locks.

1991. The Sabin Lock was out of service.

Repairs were made and testing was conducted on the hydroelectric Unit 10 generator.

The modifications to the St. Marys River - Little Rapids Cut ice boom were completed.

Some work was done on the Compensating Gates.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

1992. The Davis Lock was out of service.

Repairs were made and testing was conducted on the hydroelectric Unit 10 generator.

Some work was performed on the Compensating Gates.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

1993. The Sabin Lock was out of service.

The removal of shoals in the St. Marys River channels and canal approaches was accomplished.

Some work was performed on the Compensating Gates.

A contract was awarded for underwater repairs to the Southeast Pier.

