

The Sea Grant Files, Fresh News about Fresh Water

Large Ships and Bulk Commodities: Great Lakes Lakers (5:16)

Aired on 1/19/16

JESSE: Hi. I'm Jesse Schomberg and you're listening to the Sea Grant Files.

Three to four million tourists visit the North Shore annually, drawn to the majesty of Lake Superior. The majority of these visitors arrive from the south, awestruck by the vast port as they crest the hill on Highway 35. Yet, how many of these visitors appreciate that the Port of Duluth-Superior is the lifeblood of this region's economy?

Our harbor is one of the busiest ports on the Great Lakes, providing over 11,500 jobs dependent on the flow of cargo in and out. Consisting of 20 active docks, 49 miles of waterfront and the movement of 38 million tons of cargo per year, the Duluth-Superior Port is often referred to as the "Great Lakes Bulk Cargo Capital".

Just what is the "stuff" these vessels are carrying? Coal, iron ore, limestone, grain, salt and cement make up the majority of the yearly tonnage, the port also deals in cargo projects like wind turbine parts, transformers, generators, and the likes

Laker freighters, or lakers as they are called in the industry, are spectacularly large, These beasts range in length from 494 to 1,013.5 feet – the size of three football fields – allowing them to carry between 10,000 and nearly 70,000 tons of cargo per trip. Lakers make up 90% of the shipping traffic in the port. Salties, ships that can maneuver through the well and canal past Niagara Falls make up the rest. Aside from Canada and the U.S no other maritime nation has such a productive fleet of self-unloading vessels. These technologically advanced boats can typically load or discharge a full vessel of Iron ore or coal in 10 hours or less.

Lakers are long and narrow – under 100 feet wide – so they can navigate the Soo Locks on transits between four of the 5 Great Lakes. They are too big to get around Niagara Falls and into Lake Ontario. There are currently 56 active lakers, down from the 300 in the mid 20th century. Most of the boats operating today were built between 1976 and 1981. Since the freshwater lakes are less

corrosive to ships than the salt water of the oceans, it's not unusual for these boats to celebrate 50 years and still ply the waters of the Great Lakes with their heavy loads. However, several of the Canadian shipping companies serving the Great Lakes are introducing new vessels to their fleets in the spring, arriving from ship builders as far away as Croatia and China.

Not many people know that the Great Lakes shipping industry's carbon footprint is the smallest of any of the major transportation modes. One laker uses the same amount of fuel as 2,340 trucks or 56 rail cars. To move 1000 tons of bulk cargo, a laker emits 38 pounds of CO₂ per thousand cargo-ton-miles, that's over six times less than if the cargo was moved by 18-wheeled trucks. In fact, transport by inland waterway is a greatly underused option. Think how much less traffic and wear and tear we would have on our highways if more cargo were shipped by laker.

But how do all those giant ships and cargo get to us at the end of Lake Superior? The key is the Soo Locks System. Located at Sault Ste. Marie at the Michigan and Ontario border, the Soo (spelled either S A U L T or S O O) The series of lock chambers separate Lake Superior from the lower Great Lakes at the head of the St. Marie's river. These locks get ships safely around the rapids between Lake Superior and Lake Huron, where the water drops 21 feet.

Before the Soo Locks were built 160 years ago, Native Americans and early pioneers had to portage their cargo and canoes around these steep rapids, and when canoes turned into ships and pounds of cargo turned into tons, the cargo had to be unloaded from one ship, hauled around the rapids, and then reloaded into a separate ship on the other side in order to get it to where it needed to go.

Every year the locks close and the shipping industry shuts down for winter. The locks are scheduled to close on January 15, 2016 and re-open March 25th. While lake ice prevents passage of cargo, the closure of the locks provides an opportunity for shipping companies to refurbish lakers and inspectors to examine, maintain and make necessary repairs to the locks.

A great way to appreciate the vast scale of a laker is to tour the S.S. William A. Irvin Ore Boat Museum in Duluth, open May through September. The flagship of US Steel's lake fleet, she was launched

in the depths of the depression in 1938 and operated until 1975. While she is only 610 feet long, she could carry up to 14,000 tons of ore. Standing in her hold is a truly awesome experience.

Since present day lakers are not allowed to carry passengers, your only chance of getting a ride on an active laker is to win a raffle offered by the various shipping companies. Now that would make a unique Valentine's Day gift. But, with winning raffle tickets climbing as high as \$6,000, a \$12 tour of the William Irvin is a steal of a deal.

This episode of the Sea Grant Files was produced by Rachel Kuntz, Jennifer Gasperini, Sharon Moen, Mariah Schumacher and, me, Jesse Schomberg. For more information, or to listen to other episodes of the Sea Grant Files, visit Minnesota Sea Grant at www.seagrants.umn.edu. You can also follow Minnesota Sea Grant on Facebook or Twitter. Thanks for listening!

Soo Locks Facts: <http://www.saultstemarie.com/soo-locks-46/>

Raffle facts: <http://www.boatnerd.com/trips/>