

Shipping on Michigan's Great Lakes and Rivers

Using the buttons and YouTube videos provided on the web site, you can learn important and unique information regarding the shipping industry on Michigan's Great Lakes and rivers. Specifically, you can learn about the J.W. Westcott, the only floating post office in the United States, and the importance of the Soo Locks. These two topics take place on the Detroit and St. Mary's Rivers.

Begin by learning some cold, hard facts about the shipping industry by clicking on the "Welcome to Great Lakes Shipping" button. After visiting this web site, watch the two time-lapse videos of "Lakers" moving along the St. Clair and Detroit Rivers. Finally, click on the "Boat Nerd" button to view a map that shows real time boat traffic on the Great Lakes. Keep zooming in to get greater detail of the boats that are out there right now! But let's begin up north, in Sault Ste. Marie, at the Soo Locks.

Soo Locks
Sault Ste. Marie, MI

HOW THE LOCKS KEEP GREAT LAKES SHIPS MOVING

Shipping locks to help vessels traverse the 21-foot drop from Lake Superior to the lower Great Lakes along the St. Marys River date to the 1700s. Locks on the U.S. side of the river date to 1853 and represent one of the busiest choke points on the Great Lakes, with only one lock — the Poe — big enough to handle the 1,000-footers, the biggest and most significant cargo carriers on the Lakes.

THE SOO LOCKS

Only two of the four locks at the Soo are operational, the Poe and the MacArthur. Two others, the Davis and Sabin locks, are closed. Shippers and key proponents want a new Poe-sized lock to be built where those two sit, so in case something happens to the Poe, shipping won't cease.

THE POE LOCK

BUILT: 1968
SIZE: 1,200 feet long, 110 feet wide
DETAILS: While it shares duty with the MacArthur, 70% of the tonnage that passes through the Soo Locks uses the Poe. It was named for Col. Orlando Poe, a Civil War engineer.

THE MACARTHUR LOCK

BUILT: 1943
SIZE: 800 feet long, 80 feet wide
DETAILS: It was unexpectedly shut down for 20 days for repairs this summer. It was named for Gen. Douglas MacArthur.

AVERAGE ANNUAL TONNAGE SHIPPED THROUGH THE SOO LOCKS, 2005-14:

75.1
MILLION METRIC TONS

SAULT STE. MARIE INTERNATIONAL BRIDGE

SOURCES: U.S. Army Corps of Engineers data and image, Lake Carriers Association, The Interlake Steamship Company, Department of Homeland Security, huron.lre.usace.army.mil/SOO/lock.html

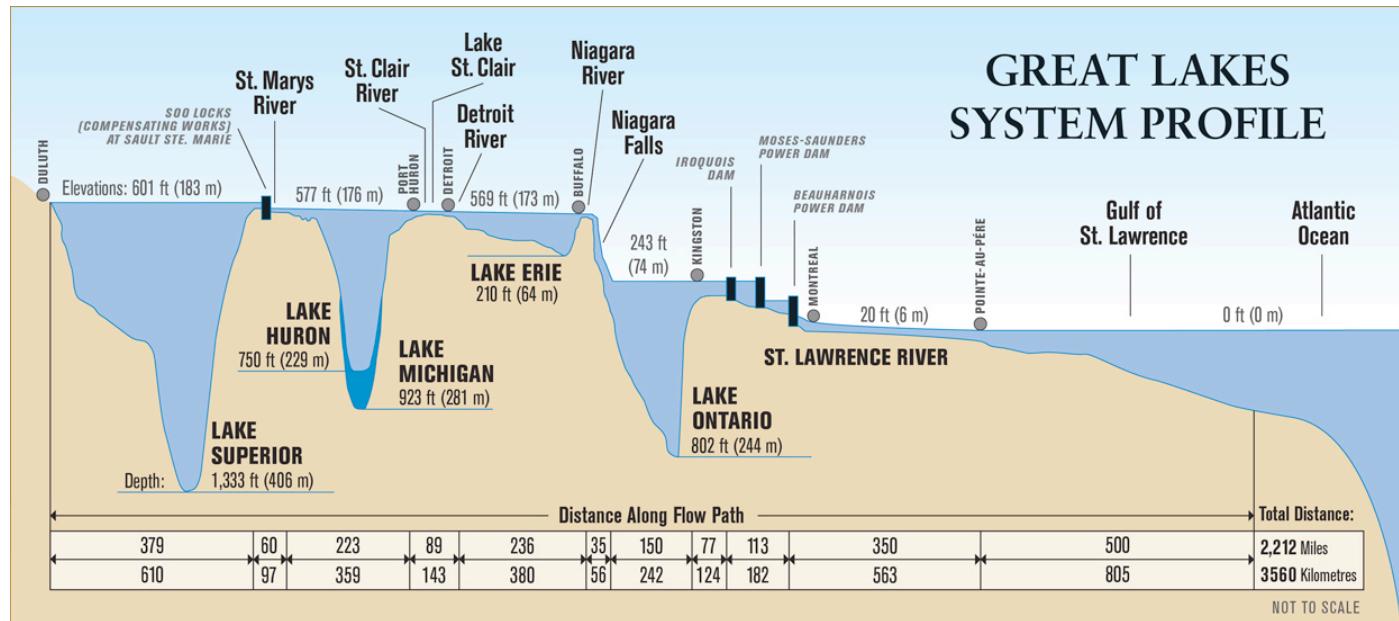
DETAIL

The Soo Locks

First of all, did you know...

- 90% of the world's iron ore moves through the Soo Locks.
- Duluth Minnesota to the Atlantic Ocean, through the St Lawrence Seaway, is 2342 miles or a 7 day trip.
- The Soo Locks have no pumps as they are 100% gravity fed.
- The Poe Lock requires 22 million gallons of water to lift or lower a boat.
- The Soo Locks close from January 15-March 25 each year for repairs.

The graphic below shows a profile picture of the Great Lakes. We all know the world is round, but it is not flat. Lake Superior is 601 feet above sea level, while Lake Michigan and Huron are only 577 feet above sea level. That means there is a waterfall in the St. Mary's River where the water flows out of Lake Superior. Freighters don't like waterfalls so the Soo Locks were built to move the lakers up and down the river. Notice what is found at the other big drop on this profile picture?



It would take about five hours to drive to the Soo Locks. Luckily we have technology that can take us there right now. Use the "Soo Locks Site" button to check out live web cams to see if a freighter is moving through right now. You can also watch an animation of how the locks work - all powered by gravity!

The Soo Locks - Why are they so important?

Name & Number: _____

Use the "MDOT Soo Locks" file to answer the following questions....

1. What is the distance freighters are raised and lowered to pass in and out of Lake Superior? _____ ft.

2. Who built the very first lock in 1798? _____.

3. There are five locks, but only two are used for freighters today. What about the rest? _____

4. What are the five main items (commodities) transported through the locks? _____

5. The Poe Lock, which us used for ____% of all traffic would need _____ months to upgrade.

6. In what two decades were studies done that stated a need for a larger lock? _____

7. ____ million U.S. jobs could be lost due to a shut down of the Poe Lock, even more in Canada & Mexico.

8. It could take up to _____ years to build a new lock, at a cost of \$_____ million!

9. In what year did the U.S. Congress authorize a new lock? _____ How many years ago was that? _____

10. So what do you think? Is this a big deal or not? Explain what you think. _____