NORTH STAR PORT

WINTER 2020

CLURE TERMINAL FLEXES ITS MUSCLE

IMO 2020 TAKES HOLD

ICY ENTRIES FOR WINTER LAYUP

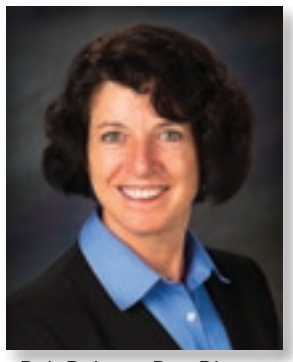
WHAT HAPPENED TO THE *MESQUITE*?

NEW ICEBREAKER ON THE WAY?

YACHTING THE BIG LAKE

A PUBLICATION OF THE
Duluth Seaway Port Authority
www.duluthport.com

Clure Terminal prominent in Port's future



Deb DeLuca, Port Director

The Duluth Seaway Port Authority is busy with a variety of activities this time of year, in spite of the deceptively still cover of snow. Among them, we're planning capital projects. That starts with strategy. Successful capital projects aren't spontaneous. They require forethought and awareness of how they interconnect with existing activities and future possibilities. From there, we compile funding, engage with engineering and design services and seek contractor bids. If (and only if) all of that goes well, the process finally moves into the execution phase.

Last fall, an international panel of judges selected Duluth Cargo Connect as the *Heavy Lift* Port/Terminal Operator of the Year, a decision based partly on the Port Authority's strategic investment in and maintenance of the Clure Public Marine Terminal. Successful capital projects played a role in that achievement, so while I don't like to brag or rest on (fairly bestowed) laurels, I think it's fair to say we've been pretty good at capital projects.

When it comes to infrastructure and equipment, the Clure Terminal is very much like a small city. We have roads, rail, dock walls, buildings, utilities, water service, and sewer and stormwater management systems to maintain. We're also growing our intermodal terminal service, along with cargo handling and storage offerings, which means not only maintaining our assets, but expanding them. Additionally, we have large, expensive equipment like cranes and reach stackers to maintain and sometimes purchase. Occasionally we get the opportunity to grow the whole pie and buy more land on Rice's Point, which invariably needs improvement and investment. With every project, we seek to modernize operations while adding resilience and energy efficiency.

Capital projects, in short, are vital to effective and efficient operations and are critical to realizing growth opportunities. In general, our capital projects involve new construction, expansion, renovation or replacement of an existing facility, purchase of major equipment, or addressing maintenance or rehabilitation of existing facilities and infrastructure.

Obvious, but worth stating: Capital projects are, by their nature, expensive. Every port faces this reality, and during financially challenging times, without proper planning, equipment goes without replacement, infrastructure projects are deferred, growth opportunities are forfeited, and maintenance may be neglected. In financial boom times, it's easier to justify expenditures on equipment (both replacement and new types to expand services) and infrastructure, and to feed growth projects. But all of this must be done with thoughtful planning to avoid bringing back financially challenging times!

Although our cash reserves are strong, we must be judicious with their use, and we are conservative with debt financing. Recent Port Authority grant funding pursuits have been aggressive but targeted. Since 2015, we've utilized $17 million in state and federal grants, leveraging $40.3 million in total projects. The outcome of our most recent grant application, submitted in September 2019, will dictate the timing of queued projects in 2020 and beyond.

Capital projects are vital to effective and efficient operations and are critical to realizing growth opportunities.

We are decidedly in the process of growing our services, which begs investment in expanded facilities. Patient purchase and assembly of properties and easements helped us create buildable land from which we've added critical outdoor storage space and a beautiful old building to renovate. At the same time, we inherited some long-deferred maintenance challenges. All of this leads to short- and long-term project lists with an organic prioritization system.

In 2020, we're tackling two big projects and buying a new reach stacker. One of the big projects—renovating a 110-year-old school building near the Clure Terminal—will provide a new Port Authority home, replacing our 1959 office, which we vacated for an expanding tenant in 2018. We're also creating six-plus acres of outdoor storage on land we assembled adjacent to our future headquarters. This property will serve a tenant, which will free five additional acres for cargo operations. Other projects on the horizon will occur based on the outcome of the aforementioned grant application. These include dock wall replacement and construction of new warehouse space.

It's an exciting time for the Port Authority in our 62nd year. The Clure Terminal is at the heart of that excitement, and we're looking forward to fortifying it for new challenges and opportunities.

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About *North Star Port*

This magazine was produced by the Duluth Seaway Port Authority, Jayson Hron, publisher. Editorial assistance provided by Julie Zenner; graphic design by Erin Makela.

Jane Herrick

Burns Harbor sails into the Superior Entry on Jan. 16, 2020, as the season's final vessel arrival. She is part of the American Steamship Company fleet. Rand Logistics announced the purchase of American Steamship Company in a Feb. 10 news release.

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David Schauer

On the front:

The *Burns Harbor* arrives through the Superior Entry in mid-January en route to winter layup at Elevator M in Superior, Wisconsin.

On the back:

The Duluth Cargo Connect crew unloads the *Alina* amidst December snow at the Clure Public Marine Terminal.

Pete Kramer

Printed on 10% post-consumer waste paper. PRINTED WITH SOY INK

SUPERIOR CROSSING: SAILING THE

BY SANDRA SVOBODA

Editor's note: *Now that Lake Superior is wrapped in her icy winter coat, Sandra Svoboda, program director at Great Lakes Now, stored her sails and penned this look back at the 2019 Great Lakes racing season.*

Hundreds of miles of undeveloped Lake Superior coastline were finally interrupted to reveal our destination: Duluth's downtown and the iconic Aerial Lift Bridge that freighters and other vessels pass under to dock in the western most harbor of the Great Lakes system.

Eighteen of us had been aboard the 70-foot sailboat *Arctos* for some 48 hours, sailing across the lake in search of competitive success in the 2019 Trans Superior International Yacht Race. We saw the skyline pop through an overcast August sky.

Being that close to civilization meant cell signals got through, which meant weather information was readily available as we sat on deck and looked at our phones.

A nasty storm front was coming. People at home in Detroit were texting me about it.

The line of red, orange and yellow on our weather apps meant unpredictable winds that could blow us off course. Predicted gusts of up to 60 mph meant safety concerns, so we donned rain gear and tethered ourselves to the boat.

We thought less about how the boats *Talisman* and *Stripes*—our fierce competitors but also good friends from Detroit—were within striking distance of our lead, and instead thought more about how we would keep each other and the boat safe in what could be dangerous conditions.

We waited for the storm front and watched Duluth disappear in its clouds and rain as it headed toward us.

Three summer races, three lake crossings

The Trans Superior is held every two years, and 2019's race completed a trifecta of Great Lakes long-distance sailboat races for *Arctos* and me. Many on the crew also competed on different boats in the three races that traverse lakes Michigan, Huron and Superior.

First there was the 333-mile Chicago Mackinac Race, which began July 13 in the Windy City and saw a fleet of some 265 boats reach iconic Mackinac Island approximately two days later.

That was a vexing race for the 17 men and me aboard *Arctos*, including owner Chuck Bayer, Jr. Light winds and inaccurate weather predictions made navigating for advantage a challenge. A few crew personalities didn't always mix well. But it's hard to complain about any time on the Great Lakes, especially with a group of accomplished sailors who forgive each other's differences of opinion, personality and ability.

I wouldn't compare sailing a yacht up Lake Michigan to true noble pursuits that better society, but yacht racing is an opportunity for a team to work together, rely on each other's strengths, and overcome weaknesses to keep everyone safe and reach the finish line.

It was fresh in our minds how that doesn't always happen. Just a year ago, we were one of the boats that dropped out of the Chicago Mackinac Race soon after starting to help search for a crew member on another boat who had fallen overboard in relatively rough conditions. After several hours of unsuccessful searching, *Arctos* returned to the docks for a grim dinner.

A few days later, the sailor's body was found, and the boating community became a little less about competition and more about reflection. A United States Coast Guard inquiry revealed his life vest failed to inflate, and sailors around the Great

Steve Kuchera / *Duluth News Tribune*

The *Arctos* sails toward the Duluth harbor Aug. 6, 2019, with the *John D. Leitch* in the background. The *Arctos* claimed first-to-finish honors at the 2019 Trans Superior International Yacht Race.

Lakes doubled down on safety going into this summer's distance races.

Owners that I race with, like Bayer and Cynthia Best, required crews to take the U.S. Sailing Safety and Sea course before this year's distance races, and all of us seemed to check on each other just a little more closely.

"There's a lot more concern about the inflatable life jackets, their maintenance, re-arming them (with air cartridges) to give them a probability of actually working," said another *Arctos* crew member, Todd Jones, who owns Thomas Hardware, a marine supply store in Grosse Pointe Park, Michigan.

His customers didn't usually explicitly mention last year's tragedy in the Chicago race, "But you know that was the source of it," Jones said. "Even my wife and kids were like 'Is all your gear going to work?' and people have never brought that up before in my 37 years of Mackinac racing."

The Chicago Mackinac Race this year was calm. *Arctos* didn't have a stellar finish, but the three days on the water was a good warmup for me in preparation for the Lake Huron contest, which started July 20.

Race No. 2

The Port Huron-to-Mackinac Race, unlike the Chicago race, has two courses. The shorter route takes more cruising-style sailboats along the mitten's eastern shoreline to Mackinac Island, while the longer route has boats sailing a northeasterly route toward Georgian Bay before turning left and charging across the top of Lake Huron toward the finish.

Arctos had a great race, winning her class and giving Bayer another sailing accomplishment to brag about: it was his 50th time competing in the race. I wasn't with them.

Sandra Svoboda

The *Arctos* crew enjoys the sunshine as it readies for the 2019 Trans Superior International Yacht Race.

Instead, I joined the all-female crew of *Phantom*, a J-105 owned by Cynthia and Jim Best of Brighton, Michigan.

Seven of us were on board, with a collective 60-plus Mackinac races between six of us. It was the first race for Justine Buda, a 25-year-old nursing student who learned to sail after taking a class in Detroit two years ago. She was the newcomer, but fit right in with the rest of us who have known each other, sailed together and been friends off the water for, in some cases, decades.

Phantom was the only boat with an all-female crew in this year's race, but certainly not the first in the race's history. In 1983, a team sailed a 33-foot boat in one of the roughest races in recent memory. But being a women-only team meant some media attention for us anyway. One of us appeared on a local TV morning program, I talked to a commercial radio station in Detroit and a national sports talk network, and the *Mackinac Island Town Crier* published a feature about us, complete with a dockside photo snapped just after we finished.

I have mixed feelings about the media attention. We really weren't that different than any other team—a group of friends sharing a bit of an adventure and a competitive challenge.

But look around any harbor or race course and you will see mostly men on the boats. If our team inspires women or girls to learn to sail or sail more, then we've made some kind of impact.

The race itself didn't disappoint. Saturday's gorgeous afternoon turned into a stormy evening. We dropped sails to make the boat easier to control and harness in. After maybe 20 minutes of fierce weather, the front blew through, and the sky produced one of the most gorgeous sunsets we'd ever seen.

We continued up the lake and took a battering crossing the top. The boat slammed into waves, especially in the dark, when the helmsperson couldn't see to steer, and everything down below was wet and cold. We lived on cookies, pizza, chocolate-covered espresso beans and some kind of breakfast muffins.

"We do this for fun?" we all joked.

But reaching the island on a warm, sunny day with spouses and boyfriends there to meet us was worth it—it always is.

Freighters and finishes

Two weeks later, I headed back up north and crossed the Straits by car for the Trans Superior adventure on *Arctos*.

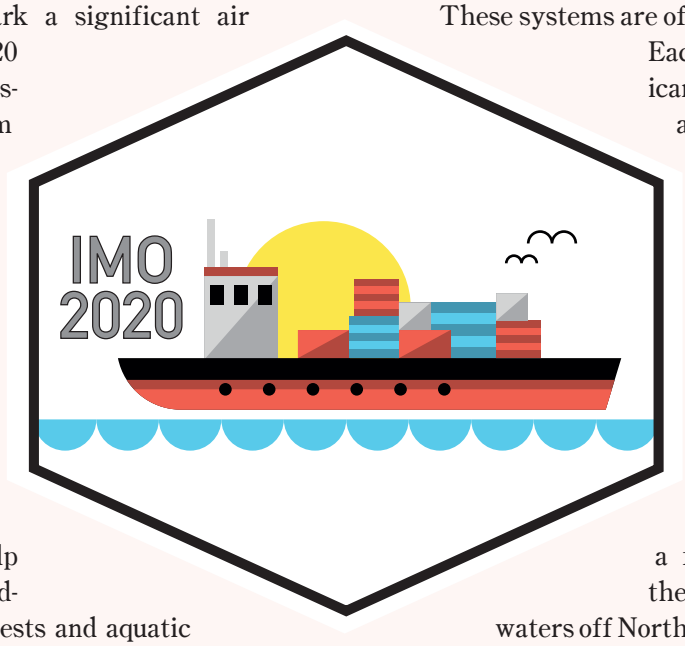
CROSSING Continued on Page 7

IMO 2020 helps us all breathe easier

A Great Lakes 1,000-footer can carry the equivalent of 564 rail cars or 2,340 trucks, which helps make waterborne transportation the most fuel-efficient, cost-effective and lowest carbon-producing method of moving goods in our global economy. And now clean is getting even cleaner.

A notable reduction in the environmental footprint of global maritime commerce began Jan. 1, 2020, with the much-anticipated implementation of international regulations dubbed IMO 2020.

The new regulations mark a significant air quality milestone, as IMO 2020 substantially reduces air emissions of sulfur oxides from ships around the world. This measure is also expected to reduce particulate matter emissions from ships. Human health benefits could include reductions in stroke, asthma, lung cancer, cardiovascular and pulmonary diseases around the world, particularly in coastal populations. The new emission controls will also help prevent acid rain and ocean acidification, benefitting crops, forests and aquatic species.



As a specialized agency of the United Nations, the International Maritime Organization (IMO) is the global standard-setting authority for the safety, security and environmental performance of international shipping. The IMO's Marine Environment Protection Committee began a progressive reduction of global emissions from ships in 1997, establishing new standards under MARPOL Annex VI. In 2008, after a technical review, IMO revised these standards that cut the global limit for sulfur in ships' fuel oil to 3.5 percent and set a goal to cut the limit to 0.5 percent either by Jan. 1, 2020, or Jan. 1, 2025. In 2017, after a fuel availability study, IMO confirmed the date to be Jan. 1, 2020—hence the name "IMO 2020." Demonstrating broad support, IMO 2020 boasts 170 countries as signatories including the United States. The IMO estimates that the new limit will mean a 77 percent drop in overall emissions from ships, equivalent to an annual reduction of approximately 8.5 million metric tons of sulfur oxides.

IMO 2020 prompted critical business decisions for vessel owners. In short, they had the choice of converting to cleaner conventional marine fuels such as marine diesel oil, converting to alternative fuels such as liquid natural gas (LNG), or installing emission control technology such as an exhaust gas cleaning system to meet the requirements. These systems are often referred to as "scrubbers." Each of the options posed significant technical challenges and added costs. While it appears that the majority of owners are transitioning toward cleaner fuels, questions remain regarding cost, availability and production method of compliant fuels.

Here in the Great Lakes, vessel owners got an early start as more aggressive environmental protections were implemented at a faster pace. In March 2010, the IMO officially designated waters off North American coasts as an area in which more stringent emission standards will apply to ships. Proposed by the U.S. and Canada, with the support of France, the North American Emission Control Area required ships' fuel oil to contain less than 0.1 percent sulfur, or as an alternative to operating on the very low sulfur fuel oil, vessel owners could utilize alternative methods to achieve the same result, e.g., LNG, or an exhaust gas cleaning device. This measure also required all ships built after Jan. 1, 2016, to have engines that meet Tier III nitrogen oxides standards.

The U.S. EPA predicts that the North American ECA will prevent as many as 14,000 premature deaths and relieve respiratory symptoms for nearly 5 million people annually. Both the U.S. and Canada predicted savings in health costs, by some $15 billion annually in the U.S. and $1.1 billion a year in Canada.

We climbed onto the boat Aug. 3 in Sault Ste. Marie, Michigan, traversed the Soo Locks, and traveled along with freighter traffic to reach the starting line in Whitefish Bay. Thirty-eight boats started the 375-mile race, which is organized by the Duluth Yacht Club.

On Saturday afternoon, we sailed in strong enough winds initially to be on course for a Sunday-night finish. But then we bobbed and drifted on the glassy waters off the Keweenaw Peninsula for most of Sunday with little or sometimes no breeze. Lake Superior was not living up to its reputation as a feisty, cold, rough lake, not that we wished for those conditions.

Late Sunday and into early Monday, the breeze filled in, and, by mid-morning, we were leading the fleet across Lake Superior in steady breezes that had us on a fast clip toward Duluth.

Arctos was not winning, based on the race's handicapping system that calculates and adjusts positions based on a variety of factors like the size and design of boats. But we were excited to be out in front and hoping for "line honors," i.e., first-to-finish status, which would be a first-time achievement in a long-distance sailing race for many of our crewmembers.

Nearing Duluth amidst an approaching storm and with a few of our closest competitors in sight, we weren't secure in that position.

My watch was on deck as the storm gathered. Even though we'd all been through big weather and were familiar with changing sails, Mike Hoey talked us through the steps and who would do what when the big winds hit.

Everything went as planned. The front came. We changed sails. We lost sight of other boats and shore for a bit. Nothing broke. No one got hurt.

And the sun came out for the last couple hours of the race, with *Arctos* still leading.

As the first boat to finish, we were accompanied into the Duluth Harbor by a photo boat and cheering spectators. The next day, our photo was on the front page of the *Duluth News Tribune*.

"That's one of the reasons I bought this boat: winning line honors," said Bayer. "That and so I can go sailing with so many of my friends."

Sandra Svodoba

Enjoying a quiet moment aboard the *Arctos* on Aug. 6, 2019, during the 2019 Trans Superior International Yacht Race.

Historic project proves

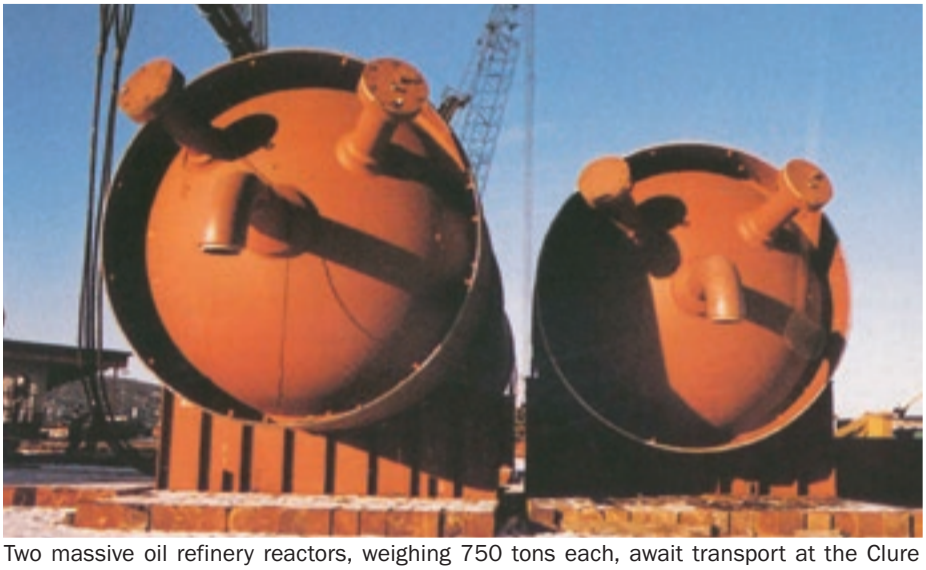
BY JULIE ZENNER

The world of transportation is filled with unexpected twists and turns. One in particular put the Port of Duluth-Superior on the map in the heavy-lift industry. It occurred in the winter of 1986-87 and involved the unlikely movement of five enormous oil refinery reactors from Muroran, Japan, to Saskatchewan, Canada, via Duluth—hardly the shortest route as the crow flies.

The bulky reactors ranged in length from 50 to more than 80 feet and weighed 450 to 750 tons each. At the time, they represented the largest and heaviest cargo lifts ever attempted at a Great Lakes port and required equipment that is still among the largest ever employed in the region.

Duluth was chosen to handle the oversized load after Kilborn/Fluor, support engineering contractor for NewGrade Energy Inc.'s refinery expansion in Regina, Saskatchewan, could not find a viable rail route from any West Coast port across the Canadian Rockies. Railroads winding through the rugged terrain simply did not offer the weight, bridge and tunnel clearances to accommodate the gigantic dimensional cargo.

"They began to look at the Great Lakes and Duluth in particular because it was the farthest inland port, and they checked out rail clearances and found them sufficient," said former Green Bay Port Director Alan T. Johnson, who was then marketing director for the Duluth Seaway Port Authority. Duluth's Clure Public Marine Terminal had some prior experience with heavy-lift cargo, but nothing close to this size and scope. "I personally thought it was a hell of a good deal ... if we could do it."



Duluth Seaway Port Authority

Two massive oil refinery reactors, weighing 750 tons each, await transport at the Clure Public Marine Terminal in 1987. They were part of the Great Lakes' heaviest lift project at the time.

Logistics, logistics, logistics

The record-breaking movement by water and rail took years of planning and coordination. It included a 49-day sea voyage that routed the heavy-lift ship *Mirabella*, laden with the five reactors, from Japan, through the Panama Canal, up the Eastern Seaboard and inland 2,342 miles to Duluth via the Great Lakes St. Lawrence Seaway. There the reactors were loaded onto the world's largest railcar to complete their journey—one at a time—to Saskatchewan. Each round trip took three weeks to complete.

Onsite preparations began well before the cargo's arrival in the Twin Ports. The *Mirabella* was not equipped with an onboard heavy-lift crane, so specialized equipment was needed to accommodate offloading in Duluth. A towering, bright blue, 1,200-ton capacity Lampson Transi-Lift® crane was brought to town and erected at the port terminal—the largest crane ever used in Minnesota at that time.

"It was a monster," said Sam Browman, who retired in 1998 as marketing director of the Duluth Port, but, at the time, was manager of trade development. "It took truckload, upon

Duluth can handle the heavy lifting

1959
Ramon de Larrinaga arrives in Duluth as the first-ever first ship after the opening of the Seaway

1972
Stewart J. Cort arrives as the Great Lakes' first 1,000-footer

1979
Ingrid Wells becomes president of Port Authority Board

1987
Duluth completes the largest, heaviest-lift project on the Great Lakes to date

truckload, upon truckload for all of its pieces and parts, plus truckloads of big timbers that were placed on the ground to accommodate both the weight of the crane and the pressure vessels to be discharged."

Meanwhile, the 36-axle Schnabel Car, billed as the largest railcar in the world, was moved from California to Duluth. Originally designed and built for the nuclear power industry, its unique design supports loads between two car halves. Cargo can be lifted, lowered and side-shifted during transport to avoid obstructions.

A flurry of activity engulfed the waterfront as shipping, logistics and engineering experts analyzed and assessed every detail of the operation, anticipating the *Mirabella*'s arrival.

"You knew something big was cooking," Browman said. "That's for sure!"

Big moves

Everything came together the morning of November 17, 1986, when the *Mirabella* began to discharge the heavy units at the Clure Public Marine Terminal. A lot of people were holding their breath as things got underway.

"Including me and everyone else at the Port," Johnson recalled. "I was happy after it was done and the load was on the ground and ready to go on the Schnabel Car. Nobody was worried that it wasn't going to make it up there by rail."

"There is always a risk, but all of the routes had been surveyed, and the railroads had agreed to move it with the Schnabel Car," said logistics specialist Ed Clarke, who was working for PreMay Equipment out of Alberta, Canada, a company that supplied manpower for the Schnabel Car. "All of the requirements were met for bridges, curvatures on the track and overhead obstructions."

Timing was key to the project's success. Specifically, transport had to be done in the winter.

"Railroads were concerned about the total gross load with the Schnabel Car," Clarke said. "One of the conditions was frozen ground so they didn't have to worry about any of the ballast giving way underneath the track."

On February 11, 1987, the last of the refinery units was loaded and left Duluth "ahead of schedule and without major incident" according to reports at that time. Both the shipper and receiver praised the movement as a "tremendous cooperative accomplishment."

"We proved it could be feasible for the Port of Duluth to handle any type of load to Saskatchewan and the tar sands in Canada," Johnson said. "Once it started, things kind of mushroomed in regard to accommodating heavy loads."

"The Regina project cemented Duluth as an absolute major player in the heavy-lift industry," Browman agreed. "There were several other energy projects coming on board in Alberta and Saskatchewan, so the timing was right for people to hear about this move. Success was demonstrated, so it was kind of a slam dunk."


Sam Browman


Alan T. Johnson

Heavy-lift success elevated Duluth Port

Since that time, Duluth has continued to build its reputation for world-class handling of heavy-lift and project cargo. In late 2005, it welcomed another record breaker, handling what has been called the largest single-car freight load ever carried in North America. It involved a 1.5 million pound "hydro cracker" that was offloaded from the ship *Stellaprima* in Duluth and transported via the Schnabel Car to the tar sands of Alberta, Canada. Numerous other oversized cargoes bound for the western plains of Canada also have passed through Duluth over the years.

As the heavy-lift industry has changed, Duluth has changed with it. Today's heavy-lift ships are equipped with onboard cranes to offload components, and new rail and road configurations are proving to be even more cost effective. Investments exceeding $25 million have positioned Duluth's Clure Public Marine Terminal as a world-class intermodal

Historic Continued on Page 10

hub, capable of handling the most challenging oversized and dimensional cargo. intermodal hub—capable of handling the most challenging oversized and dimensional cargo. Duluth residents have grown used to seeing huge wind energy components and project cargo maneuvering through town by road and rail.

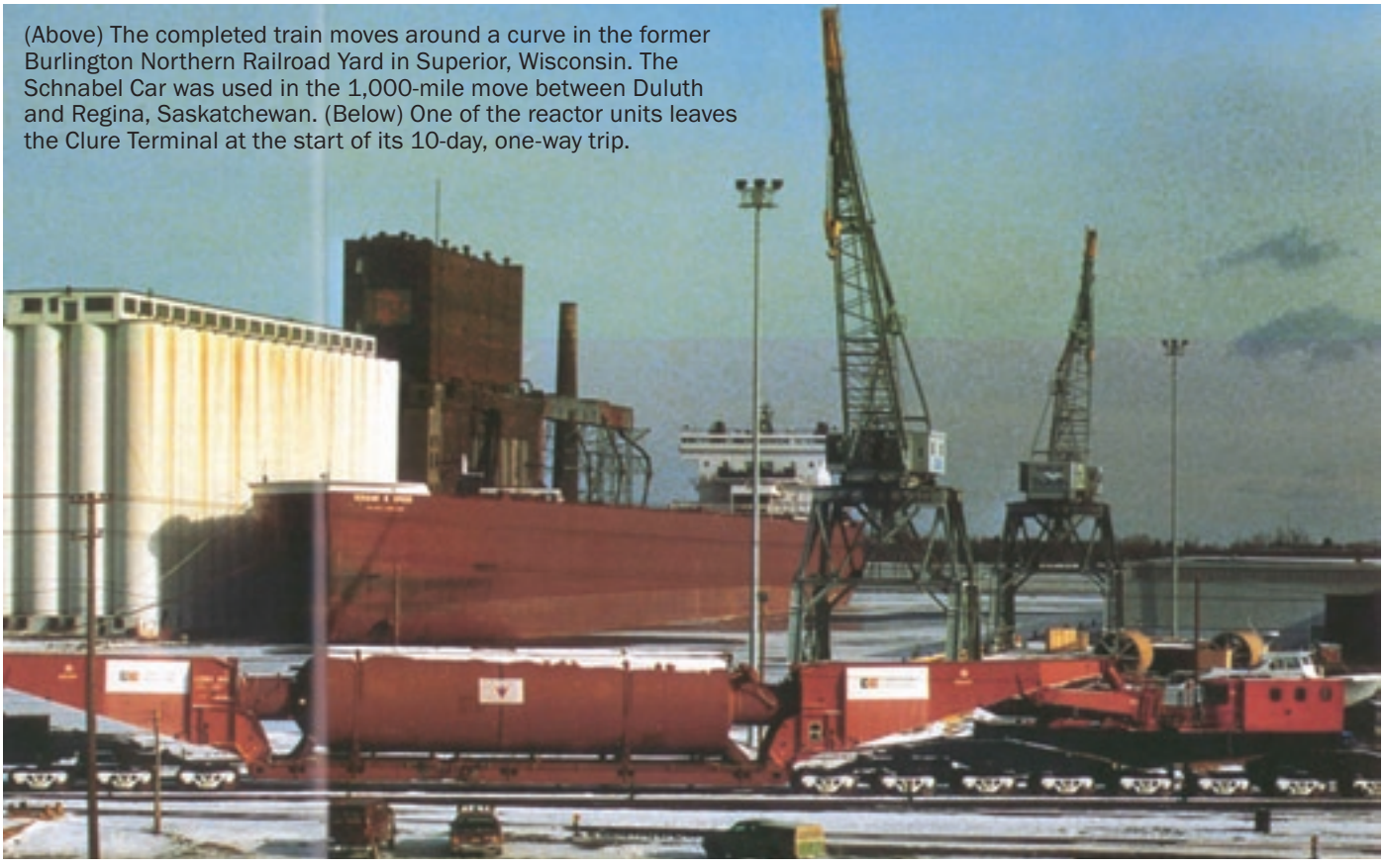
"Doing that initial heavy-lift project allowed Duluth to say, 'Look, we have a gateway to move oversized cargo,'" said Jonathan Lamb, president of Duluth Cargo Connect, a partnership between the Duluth Seaway Port Authority and its longtime terminal operator Lake Superior Warehousing. "We have the capabilities and a successful track record."

In 2019, Duluth Cargo Connect received global recognition for its ability to handle heavy-lift cargo. It was named 2019 Worldwide Port/Terminal Operator of the Year by the *Heavy Lift and Project Forwarding International* publication.

"It is recognition of the resumé we have built and continues that momentum forward," Lamb said. "We have great access to highways, great access to rail carriers, and our clearances for dimensional moves are pretty generous by rail. We have tracks right along the dock wall so pieces can come directly off a ship and onto a rail car, laydown areas and weight distribution capacity to store pieces—plus we have a workforce with the skill sets and attention to detail to make sure high-value pieces of cargo are handled in a safe and efficient manner."

"Many other ports have tried to get into the same business as Duluth, and they have never succeeded," said Clarke, who has been involved in multiple heavy-lift moves through Duluth as a logistics specialist and consultant. "The Port of Duluth and Lake Superior Warehousing (Duluth Cargo Connect) do outstanding work. They are on time, and they have excellent, well-trained people. I feel like I'm at home when I go there."

(Above) The completed train moves around a curve in the former Burlington Northern Railroad Yard in Superior, Wisconsin. The Schnabel Car was used in the 1,000-mile move between Duluth and Regina, Saskatchewan. (Below) One of the reactor units leaves the Clure Terminal at the start of its 10-day, one-way trip.



Duluth Seaway Port Authority

CLURE PUBLIC MARINE TERMINAL

5 NUMBERS THAT DEFINED 2019

The 120-acre Clure Terminal is a multimodal hub for global trade, offering seven Seaway-depth vessel-docking berths, access to four Class 1 railroads with on-dock rail, a mobile 300-ton crawler crane and twin 81-ton gantry cranes. The facility is also home to Foreign Trade Zone No. 51, along with more than 430,000 square feet of warehouse storage and 40-plus acres of secured outdoor ground storage.

46

The number of employees who operate the heaviest lift terminal on the Great Lakes.

306,000

The record total of wind energy cargo freight tons Duluth Cargo Connect offloaded at the Clure Terminal during the 2019 shipping season. This hefty haul eclipsed the previous high of 302,000 freight tons set in 2008.

2,600

The total in feet of new railroad track laid during the expansion of the Clure's intermodal terminal, plus six acres of new storage space. Designed with efficient intermodal container handling in mind, this 2019 expansion streamlined operations while increasing capacity for growing traffic volume at the CN Duluth Intermodal Terminal.

6

The number of continents Duluth Cargo Connect and the Clure Public Marine Terminal touched with cargo transits in 2019. (Africa, Asia, Australia & Oceania, Europe, North America, South America)

41

The number of vessel visits at Clure during the 2019 season. Whether a saltie from afar or a laker from the local fleet, the Clure Terminal berthed them all this year. Duluth Cargo Connect crews unloaded 23 ships and provided a maintenance or layby berth for 18 others.

The Clure Public Marine Terminal is the only breakbulk and general cargo freight facility in the Duluth-Superior harbor. The Duluth Seaway Port Authority owns and maintains the Clure Public Marine Terminal, while Lake Superior Warehousing operates the terminal assets as the Port Authority's agent. Together, that partnership is known as Duluth Cargo Connect.

SEASON RECAP

Cargo volume exceeded 33.5 million short tons at the Port of Duluth-Superior for the 2019 shipping season, ranking as the port's third highest throughput since 2015.

Four of the port's six cargo categories notched season-over-season tonnage gains.

General cargo, comprised of project cargoes, breakbulk and heavy-lift pieces, led the way with a tenfold increase. Wind energy cargo arrivals paced the surge, with Duluth Cargo Connect welcoming a single-season record total to the Clure Public Marine Terminal.

Other bulk cargo, dominated by inbound salt in 2019, also posted a substantial season-over-season increase, climbing 35 percent.

Grain tonnage reached 1.5 million short tons, an 18 percent increase over last season and 10 percent improvement on the five-season average. This included an unprecedented January grain shipment, as the *H. Lee White* departed Jan. 2, 2020, with 18,015 tons of spring wheat. Grain shipments from the Port of Duluth-Superior typically conclude in December.

Limestone rounded out the 2019 percentage gainers, with a 2 percent season-over-season tonnage increase.

Iron ore, despite declining from a 23-season high in 2018, remained the port's top tonnage cargo in 2019, totaling 19.7 million short tons and exceeding the five-season average by more than 12 percent.

Tonnage gains were offset by a sharp drop in coal, which posted its lowest total since 1985.

"Despite some headwinds, it was a solid season," said Deb DeLuca, executive director of the Duluth Seaway Port Authority. "Looking ahead, we have reason for optimism in 2020, with the prospect of greater international trade certainty and more project cargo scheduled to arrive. The outlook is mostly upbeat."

WINTER BERTHS 2020

Fraser Shipyards (Superior)
John J. Boland
Honorable James L. Oberstar
Lee A. Tregurtha

Midwest Energy Resources Co. (Superior)
Paul R. Tregurtha

Hansen-Mueller Co.'s Elevator M (Superior)
Burns Harbor

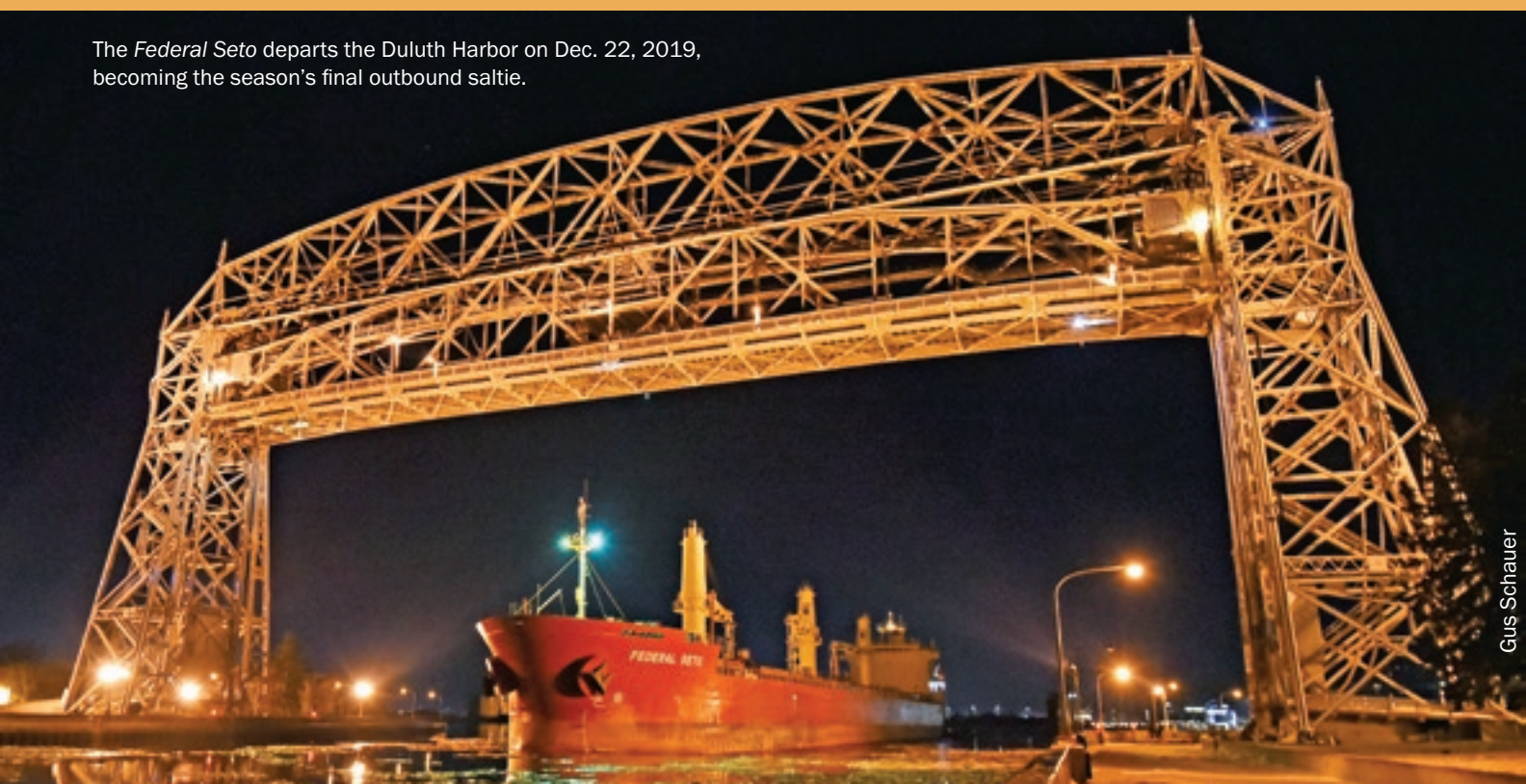
Enbridge Terminal (Superior)
American Spirit

OTHER NOTABLE NUMBERS:

- 85 overseas vessels arrived in the Port during the 2019 shipping season, the most since 2010.
- 6 domestic vessels are wintering in the Port of Duluth-Superior

FIRST & LASTS OF 2019-20 SEASON

	Ship Name	Year Built	Company or Country	Arrival/ Departure Date	Time
First laker out	*Kaye E. Barker*	1952	Interlake Steamship Company	March 22, 2019	2:11 p.m.
First laker in	*Stewart J. Cort*	1972	Interlake Steamship Company	March 26, 2019	1:48 p.m.
First Canadian in	*CSL Niagara*	1972	Canada Steamship Lines	March 29, 2019	12:12 p.m.
First saltie in	*Maria G*	2007	Malta	April 15, 2019	6:48 a.m.
Last saltie out	*Federal Seto*	2004	Fednav (bound for Italy)	December 22, 2019	1:07 a.m.
Last laker out	*Presque Isle*	1973	Great Lakes Fleet	January 11, 2020	11:57 a.m.
Last traffic in	*Burns Harbor*	1980	American Steamship Company	January 16, 2020	11:30 a.m.



The *Federal Seto* departs the Duluth Harbor on Dec. 22, 2019, becoming the season's final outbound saltie.

Gus Schauer

SEASONS OF YORE: VALLEYFIELD BRIDGE BLOCKADE

Battered by a late November blizzard, Duluth's Aerial Lift Bridge was inoperable during a 72-hour span from Nov. 30, 2019, until the morning of Dec. 3. Fortunately, an alternate route into the port, the Superior Entry, helped minimize the effects on commercial shipping. Thirty-five years earlier, almost to the day, and 900 miles to the east, no such alternative existed. The resulting Vallefield Bridge Blockade remains an infamous infrastructure failure episode in Great Lakes shipping history, with effects that still linger throughout the St. Lawrence Seaway.

Delayed repairs

A vertical lift bridge, the Larocque spans Canal de Beauharnois approximately 35 miles southwest of Montreal in Salaberry-de-Valleyfield, Quebec.

On Nov. 21, 1984, while descending behind a passing ship, the Larocque seized between its open and closed positions. Unlike the relatively brief matter of de-icing Duluth's lift bridge in 2019, the Larocque Bridge needed a major repair, as one of the counterweight sheave trunnions broke free and fell.

Senator Mark Andrews

Fednav's *Federal Calumet* became Duluth's latest-departing saltie on record when she sailed Dec. 23, 1984, with a load of wheat bound for Italy.

According to the Toronto Marine Historical Society, adverse weather and a small fire in the machine shop of the repair firm further delayed what was initially expected to be a two-week repair effort. Unable to detour, 45 ships in the immediate vicinity halted.

In all, Seaway traffic stopped for 18 days during the blockade, and some 160 ships went to anchor or tied up in-river or at other ports. This at a time when shippers were sprinting to a Seaway finish that arrived two weeks earlier than it does today. It was also the height of America's Food for Peace program, when annually more than 200 oceangoing ships transited the Seaway en route to Duluth.

Performing under pressure

The Larocque Bridge finally reopened Dec. 10, 1984, unleashing a veritable Great Lakes armada. With so much cargo still to move, including mountains of Midwestern grain bound for ports worldwide, the St. Lawrence Seaway Development Corporation (SLSDC) pushed the closing date to Jan. 2, 1985, the latest in Seaway history.

James L. Emery, then administrator of the SLSDC, summarized the ensuing rush of activity during a March 1985 presentation to the federal subcommittee on transportation in Washington, D.C.

"We had 160 ships in line, and we moved them through in less than 10 days operating at maximum capacity," he said. "We got every ship out of the system. We lost probably four or five ships that did not enter the system that were destined for Duluth and Thunder Bay for grain."

In three weeks, from Dec. 10 through Jan. 2, more than 4 million tons of cargo moved on the Seaway. At the head of the lakes, the M/V *Federal Calumet* became Duluth-Superior's latest-departing saltie on record, leaving Dec. 23, 1984, with durum wheat bound for Italy. It was the Twin Ports' second-most popular export that week, as the high-flying University of Minnesota Duluth men's hockey team was in the midst of a two-game series against (purportedly) the Junior Red Army in then-Leningrad and Moscow, becoming the first American college hockey team to visit the Soviet Union.

Coincidentally, in 2019, another Fednav vessel filled with durum wheat, the *Federal Seto*, nearly tied the *Federal Calumet's* late departure mark, sailing Dec. 22 from Duluth's Riverland Ag terminal bound for Italy.

The profitable late surge of 1984 served notice that oceangoing vessels could operate on the upper lakes far later than Dec. 15. Then-U.S. Senator Mark Andrews, from North Dakota, chaired the transportation subcommittee and asked Emery about the possibility of a later closing date in coming years. Emery replied that "both Canada and the U.S. would be willing to discuss the issue if weather permits it and traffic demands it."

In Duluth-Superior, there was confidence that late-December weather wasn't a real impediment, and there was optimism about the level of shipping demand. Both proved true, which helped contribute to the evolution of the modern Dec. 31 Seaway closing date.

Lake Superior claims the *Mesquite*

BY JERRY SANDVICK

William H. Thiesen / U.S. Coast Guard

A hale and hearty *Mesquite* rests in ice during her early days of Coast Guard service. She was commissioned Aug. 27, 1943.

Ships of motor and sail have navigated Lake Superior for well over two centuries, and more than a few have come to grief on those waters. By the late 20th century, major disasters had become rare, thanks to greatly improved know-how in navigation and weather prediction. Nonetheless, catastrophes happen, the most well known certainly being the loss of the *Edmund Fitzgerald* in November 1975. This past December marked the 30th anniversary of a more recent but less well-remembered misfortune, that of the United States Coast Guard buoy tender *Mesquite*.

Mesquite was one of 39 vessels built for the Coast Guard between 1941 and 1944. With just one exception, all were built in Duluth by two neighboring shipyards on Railroad Street: Zenith Shipbuilding and Marine Iron. Named after trees or flowers, they were Cactus Class ships built in three subclasses, which varied only in minor detail. They were officially WAGLs, the designation for auxiliary lighthouse tenders. This label was changed in 1965 to WLB, for oceangoing buoy tender, and *Mesquite* was thus the WLB-305.

Whatever the official designation, these vessels were simply referred to as the "180s" by most. They were the first class of modern buoy tenders commissioned by the Coast Guard, and they worked the Great Lakes plus a good many other places in the two-ocean war the U.S. was fighting in the 1940s. Although their primary function was AtoN (aids to navigation)—the installation and maintenance of buoys, LORAN stations and the like—they also transported cargo and passengers and offered towing and lifting capabilities. When sent to war zones, they were outfitted with light guns and depth charges to fight enemy submarines if needed. They were well-built ships of great versatility, assembled by the 2,700 shipyard workers at Zenith and Marine Iron, many of them women, especially in the welding units. It is no coincidence that ships of the quality and versatility of Duluth's 180s had long postwar careers.

Workers at Marine Iron laid the keel for *Mesquite* on Aug. 20, 1942, and she was launched Nov. 14 at a cost of $895,000 (approximately $14.1 million in today's dollars). Her particulars were as follows: length 180 feet, beam 37 feet, draft 12 feet, displacement 935 tons, diesel electric drive, a crew of 80 as built for war, and 49 officers and men at peacetime.

Mesquite was commissioned Aug. 27, 1943, in Curtis Bay, Maryland, and spent her first four months in training, shakedown and AtoN work on the East Coast before being ordered to naval base Key West in December 1943 for SONAR training. Orders then sent her to the Pacific Ocean, where she arrived in southern New Guinea in April 1944. Work around various islands occupied *Mesquite's* crew until 1945 when they moved to Tacloban on the Philippine island of Leyte and did sundry duties, mostly AtoN maintenance. The ship was there at war's end in August 1945 and remained in Philippine waters for a year before returning to the United States.

The versatile vessel spent the rest of her career on the Great Lakes. From 1947 to 1959, she homeported in Sault Ste. Marie, Michigan, and thereafter at Sturgeon Bay, Wisconsin, and Charlevoix, Michigan. Activities in these 40 years included search and rescue, mostly of fishermen and pleasure boaters in distress, light duty towing, ice-breaking and even some firefighting. Her primary job, however, was servicing the many buoys vital to commerce during the Lake Superior shipping season.

It was on the task of servicing buoys that *Mesquite* met her tragic end a half-mile off the southeast tip of the

UWS Jim Dan Hill Library Maritime Collection

A battered *Mesquite* tosses in Lake Superior's waves during the spring of 1990. She was eventually sunk in the Keweenaw Underwater Preserve.

Keweenaw Peninsula. The ship picked up a lighted buoy and was underway when, at about 2:30 a.m. on Dec. 4, 1989, she hit a rock ledge in 12 feet of water. The hull plating was torn and frames bent amidships, a condition quickly worsened with attendant leakage as the vessel worked against the rocks. Air and water temperatures were 4 and 34 degrees Fahrenheit, respectively, and seas 2 to 4 feet with 15-knot winds.

Within three hours, the dry stores hold was flooded with 5 feet of water, the engine room had 10 inches of water over the deck plates, and the main electrical switchboard had shorted. A fuel tank had been punctured, and diesel fuel was leaking. Clearly *Mesquite* could not get herself off the rocks. At about 6:30 a.m., the skipper, Lieutenant Commander J. R. Lynch, gave orders to abandon ship. The flooding was worsening, and he apparently feared the vessel might roll or slide off the rock ledge and sink in deeper water with loss of life.

The Indian freighter *Mangal Desai* out of Bombay was Duluth-bound for a load of grain and was the first ship to respond. She took aboard the *Mesquite* crew of about 50, who were transferred by two life rafts and subsequently rode to Duluth on the freighter. Three injured *Mesquite* crewmen were taken off by helicopter and flown to Hancock, Michigan. Fortunately, there was no loss of life. The captain and the officer of the deck were later assigned blame for failure to ensure the ship stayed on a safe course.

Any initial hope of refloating and repairing the *Mesquite* ended by mid-December. Only five days after the grounding, a storm hit the lakes, grinding the ship even more fiercely on the rocks while cold and ice made operations either aboard or around the ship too hazardous. Salvage operations were postponed until spring.

Further damage from winter winds and ice made it obvious by spring that repair wasn't economically feasible. Plans were made to tow the vessel to the deeper water of the Keweenaw Underwater Preserve and sink her there as an attraction to recreational divers.

After removal of usable fittings, offloading of residual fuel and environmental cleanup, *Mesquite* was moved by a special heavy-lift barge the mile and a half to her final resting place. On July 14, 1990, she was lowered and disappeared beneath the big lake's waters, becoming the most recent Lake Superior shipwreck.

For readers interested in more detail, the U.S. Navy Sea Systems Command published a detailed report titled "USCGC* Mesquite *Salvage Operation, Dec. 1989-July 1990, Keweenaw Peninsula, Michigan," which can be found online. Also, Marquette author Frederick Stonehouse, Shipwreck of the* Mesquite*, 1991, is recommended.

Then and Now: Navigation School of Duluth and "climbing the hawsepipe"

BY JO PALMER

During the chilly months of January and February, Great Lakes shipping pauses for winter layup. Permanent mariners enjoy a well-earned break from the typical "60-30" schedule comprised of 60 days working on a vessel followed by 30 days of leisure. But between the years of 1965 and 1981, these quiet months saw students brave the cold and gather at the Naval Reserve Training Center on Park Point in Duluth to learn from seasoned master sailors Jack Saunders and Gil Porter.

Saunders, a fifth-generation sailor, traversed the Great Lakes for 16 years with Pickands-Mather Steamship Company. Porter sailed since joining the United States Coast Guard at the age of 18, retiring as a pilot in 1977. Together, the two co-founded Duluth's licensure school, which they ran in conjunction with the Duluth Board of Education's Adult Education Department.

Having represented operators of U.S. flag vessels on the Great Lakes since 1880, the Lake Carriers' Association coordinated three licensure schools during the 1970s. The others were located in Cleveland, Ohio, and Sturgeon Bay, Wisconsin. In an effort to offset the shortage of skilled maritime workers at the time, steamship companies encouraged attendance by offering stipends to students.

In Duluth, the school board also provided partial funding for the program. As a result, the eight weeks of classes were free to attend and open to anyone with three or more years of sailing experience on the Great Lakes. The program had a high success rate and around a dozen students participated yearly in order to earn their first-class pilot's licenses or master's papers. The ship officers learned navigation law, cargo handling, and ship handling theory as well as weather reading, radar plotting, CPR and first aid training, and more skills. When classes concluded, they took the U.S. Coast Guard Marine Inspection exams.

The process might sound familiar to anyone looking to enter a Great Lakes maritime career today, although a key difference is that there are fewer formal educational options now than there were during the era of the Lake Carriers' Association schools. Some universities offer standalone courses or degrees, such as the transportation and logistics management major at the University of Wisconsin-Superior. But there is only one dedicated maritime academy located on the Great Lakes: Great Lakes Maritime Academy (GLMA) based in Traverse City, Michigan.

GLMA is one of just seven nationwide options for those looking to earn a Bachelor of Science degree in maritime technology and become certified deck or engineering officers. Classes utilize an engineering lab and a bridge simulator. Cadets must also complete three "sea projects"—one on the *State of Michigan* training vessel and two on commercial vessels, including at least one Great Lakes freighter. Graduates are fully qualified to sail the Great Lakes and the world's oceans.

Great Lakes Maritime Academy graduates are virtually guaranteed a job.

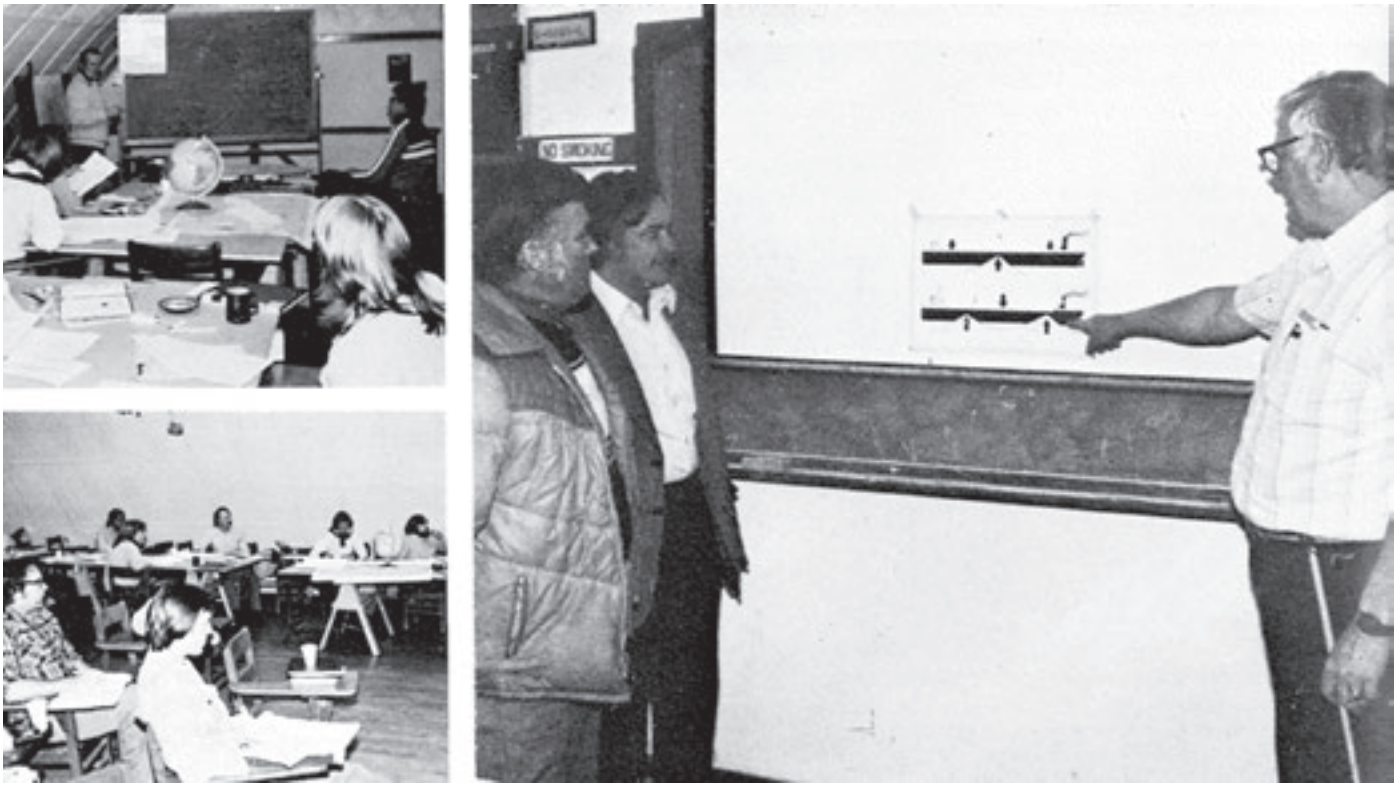
Because the Great Lakes are currently experiencing a skilled maritime worker shortage similar to the days of the Lake Carriers' Association schools, GLMA graduates are virtually guaranteed a job. In fact, it's common to receive multiple offers even before graduation.

Wages vary based on a multitude of factors, including union affiliation and collective bargaining requirements, job location, in what capacity someone is sailing and the number of months worked in a year. But the GLMA suggests that starting salaries can average around $60,000 annually for licensed maritime workers. These jobs include positions aboard vessels as well as shoreside. Apart from ship crew and engineers, linehandlers and cargo handlers are also needed in addition to accountants, mechanics, logistics personnel, architects, and many other integral roles. Further shoreside positions in transportation management, port management, and ship surveying are also essential to keeping boats afloat, on course and on time.

One of the reasons demand for ship officers is so high is because the shipping industry, on par with the U.S. workforce as a whole, has reached a tipping point where the large number of retiring Baby Boomers are not being replaced quickly enough by the upcoming generations.

Another inescapable reason why these ship positions aren't being filled involves the nature of the work itself. Eight-hour days—and often more—of hard work add up to months away from home—around eight months out of the year, on average. It's not for everyone. But for those who aren't averse to adventure and action, balanced by ample free time during off months, a career on the ships is as compelling as it has ever been.

So how does someone trade their cubicle view for a



Duluth Seaway Port Authority

Jack Saunders takes a class "through" the St. Mary's River, while Gil Porter points out wave effects on lake vessels as part of the Navigation School's instruction in the early 1980s. The school operated in the late 1970s and early 1980s in Duluth at the Naval Reserve Training Center.

porthole and sail the Great Lakes? Well, there's the formal education route, primarily through GLMA. Alternatively, ask the right questions, and what you'll hear again and again is that it's possible to get a job as a deckhand straight out of high school and "climb the hawsepipe."

This flavorful turn of phrase technically references the cast-iron or steel pipes in the bow of a ship where the anchor chain passes through. The time-honored expression is the seafaring equivalent of "climbing the corporate ladder"—that is, learning from first-hand experience working on the ships.

But is it really possible to take this route these days? It isn't simply a matter of jumping aboard and grabbing a swab the moment you turn 18.

GreatLakesMaritimeJobs.org, an excellent resource for anyone looking to enter Great Lakes shipping, recommends contacting a company or union hall about entry-level positions. And Lake Carriers' Association remains an outstanding resource, with a career portal available at LCAships.com/careers. But even entry-level positions require at minimum two credentials: a Merchant Mariner Credential issued by the Coast Guard and a Transportation Worker Identification Card issued by the Transportation Security Administration. Mates and masters sailing the Great Lakes are required to have their Great Lakes Pilotage, Radar Observer and Radio Operator Permit in addition to those documents.

The silver lining is that, colloquially, "up the hawsepipe" also means acquiring knowledge directly from experienced sailors. If you take a formal education route and learn from instructors who've retired from Great Lakes maritime careers, you are climbing the hawsepipe.

However, getting a spot at the one maritime academy on the Great Lakes can be competitive. Fewer than half of those who complete the application process are admitted. A generation ago, the three Lake Carriers' Association schools helped ease some of the pressure.

Duluth Public Schools helped with funding, recognizing an urgency to supply the workforce pipeline to the Great Lakes shipping sector. Today, the Great Lakes-St. Lawrence Seaway maritime system is a $25.6 billion industry that transports $15.2 billion worth of cargo each year. But this powerhouse of an industry is facing a worker shortage expected to worsen.

If Great Lakes shipping is to reach its full modern potential, meeting the worker shortage head-on will be critical. Increasing awareness of the opportunity is important. Schools, shipping companies, unions and government sectors may need to cooperate creatively in order to inform and incentivize. Or, maybe just two individuals—good teachers like Saunders and Porter—could be all it takes to make a big difference in the lives of those who want to climb the hawsepipe.

Optimism and possibilities for agriculture and global trade in 2020


Tamara Nelsen

BY TAMARA NELSEN, EXECUTIVE DIRECTOR, MINNESOTA AGRIGROWTH COUNCIL

Each new year brings a sense of optimism, but 2020 certainly looks more positive for agriculture, the grain and food purveyors, and supporting industries like financing and shipping.

Most in this sector faced larger-than-usual challenges in 2019. As if the sixth straight year of declining farm income and the ongoing trade disputes with China and others were not enough, Mother Nature hammered our state with record snowfall, rain and heat. Agriculture and its supporting industries persevered and, more importantly, worked together to continue moving forward.

Legislatively, 2019 was a big year for Minnesota and for AgriGrowth. Our state (the only one in the nation with a split legislature) successfully passed a budget and other initiatives supporting our industry. That budget included funding for ag research, dairy disaster assistance and support for value-added ag processing and tax policy reform.

On the federal side, AgriGrowth led a push for swift consideration and passage of the U.S.-Mexico-Canada Agreement (USMCA) and participated in multiple USMCA initiatives. The U.S. House passed the agreement in December and the Senate passed it in January. The economic certainty this agreement provides with two of our biggest trading partners is significant. Moreover, dairy, wheat, pork, corn-based ethanol and other products will gain from enhanced access and rules supporting trade.

Our industry also pushed hard for gains in trade negotiations with Japan, China and other nations. We are excited about the opportunities that will arise from the new U.S.-Japan agreement as well as the recent progress with China that promises to offer expanded grain and other trade to China going forward.

The AgriGrowth Board (hosted by the Duluth Seaway Port Authority and other local members) held its July board retreat in Duluth. Through host presentations, a port tour and an update from Congressman Pete Stauber, we learned more about the region's priorities and saw first-hand the immense value the Port and its partners offer to the agri-food industry and the region. With passage of the aforementioned trade deals and a corresponding reduction in trade uncertainty, we're optimistic that 2020 will be a great year for the region and for Minnesota agri-food.

PORT PASSINGS

Richard Anthony Amatuzio, 90, of Duluth, died Jan. 29, 2020. Amatuzio was a self-made entrepreneur with a passion for Lake Superior. His efforts in the maritime industry and significant contributions to the betterment of the port led the Duluth-Superior Chapter of the Propeller Club to name him 1981 Harbor Man of the Year.

Amatuzio was the son of Italian immigrants and grew up on Raleigh Street in West Duluth. A Denfeld High School graduate, his youth provided easy access to Lake Superior and cultivated a life-long love for the lake.

Early in his career, Amatuzio worked on the docks as a longshoreman and sailed the Great Lakes for the Tomlinson Shipping Company. This experience inspired future business ventures when the St. Lawrence Seaway opened in 1959, bringing new opportunities to service the shipping industry. In 1962, Amatuzio founded North Star Marine Company, a line-handling, security and pilot boat service. In 1972 he opened Bayfront Marine Services, a ship-cleaning service, that handled ship waste and dunnage—the property was later sold and is now Bayfront Park.

Among many other business ventures, Amatuzio was a former partner and vice president of AMSOIL Synthetic Oils and owner of the iconic Main restaurant in Duluth.

Amatuzio also shared his energy and wit with many organizations, including the 242 Yacht Club, the Elks Club, the Italian American Club, and Northland Country Club. He was a card-carrying member of the International Longshoremen's Association and a past president of the Duluth-Superior Propeller Club.

Richard married the love of his life, Elizabeth Magie, on July 15, 1972. Together they raised two children, Richard Jr. and Susan. He is survived by his wife, son, daughter and many other family members.

The *Mesabi Miner* passes through the Soo Locks in Sault Ste. Marie, Michigan. A spending bill signed by President Donald Trump in late December 2019 included funding for a new Soo Lock.

Soo Lock twinning plan gains funding, momentum

Funding for a new navigation lock at Sault Ste. Marie, Michigan, sailed through Congress and was approved by President Donald Trump in late 2019. The $75.33 million appropriation represents a giant step for this vital national infrastructure project and the future of Great Lakes commerce.

"We can now definitively say that there will be a new Soo lock," said Jim Weakley, president of Lake Carriers' Association, applauding lawmakers for reaching across the aisle to support this appropriation. "These funds show that Congress and the Administration recognize the vital importance this lock plays in our national economy and to the intertwined North American economies."

Congress also directed the U.S. Army Corps of Engineers to allocate at least an additional $50 million to continue construction of new coastal navigation lock infrastructure and bridges, including the new lock at the Soo, which will help the Corps efficiently fund the project and keep construction on schedule and within budget.

The new funding comes on top of $52 million provided by the State of Michigan in 2018 and $32 million from the Corps' 2019 discretionary work plan funds that gave a kick start to construction and finalizing design. It will lay the groundwork for the next big step, construction of the lock chamber. With continued efficient funding, construction of the new lock could be complete in as little as seven years.

The Soo Locks keeps 87,000 Americans at their jobs, paying $6.4 billion in salaries and generating $17.4 billion in economic activity for the U.S. each year, according to a Lake Carriers' Association news release. The organization represents the U.S. Great Lakes fleet.

What's on the horizon for LSMMA in 2020?

BY KONNIE LEMAY

The Lake Superior Marine Museum Association has always been about partnerships, and as the non-profit association enters its 48th year, hopes are to expand and strengthen those maritime and history connections.

As the incoming president of the LSMMA board, the Duluth Seaway Port Authority has given me this opportunity to update *North Star Port* readers about LSMMA ... and we are pretty stoked about the coming year.

The association, as many of you know, has a rather unique relationship to the "museum" that is the origin of its story. Technically, there is no "Lake Superior Marine Museum." Instead, we support the free Lake Superior Maritime Visitor Center operated by the U.S. Army Corps of Engineers (USACE) in the shadow of Duluth's Aerial Lift Bridge.

Within the center, historical artifacts and interactive exhibits—many gathered with the help of or donated to LSMMA—celebrate our maritime heritage and the local history of the Corps. In other circumstances, the association board might be either the overseers of the center or simply the friends group supporting it. In fact, neither of those things is specifically true, though both the center and LSMMA were sparked by Ralph Knowlton, a retired 40-year employee of the Corps and a Duluth native.

LSMMA is an independent association with its roots firmly planted at the center but its branches reaching much farther in its mission to preserve the maritime heritage of Lake Superior and the Port of Duluth-Superior.

The association, of course, continues to help secure artifacts, promote center activities and support training for the staff. We're extremely excited entering 2020 to be working with a familiar person in a new position.

Sara Summers-Luedtke, the newly promoted director, came to the center as a park ranger in 2014. Her background is in museums and collections management, as well as exhibit development, interpretation and non-profit management. She also has several new hires on her staff with commitments to education outreach and partnerships as renewed areas of focus.

"The future of the visitor center is very promising to me right now," said Summers-Luedtke. "We have the support we need from USACE and LSMMA and the initiative of the staff to try new ideas and make changes."

Also exciting last year was the center logging its 20 millionth visitor in August. The center has added new features, such as an interactive Soo Locks display and an updated *Edmund Fitzgerald* exhibit that brings the crew more into the story. The cooperative energy with Summers-Luedtke and her staff is something LSMMA looks forward to cultivating this year.

LSMMA also has grown other areas of interest. The association and its donation of photography and historic papers were the cornerstone for creating the Lake Superior Maritime Collection housed at University of Wisconsin-Superior's Jim Dan Hill Library. Today that collection, under the care and feeding of archivist Laura Jacobs, features more than 7,000 files on specific ships with vessel data, news clippings, images or even original vessel blueprints. It also houses collections of shipping news articles and Great Lakes publications. Some of the collection can be accessed online.

LSMMA's major showpiece has been the Gales of November program, a gift from diver Elmer Engman that's a bit like the gift of a puppy. It's adorable and loveable ... and a lot of work. While the event has held steady and we've had some marvelous presentations, one goal for this year is increased marketing and boosted attendance. Since LSMMA took over Gales, the program also has offered spectacular opportunities for partnering with the maritime industry, and we've benefited from generous donations—from silent auction artifacts to straight-up financial support to our most gainful donation—a cruise on a lake freighter to raffle. The cruises have come from several fleets, most recently from Great Lakes Fleet, Interlake Steamship Company and Marine Logistics.

Organizing the Gales and other activities has been one of the major challenges for the association. When LSMMA's executive director left in 2018, the board opted to hire an office manager, the energetic Jean Nordland-Skomars, with the intent to increase participation of board and association members in organizing events and projects. That evolution continues. Last year we did bring back our summer field trip option for members—a trip to visit lighthouses in the Keweenaw Peninsula—and this year, we intend to set up a history trip to Mackinac Island.

One major LSMMA undertaking for which we keep our collective fingers crossed has been trying to get stewardship of the South Pier Lighthouse, from which the U.S. government wants to divest. Outgoing LSMMA president Al Finlayson, who continues on the board this year, has taken the lead in an attempt to keep the lighthouse available for the public instead of sold to a private owner.

The Lake Superior Maritime Visitor Center's Soo Locks sailing simulator captivates visitors young and old.

That process continues. Should LSMMA manage to get that lighthouse, we hope to open it to public viewing and use it as a tool for the visitor center's education programming.

Another area of exploration for LSMMA will be how to give back to the maritime industry. I think the association, along with the visitor center, can visit schools and universities and create job fairs laying the groundwork for sparking interest in the maritime heritage of the past and the future. I welcome any ideas for partnering or using LSMMA to aid maritime operations.

All of that, in a rather large nutshell, tells you what LSMMA hopes to do in the coming year.

I'm trusting this story may have spurred ideas you might have for projects LSMMA can tackle or, better still, for questions about how you can help. I'd encourage two tracks: Sign up for membership at LSMMA.com and then volunteer, either with LSMMA, with the UWS archives or with the Lake Superior Maritime Visitor Center.

Great Waters Research Collaborative gains ballast water testing clearance

Great Waters Research Collaborative, (GWRC) a project of the University of Wisconsin-Superior's Lake Superior Research Institute (LSRI), received word recently that the United States Coast Guard accepted it as an approved subcontractor test facility for Control Union Certifications. The accomplishment follows a rigorous three-year application process and clears the way for GWRC staff to commence shipboard ballast water testing with new technologies that could help protect vessels and lakes from unwanted aquatic intruders.

The GWRC conducts objective, third-party research to support sustainable industrial, commercial and public use of the nation's waterways, particularly via green shipping. The GWRC team has a comprehensive research capacity for maritime-related environmental research services and is comprised of experienced researchers from LSRI, the University of Minnesota Duluth's Natural Resources Research Institute and AMI Consulting Engineers.

Tom Rayburn

Lake Superior Research Institute Director Matt TenEyck, left, tests water with Kelsey Prihoda at the Great Waters Research Collaborative facility in Superior, Wisconsin.

Bipartisan icebreaker support generates optimism

A new heavy icebreaker could be on the horizon for the Great Lakes. Federal appropriations approved in Dec. 2019 include language that directs the U.S. Coast Guard to stand up a major acquisition program office to enhance icebreaking capacity on the Great Lakes.

U.S. Senator Tammy Baldwin of Wisconsin, a member of the Senate Appropriations Committee, issued a release announcing $4 million in construction and personnel funding for the new program office, noting that it is required to be set up within six months.

The acquisition program office makes the heavy Great Lakes icebreaker an official procurement project that will ultimately result in the delivery of the heavy icebreaker if fully funded. Lake Carriers' Association officials applauded the U.S. Congress and President Donald Trump on this significant, formal step for the acquisition of new icebreaking assets.

"The Coast Guard has received $10 million in appropriations over the past two years to conduct scope and design activities for another heavy Great Lakes icebreaker. Congress has given the U.S. Coast Guard the mandate, funding, tools, and personnel to stand up the acquisition program office," stated Jim Weakley, president of Lake Carriers' Association. "Now it is time to starting building the ship,"

The push to get a new heavy icebreaker on the Great Lakes comes as the aging fleet of U.S. and Canadian icebreakers struggles with increasing maintenance challenges and a dwindling number of vessels.

"Last year, when cargoes carried on U.S. Great Lakes ships were delayed or cancelled because of inadequate icebreaking, 5,000 jobs were lost and the economy took a $1 billion hit," stated Weakley. "The nation's economy depends on reliable and predictable icebreaking on the Great Lakes."

Maritime Club welcomes new president

The Duluth-Superior Maritime Club welcomed a new president in January as Pete Weidman succeeded Ted Smith, retired owner of Marine Tech, who completed his two-year term.

Weidman, a University of Minnesota Duluth graduate, recently retired from his role as special projects manager at Lakehead Constructors. He was previously the president and chief operating officer of RJS Construction Group.

The Duluth-Superior Maritime Club evolved from the Twin Ports chapter of the International Propeller Club, which received its charter in 1933 and became one of the oldest chapters of the club on the Great Lakes.

The Maritime Club provides a forum for discussion of regional matters and also helps fund scholarships for students enrolled in the University of Wisconsin-Superior's transportation and logistics management program.

Pete Weidman

IN FOCUS: Michael Konczak

Michael Konczak

How did you first get into photography, and what draws you to Great Lakes shipping and the working waterfront for images?

It all started for me when my parents brought me to the Canal Park Marine Museum in 1984 (when I was 11 years old), and I fell in love with ships. From that point on, I seemed to spend more time in Canal Park then I did at home. I drove my parents crazy wanting to go see the next ship. They finally bought me a bus pass. Taking photos around the harbor was easier in those days compared to today's higher security measures. Most of my photos back then weren't great in quality, but it was a start. In 1988, my parents bought me a new Minolta, and things got more serious.

Is photography your primary job?

My primary job is driving for UPS, so finding time to photograph can be difficult. I take pictures of ships, and I really don't consider myself a 'professional photographer.'

How would you describe your approach to photography?

When I know there's a good chance for a "reflection" shot, that's when I get excited. Calm waters are great, but so is a strong east wind when you can get a ship departure with waves crashing over the bow.

Are most of your shots planned or spontaneous?

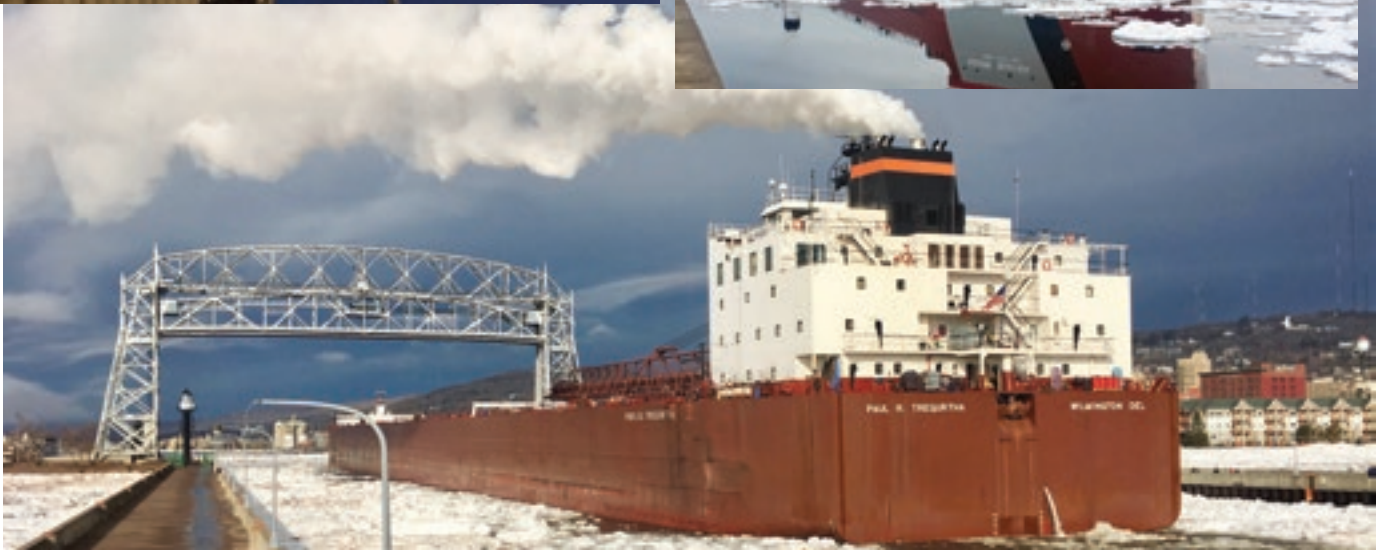
I would say most of my shots are planned, however, some of the best shots are ones that are spontaneous.

Do you know immediately when you get a great one?

For the most part, I know when I capture a great shot. However, after some editing, average shots can become great shots.

What other interesting aspects of your work or life would you like to share?

A big influence in shipping photography for me was the late Tim Slattery. He was one of the best, and he taught me a lot about my hobby. I also got a chance to take a trip on the 1,000-foot *Stewart J. Cort* from Superior to Burns Harbor, Indiana, in 1990. A trip of a lifetime and a great crew.



Photos by Michael Konczak

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