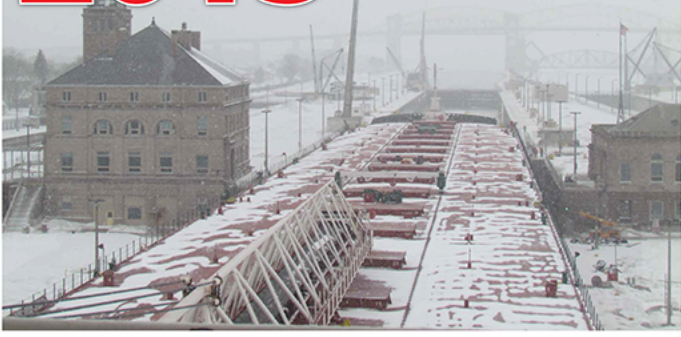


2015 In Review



Site Visits - New Lock and Site Maintenance

2015 saw several dignitaries making a trip to Sault Sainte Marie to see the locks first hand and get a better understanding of current navigation needs. Visitors included U.S. Senators and Congressmen, the Secretary of Commerce and Michigan's Governor. While on site they toured the facility and met with representatives from the U.S. Army Corps of Engineers, U.S. Coast Guard, Homeland Security and Great Lakes Shipping stakeholders to discuss water levels, shipping concerns and the need for a new Poe-sized lock.



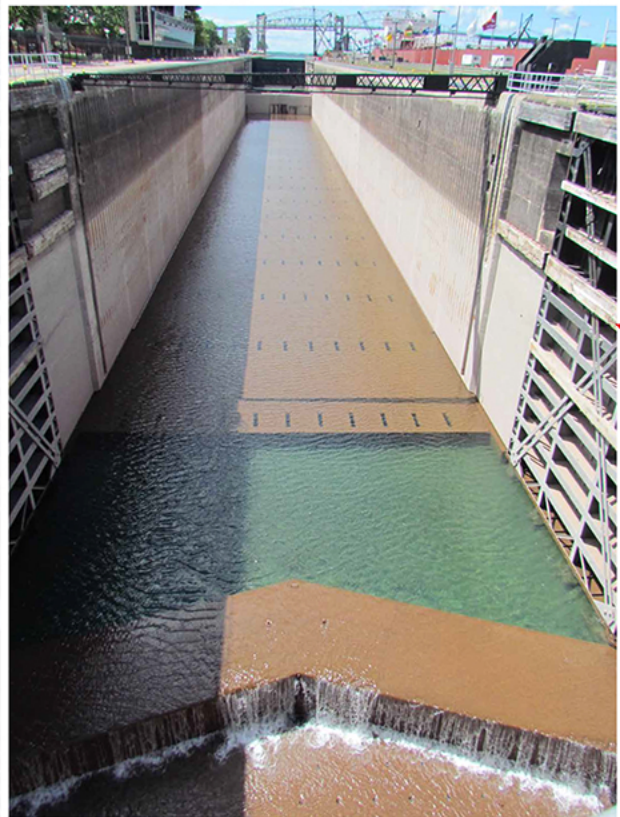
Season Opening - Ice!

Though the ice on the lakes was not as intense as it was in 2014, the start of the 2015 navigation season was almost as challenging. Two boats were at the pier on March 25 to lock through, the Edwin H. Gott and the Roger Blough. The Gott was first in the lock and the trouble with ice began almost immediately, it took over nine hours for her to finally clear the lock. Boats travelled in convoys with icebreaker assistance for the start of the season. Operation Taconite, the U.S. Coast Guard's icebreaking mission, continued until May 4.



Mac Lock Outage

The 72-year old MacArthur Lock is going strong, but an unexpected issue with the gates caused a 17 day closure at the peak of the summer season. The upper gates failed to mitre properly and the lock had to be dewatered and repairs made. Crews worked 12-hour days to get the lock back on-line as quickly as possible. It is estimated that the closure cost shipping companies over \$800,000 due to delays from having only one operable lock during the busy season.

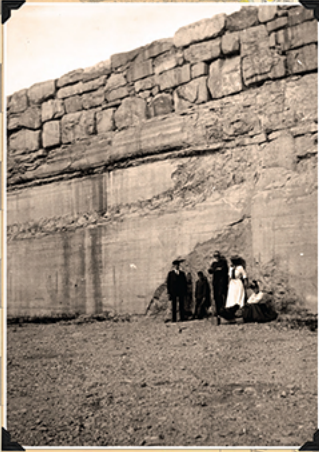


2015 by the numbers

- Navigation Season: 296 days
- Total Vessel Passages: 6,448
 - US: 4,098
 - Canadian: 1,461
 - Other Nations: 889
- Total Cargo Carried Through: 68,740,609 tons
 - Iron Ore: 38,270,747
 - Coal: 12,444,218
- Largest Single Load: 71,537 tons
EDWIN H. GOTT
- Deepest Draft: 29 feet, 2 inches
PAUL R. TREGURTHA, August 2
- Visitors on Engineers Day: 9,655 people
- Visitors in the Park and VC: 424,661 people

THE ROCK CUT: Balancing Navigation and Preservation

About 15 miles below the Soo Locks is another engineering marvel: The West Neebish Channel, and a section known simply as "The Rock Cut." Before 1908, all vessel traffic had to take a crowded and twisting route along the East and North sides of Neebish Island in a heavy current. Plans for a separate channel for downbound boats on the West Side of Neebish Island emerged in 1897 with work beginning in 1902 carving out a canal 1 mile long, 300 feet wide and 21 feet deep through solid stone.



1902 Original construction: *Blasting through bedrock*

Dams were built to hold back water at each end of the proposed channel and crews using hand drills and dynamite blasted away 1.7 million cubic yards of limestone to carve out the canal. Large gondola skips on overhead cables hauled the stone to either side of the channel creating mounds up to 45 feet high. The tops of the canal walls were finished with ashlar masonry stone weighing up to 2 tons per block. In 1908 the dams were removed and the channel opened for down bound vessels creating two way traffic around Neebish Island.



U.S. Army Corps of Engineers
SAULT STE MARIE, MICH.
WESTERN LAKES
DIVISION OF CONSTRUCTION
ENGINEERS, U.S. ARMY
PROJECT NO. 2
SAULT RIVER
SAULT STE MARIE
U.S. ARMY
CORPS OF ENGINEERS

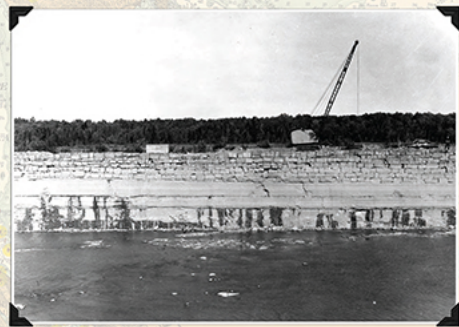
A special place

Because of its age, unique construction and importance to Great Lakes Navigation, the Rock Cut is eligible for inclusion on the National Register of Historic Places and the Michigan State Historic Preservation Office (SHPO) must review changes. Together the Corps of Engineers and SHPO are working to balance the needs of navigation, the stability of the channel and the desire to protect and preserve the unique aspects of its original construction.



1930s and 1960s: *Constant repair*

The masonry walls required continual repair and rebuilding. Water freezing and thawing between the blocks made the walls unstable. In the 1930s and 1960s when the channel was dewatered for deepening (to 25 feet in 1931 and 28.5 feet in 1960), crews rebuilt the masonry portions of the walls. Later attempts to stabilize the walls included using cast concrete blocks in the 1970s, steel frames and anchor weights in the 1980s, and in 2000 workers injected grout to try to stabilize the blocks. Unfortunately, none of these efforts worked and by 2014 nearly 50% of the walls had failed and fallen into the channel.



2012 and beyond: *Sustainable maintenance*

To stabilize the walls on the mainland side, crews have removed the masonry portions where the water freezes and created a sloped bank. Crews saved millions of dollars by using rock excavated in earlier projects to stabilize the bank. As part of the project, they also created an access road along the top which will save money into the future as the new walls will be more stable, and easier to access and maintain. Work is expected to begin on the island side in 2016.

175 YEARS

1841 2016

Detroit District • Serving the Nation

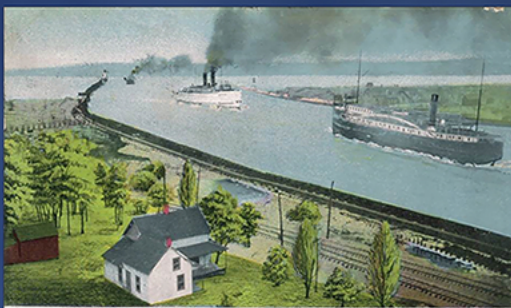
Building Strong for 175 Years

The Detroit District's history and mission stretches well beyond the Soo Locks. In 1802, Congress formed an Engineer Corps of 16 officers and four cadets in 1802 at West Point, New York, from this humble beginning, the U.S. Army Corps of Engineers has become the largest civil works agency in the world. A proud part of this history, the Detroit District formed in 1841 with a mission that has grown from harbor surveys and lighthouse construction to include environmental restoration, hydroelectric power generation, government construction, and of course operating the Soo Locks.



1841 The first project taken on by the newly formed Detroit District was the construction of Fort Wayne in Detroit. The third fort in the area, it was to protect the U.S. from nearby British forces. Begun in 1842 and completed in 1851, it saw use through various conflicts and in the 1970s was turned over to

the City of Detroit. The U.S. Army Corps of Engineers retained nine of the original 96 acres, which today house the Detroit Area Office for the U.S. Army Corps of Engineers. The fort itself is on the National Register of Historic Places and open to the public for tours and events.



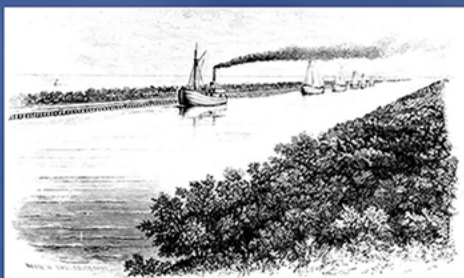
Entrance to Harbor, Grand Haven, Mich.

Copyright by M. K. Brown, 2008

1911 The U.S. Army Corps of Engineers has been active in Grand Haven since 1857 maintaining harbors and piers on Eastern Lake Michigan. The area office took up residence at its current location on the Grand River in 1911. After a time as part of the Milwaukee District, it was assigned to the Detroit District during a merging of districts, and in 2005 became the Lake Michigan Area Office when it was joined

with the office in Kewaunee, Wisconsin. Through these two offices, they continue the historic mission of maintaining piers and harbors on Lake Michigan as well as overseeing construction for other agencies including Veteran's Affairs and the Environmental Protection Agency. The Lake Michigan Area Office is currently overseeing dredging in 10 harbors and several eco-system restoration projects.

1850s The Detroit District carried on the work of the Topographical Engineers begun in the Great Lakes in the 1820s conducting surveys, overseeing harbor improvements and building lighthouses. While the State of Michigan built a lock at the Soo, the District focused on surveying and maintaining channels through the St. Marys River and the St. Clair River, particularly an area known as the St. Clair Flats. Flowing between Lake Huron

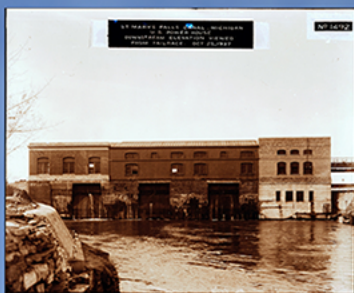


and Lake St. Clair, the lower end of this river forms a shallow delta where vessels brushed reeds as they made their way through and often grounded in the shifting channels. Initially four miles long, 250 feet wide and 14 feet deep, it is currently maintained to be 800 feet wide and 27.5 feet deep.



1881 Although there had been locks in operation at the Soo since 1855, they were owned and operated by the State of Michigan until the original lock and the Weitzel Lock were turned over to the U.S. Army Corps of Engineers in 1881. The federal government had been instrumental in assisting with funding through land grants for construction of the first lock and in designing and constructing the Weitzel Lock. Maintaining a link between the raw materials of Lake Superior and the industrial centers of the lower lakes was considered of high enough national significance to warrant federal control of the project and it was received from the state June 6, 1881.

1906 The U.S. Army Corps of Engineers expanded an existing power plant in the rapids providing power to the city and eventually for the operation of the locks. Edison Sault Electric Company built the first power plant on the site in 1888 and since purchasing the plant, the U.S. Army Corps of Engineers has continued to expand and modernize its hydroelectric power generation. Today, two power plants on the Soo Locks facility annually generate over 150 million kilowatt hours of electricity providing power to the locks as well as the Eastern Upper Peninsula.



1979 Responsible for the Great Lakes' largest harbor and the westernmost Atlantic Seaport in the U.S., the Duluth Area Office joined the Detroit District in 1979. Previously part of the St. Paul District, the U.S. Army Corps of Engineers' role in this harbor goes back to 1867. Where the St. Louis River meets Lake Superior, they maintain over 10,000 feet of breakwaters, piers and other structures and more than 18 miles of channels to service 110 docks within the harbor. A visitor center has been in operation in Duluth since 1973, providing opportunities for boat watching and learning about Great Lakes shipping.



2015 In one of its largest eco-system restoration projects yet, the Detroit District replaced a dam built before the Civil War with a rock ramp fish passage in Frankenmuth, Michigan. The 350-foot-long project, managed through the Detroit Area Office, used over 20,000 tons of limestone from Alpena, Michigan to simulate a natural rapids and maintain current water levels upstream. This project not only connects the Cass River with more than 70 miles of upstream spawning habitat inaccessible to walleye, sturgeon and other species since the 1850s, it also stabilizes the south shore of the river and a critical bridge carrying State Highway M-83 over the waterway.