



US Army Corps
of Engineers ®



St. Marys River, MI

Harbor Features

- One of Great Lakes connecting channels; flowing southeast between the State of Michigan and the Province of Ontario, Canada from the eastern end of Lake Superior into the northern end of Lake Huron
- Authorization: Rivers & Harbors Acts of 11 Jul 1870, 5 Aug 1886, 12 Jul 1892, 13 Jun 1902, 3 Mar 1905, 2 Mar 1907, 3 Mar 1909, 25 Jul 1912, 4 Mar 1915, 22 Sep 1922, 21 Jan 1927, 3 Jul 1930, 26 Jun 1934, 30 Aug 1935, 7 Mar 1942, 15 Jun 1943, 2 Mar 1945, 24 Jul 1946, 9 Mar 1956, 9 Jul 1956
- Deep draft commercial channel
- Project depths varying from 27.5 to 30.0 feet in the St. Marys River, Lake Superior, and Lake Huron approaches
- Total of 75 miles of federally maintained deep draft channels
- Vital Great Lakes connecting channel with 69.1M tons of commerce passing through in 2021
- Ranked 1st among Great Lakes Waterways in 2021
- Project includes two active locks and two canals which historically handle over 80M tons of cargo annually and a hydropower plant of 20-megawatt capacity.
- Major stakeholders: U.S. Coast Guard, Algoma Steel, Gardiner Marine Ltd., Great Lakes Power, Kemp Coal Dock, MCM Marine, Purvis Marine Ltd., and nearly all Great Lakes shipping interests

Project Requirements

- Approximately 55,000 to 85,000 cubic yards of material must be dredged on a 4- to 6-year cycle.
- The river was last dredged in 2015 (Courses 5 and 6).



- Maintenance dredging will be conducted in 2023 with FY23 funds. Maintenance dredging has also been identified in FY24 President's Budget. Obstruction removal by the government floating plant is required in hard bottom channels of the St. Marys River on an annual basis.
- USACE has developed a multi-year asset renewal plan to modernize the existing infrastructure of the locks to provide reliable and resilient infrastructure. The purpose is to improve the efficiency of lock operations and reduce the risks of downtime and vessel delays. This effort will focus on the Poe and MacArthur Locks, but other infrastructure at the facility is also included in the plan. Major items in the plan include repairs to Poe Lock Gate 1 (funded in 2021) and ultimately fabrication and replacement of Gate 1 (funded in 2023), E&D (funded in 2023) and fabrication of emergency bulk heads and construction of an emergency closure system (construction funded in 2024), and many miscellaneous improvements and upgrades. Asset Renewal includes repair of navigation structures around locks such as the crib dam which was funded in 2023 as well as facility rehabilitation to include wastewater sewage system (E&D funded in 2021, construction funded in 2023), backup generator (construction funded in 2023), and building repairs.

Project Requirements (cont'd)

- The guide walls along the West Neebish Island navigation channel (rock cut) were failing at various locations. Government plant completed repairs of the walls in fall 2017. Additional rehabilitation of the Rock Cut Lower Dam is funded in the FY23 Work Plan.
- Repairs were completed on the concrete sills of Poe Gates 1 and 3 in 2020-2021, which exhibited significant deterioration.

Consequences of Not Maintaining the Project

- The 2018 New Soo Lock Economic Validation Study updated the economic consequences of a prolonged outage of the Poe Lock and the economic validity of constructing a second Poe-sized lock.
- If the channel were closed to commercial traffic, commodities would have to be transported by rail or truck (although there is no current alternate mode of transport around the Soo Locks). This would increase annual emissions rates by over 565.3B lbs of harmful particulate matter (PM-10) and increase costs by \$126.5M due to increased railroad related accidents, or by \$84.6M due to increased trucking related accidents.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between \$14.4M and \$35.1M annually.
- Key component of the Great Lakes and St. Lawrence Seaway navigation system.
- Disruption of service would have catastrophic maritime and economic impacts.

Transportation Importance

- Only connecting channel between Lake Superior and the lower Great Lakes and the St. Lawrence Seaway.
- St. Marys Falls Canal provides for vessel passage around the 21-foot drop of the river over the falls at Sault Ste. Marie, MI.
- This canal serves both domestic and foreign flag vessels transiting the Great Lakes.
- Commodities transported through these channels include iron ore, coal, limestone, petroleum and petroleum products, chemicals and related products, primary manufactured goods, food and farm products, manufactured equipment, machinery, and machine products.
- The U.S. Coast Guard Sector Sault Ste. Marie is located along the banks of the St. Marys River. This sector is responsible for all Coast Guard missions on Lake Superior, Northern Lakes Michigan and Huron and the surrounding navigable waterways, including search and rescue, law enforcement, aids to navigation, marine safety, and homeland security. Aiding in these operations, from their home port in Sault Ste. Marie, MI, are the U.S. Coast Guard Cutters Katmai Bay and Buckthorn.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2022, 2023, and 2024
St. Marys River, MI – Project Requirements and President’s Budget (\$1,000)**

Work Package	FY22 Requirement	FY22 Appropriation*	FY23 Requirement	FY23 Appropriation*	FY24 Requirement	FY24 President’s Budget
Lock Operations & Maintenance	16,250	16,250	16,924	16,502	17,690	17,256
Project Condition Surveys	2,933	2,933	2,978	2,978	3,114	3,114
Rapid Response Channel Maintenance - Fleet	3,800	3,800	3,618	3,618	4,020	4,020
Lock and Dam Maintenance Unit - Fleet Support to Soo Locks Maintenance	0	0	1,259	1,259	1,300	1,300
Dam Safety Inspections	73	73	45	45	110	110
Dam Instrumentation, Data Collection, & Analysis	776	266	747	247	781	240
Hydraulic Steel Structures (HSS) Program Inspections	0	0	81	81	72	72
Lock Maintenance – Fleet - Winter Dewatering Requirements	1,700	1,700	2,000	2,000	2,500	2,500
Maintenance Dredging	0	0	2,660	2,660	3,210	3,210
Dredged Material Management/ Planning and Placement Site Preparation	2,700	2,000	700	700	0	0
Environmental Compliance (ERGO) Management for Navigation	32	32	30	30	33	33
Industrial Hygiene Services	75	75	25	25	79	79
Real Estate Management for Navigation	269	197	272	272	285	285
Cultural Resources Management (Env. Stewardship) for Nav	62	62	62	62	65	65
O&M of Visitor Center/Rec in support of Navigation	225	225	206	206	0	0
Grounds/Security in support of Nav	2,906	2,906	2,958	2,958	3,085	3,085
Machine Shop Fabrication Equipment Replacement	450	450	0	0	0	0
Sustainable Asset Inventory Management and Safe Material Storage	4,000	0	4,000	4,000	800	0
Bridge Safety Routine Inspections	25	25	25	25	65	65
Soo Locks Facility Electronic Security System (ESS) Modernization for Operational Reliability	250	250	0	0	0	0
Water Mgmt (Control-Quality) Activities for Navigation - Analysis and Studies	250	0	250	250	0	0

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Soo Locks Asset Renewal						
St. Marys River Little Rapids Ice Islands Operational Reliability Assessment E&D and maintenance	300	0	300	0	2,300	2,300
Replacement Gate Leaves for Poe Lock Gate 1 - Fabrication & Delivery	12,350	0	12,350	12,350*	0	0
Replacement Gate Leaves for Poe Lock Gate 1 - Engineering and Design of Installation Methods	0	0	750	750	75	0
Replacement Gate Leaves for Poe Lock Gate 1 - S&A, EDC and QA	0	0	250	250	0	0
Aquadigger Outfitting for Strike Removal – Final Phase	1,250	0	1,250	1,250*	0	0
Crib Dam Stabilization and Capacity Repairs	12,000	0	12,000	12,000*	0	0
Soo Locks Pier walking / working surface and structural repairs	1,500	0	1,500	0	1,500	0
Poe Lock Dewatering Emergency Bulkhead Design Integration, Storage and Fabrication	4,990	0	4,990	1,000	6,000	6,000
Rehabilitation of Critical Mooring Facility for Soo Locks floating plant (Northeast Pier)	12,700	0	12,700	12,700*	0	0
Middle Neebish Navigation Rehabilitation Including Rehab of Rock Cut Lower Dam	2,050	0	2,050	0	2,050	0
E & D - Maintenance Support Building Electrical System Rehabilitation	420	420	0	0	0	0
Study to reduce arc flash risks in Macarthur and Poe Locks	400	400	0	0	0	0
Environmental & Real Estate Coordination for Rock Cut Stone Storage Property	50	0	50	50	0	0
Medium ABS Ice Class C0 Tugboat - St Marys River Strike Removal	0	0	300	300	0	0
Repair and Replace Miter Gate Anchorage Components for Mac	550	550	950	950	0	0

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Poe Lock Upstream Ship Arrestor Rehabilitation (Fabrication and Installation)	10,900	10,900	500	500	0	0
Poe Lock Filling and Emptying Valves Repairs	4,200	4,200	0	0	0	0
Cranebarge Harvey Replacement Phase 3 of 4	9,500	9,500	0	0	0	0
Cranebarge Harvey Replacement Phase 4 of 4	5,910	5,910	0	0	0	0
Engineering & Design - St. Marys River Heavy Lift Equipment (Crane and Barge)	1,000	0	1,000	0	1,500	1,500
St. Marys River Heavy Lift Barge	0	0	0	0	35,500	35,500
Facility Lighting Modernization – Phase 1	1,250	0	1,250	1,250	0	0
Facility Lighting Modernization – Phase 2 E&D	0	0	500	500	0	0
Mac and Poe Lock Structural Handrail Design and Installation	3,800	3,800	380	380	0	0
Facility Service Access Road Rehabilitation	1,900	1,900	0	0	320	320
Poe Gate 3 - Replacement Gate Fabrication Engineering and Design	350	0	350	350	0	0
Poe Gate 3 - Replacement Gate Installation Plan Engineering and Design	0	0	0	0	525	0
E&D and Construction – Poe Lock Stop Log Recess Repairs	250	0	250	250*	2,700	2,700
Engineering & Design - Sluiceway Rehabilitation - Dam Safety	1000	0	1,000	0	1,000	0
Construction - Facility Sanitary Sewer System	4,400	0	5,500	5,500	800	0
Soo Locks Facilities Sustainment Management System Improvements (Ops, Admin & MSB)	0	0	1,100	0	1,100	1,100
Maintenance & Storage Building (MSB) Energy Efficiency Improvements	500	0	3,750	3,750	0	0
Construction of Backup Generator Replacement	16,400	0	22,190	22,190	0	0
Facility Pier Comprehensive Annual Inspection and Assessment Plan	500	0	500	500	1,000	0

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Maintenance Storage Building (MSB) West Site Safety and Security Access Rehab	1,150	0	1,150	1,150	0	0
Poe Lock Miter Gate Cylinder Rods	0	0	400	400	0	0
Poe Stoplog Foundation Piers Relocation	0	0	510	510	0	0
West Center Pier Lighting Rehabilitation (increase height in New Lock reach)	0	0	2,000	2,000	0	0
West Neebish Navigation Channel Rock Cut and Mooring Facility Maintenance	0	0	2,610	2,610	0	0
End of Life Cycle Gate Removal from SMR	0	0	0	0	975	975
Upstream Approach Wall, West Center Pier, South Pier Rehabilitation E&D	0	0	0	0	750	750
Gate 3 Structural Repairs - Maintenance Winter Work	0	0	0	0	2,000	2,000
West Center Pier Operations Safety, Security, and Lighting Replacement	0	0	0	0	3,000	3,000
Upstream Approach Wall, West Center Pier, North Pier Rehabilitation Construction	0	0	0	0	12,000	12,000
St. Marys River Ice Study for Soo Locks Operating Season	0	0	0	0	250	250
Other Business Lines						
Recreation:						
- Recreation Facilities Operations and Maintenance	379	334	395	114	627	273
- Recreation Facilities Accessibility, Safety, and Infrastructure Repairs/Modifications	2,030	0	2,050	200	2,550	0
Hydropower:						
- Hydropower Operations	879	879	951	951	1,253	1,129
- Hydropower Maintenance	2,231	1,633	2,540	1,989	2,400	2,114
- E&D and Construction – Main Units Generator Repairs/Rewinds	8,600	0	8,600	0	8,600	0

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- Unit 10 Generator Repairs/Rewind - Engineering and Design	1,500	0	1,600	0	1,900	0
- Unit 10 Generator Repairs/Rewind - Construction	6,500	0	7,000	0	7,500	0
- E&D and Construction - Unit 3A Generator Repairs/Rewind	0	0	5,400	0	5,400	0
- St. Marys Hydropower Major Rehab Evaluation Report	500	0	550	550	0	0
- E&D and Construction - 13.8kV Air Circuit Breaker Replacement	4,300	4000	2,500	2,500	0	0
- Power Feeder & Duct Bank Replacement	5,800	0	7,900	5,800	2,100	0
- Operational HVAC, Electrical Infrastructure, and Panelboard repairs/maintenance	825	0	1,975	0	1,575	0
- Plant Safety, Security, and Building Infrastructure repairs/maintenance	2,634	0	3,670	420	6,850	0
- Powerhouse Bridge Cranes, Gantry cranes, and Hoist Equipment Rehab/Replacement	2,600	0	5,100	0	4,200	0
- Trash Rack, Trash Rake, and Ice Boom Replacement	875	0	2,500	0	0	0
Obelisk relocation from Brady Park Engineering & Design	500	500	0	0	0	0
Grounds/Security in support of Hydropower	327	327	332	332	347	347
Ground/Security in support of Rec	33	33	34	34	35	35
CIPR Security Requirements (Joint)	910	0	910	650	0	0
TOTAL	189,769	76,530	187,227	134,898	157,891	107,727

**Funded with supplemental funds, Bipartisan Infrastructure Law (BIL)*

Congressional Interests

- Representative Jack Bergman R-MI-1
- Senator Gary Peters D-MI
- Senator Debbie Stabenow D-MI
- Numerous other representatives and senators throughout the Great Lakes with interests in ports that share interconnectivity with the St. Marys River.