



FREIGHTERS

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UPDATES FROM THE LAKES



SAGINAW SETS SAIL

After an extended layup, *Saginaw* fit-out mid-summer to return to service, departing Sarnia, ON, on August 24, bound for Superior, WI to load iron ore on her maiden trip under the Algoma flag. This is the first the 1953-built ship has sailed since being purchased along with her Lower Lakes fleetmates in late February 2026. ***SAGINAW* arriving at Superior, WI, Aug. 26, 2026. Photo: Scott Bjorklund. □**

CLOSEOUT ON COAL IN SUPERIOR

The last remaining coal at the Superior Midwest Energy Terminal (SMET) in Superior, WI, has been shipped out, marking the closing of the facility. The dock ended regular coal loading on June 30, though a few remaining closeout loads have been shipped out since. SMET opened in 1976 as a transshipment point for western coal mined in Montana bound for Detroit-area power plants. Several hundred million tons of coal were shipped from the facility over the course of its 50-year career. As electric utilities shifted away from coal, demand dropped and the need for the facility diminished. The future of the terminal is unknown at this point in time. ***AMERICAN CENTURY* loading the last “clean-up” load, Aug. 29, 2026. Photo: David Schauer. □**



SHIPPING AMERICAN

PUTTING THE JONES ACT INTO PERSPECTIVE—PART I: WHAT IS THE JONES ACT?



(Main): KAYE E. BARKER arriving at the Cliffs Dearborn Works, June 7, 2025. Photo: Sam Hankinson; (Below): Rail-derived diesel engines installed onboard the MARK W. BARKER, September 1, 2022. Photo: Brendan Falkowski



The Jones Act is the most impactful piece of legislation impact American maritime transportation. No other law dictates how maritime shipping is done in the United States to the extent of the Jones Act. When the topic of American shipping and shipbuilding enters the discussion, it is necessary to understand the Jones Act and its place in the greater American maritime picture.

The Merchant Marine Act of 1920 was signed into law by President Woodrow Wilson on June 5, 1920. The Jones Act (46 U.S.C. § 55102) specifically refers to Section 27 of the Merchant Marine Act of 1920, which established maritime cabotage law in the United States. Cabotage is the restriction of domestic transportation of goods and/or passengers performed by non-domestic carriers. The original purpose was to prevent Alaska-bound cargo from being carried by foreign vessels and land carriers, and was championed by Senator Wesley Jones of the State of Washington.

The Jones Act specifically states three primary characteristics (US built, US owned, US crewed) of a vessel allowed to participate in domestic trade. These are enforced in part by the U.S. Coast Guard (USCG), U.S. Maritime Administration (MARAD), and U.S. Customs and Border Protection.

First, all vessels moving cargo between U.S. points must be U.S.-built. The definition of U.S.-built was not specified in the legislation, but the USCG treats it as a U.S.-built vessel if all major components of the hull and superstructure are fabricated in the U.S. This allows for engines and other systems and equipment to be imported for installation, while the vessel's integral structure and hull are included in the major components. Up to 1.5% of the ship's major components weight are permitted to be manufactured and fabricated outside of the U.S. This allows for some components not readily available or able to be produced in the U.S. to be sourced and imported.



Shipbuilders will gain approval from regulatory before importing components, seeking a Determination Letter from USCG to certify approval.

While not necessary at the time of the introduction of the Jones Act, these footnotes play a much larger role in shipbuilding in America today. Since U.S. shipyards build vessels at such low volumes at this time, most American manufacturers of large marine diesel engines have closed up shop. There are no longer any manufacturers of large slow-speed diesel engines in the U.S., and only one producer of medium-speed diesels intended for maritime use. That one manufacturer is Fairbanks-Morse Defense, which builds medium-speed diesels under license from German manufacturer Everllence for U.S. Navy vessels. Caterpillar and Progress Rail (Cat/EMD) build mid-size medium-speed diesel marine variants of locomotive engines. Until the demand signal strengthens from American shipbuilding, the ability to put European engines in American ships makes it



The large MacGregor sliding hatch covers are front and center in this view of the MARK W. BARKER, unloading at Cliffs Cleveland Works, July 23, 2024. Hatch covers like these are not available domestically and had to be sourced from overseas. Photo: Brendan Falkowski

possible for vessels to use modern engineering equipment while still meeting Jones Act status.

Shipping is a very global industry, and many industry manufacturers make specialized marine products for use internationally. When Interlake had the *Mark W. Barker* designed with sliding MacGregor hatches not normally found on Lakers, they had to source them outside the U.S. Since they added structurally to the vessel, they were counted in the 1.5% of the structural weight and required a Determination Letter for approval to import for use onboard. Had this not been possible, Interlake would have had to go with a less-versatile, more traditional style hatch cover design.

Off-the shelf steel products such as doors, bitts, vents, etc. can be imported without any limits. Similar to engineering and systems equipment, these products are not as widely commercially available in the United States as domestically-produced products are much harder to source.

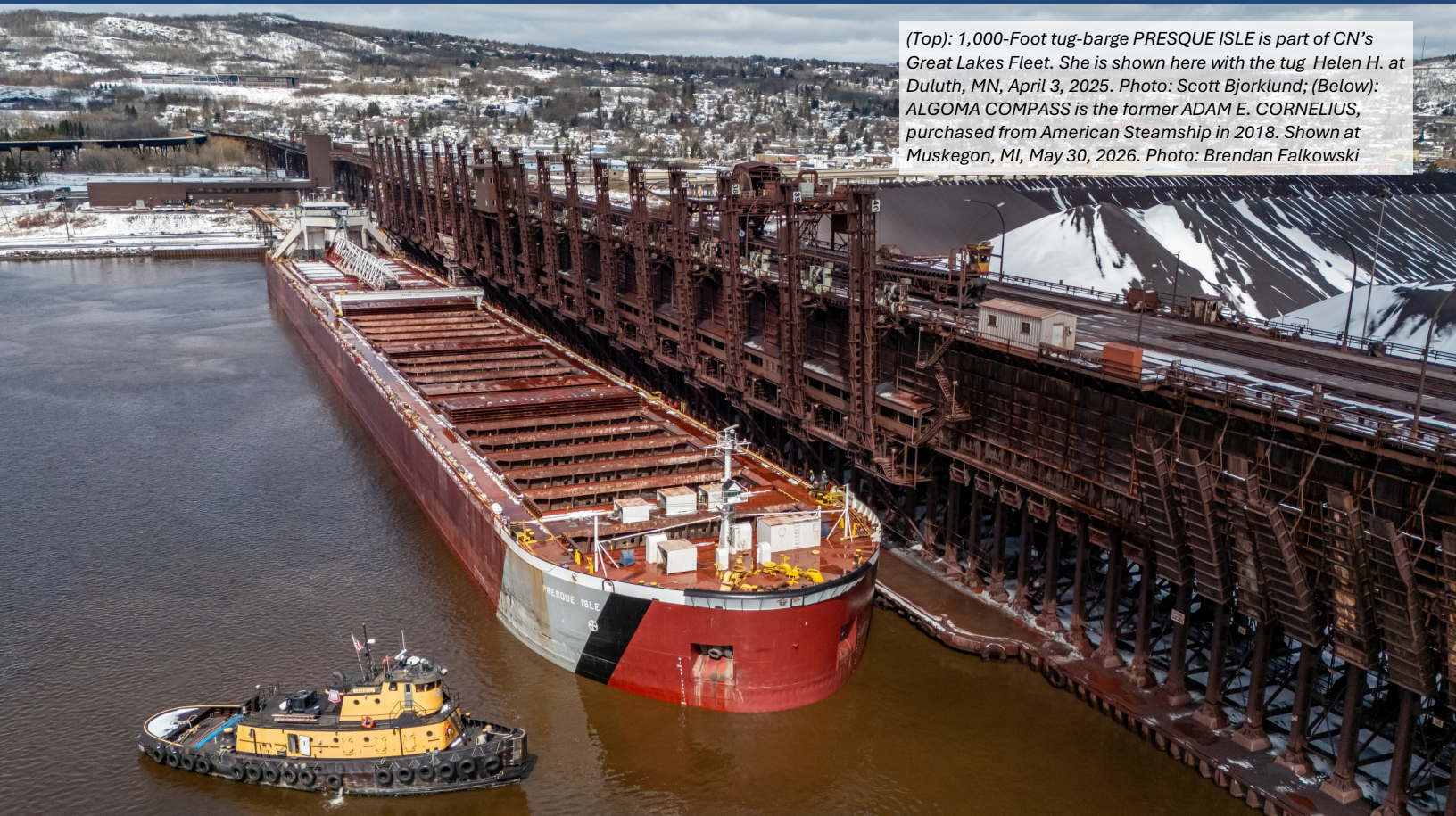
Second, all Jones Act-compliant vessels must pass crewing requirements. This means the master and officer corps must be U.S. citizens, as well as 75% of the remaining unlicensed crew. All members have to hold a valid Transportation Worker Identification Credential (TWIC) issued by the Transportation Security Administration (TSA) and a Merchant Mariner Credential (MMC) issued by USCG. These credentials allow mariners access onboard their ships and show that they have passed

necessary physical and background checks to be able to sail. For folks looking to sail, this process takes a few hundred dollars and a time for document processing to get credentialed to sail at entry-level.

The last major component is the U.S.-owned and operated clause, which requires vessels operating under the Jones Act must be owned and flagged in the U.S. If the vessel is owned by a corporation, at least 75% of the stock must be owned by U.S. citizens.

There is one way around this, a foreign parent company can own Jones Act vessels through a U.S.-based affiliate, with an American operator handling vessel operations. This is exactly how Canadian National Railway (CN) owns Great Lakes Fleet Inc. Great Lakes Fleet is a U.S.-based company that was purchased by CN in 2004. To maintain Jones Act-compliance, CN cannot have a role in operating the fleet. In turn, they delegate operational responsibilities to Key Lakes Inc., a U.S.-based operator, via a demise (long-term bareboat) charter and vessel management agreement.

For American companies that manage and operate their own Jones Act-compliant ships, the Maritime Administration will quite literally conduct what is known as the “mailbox test”, checking the nationality and mailing addresses of all company shareholders to ensure they meet the ownership requirement rules.



(Top): 1,000-Foot tug-barge PRESQUE ISLE is part of CN's Great Lakes Fleet. She is shown here with the tug Helen H. at Duluth, MN, April 3, 2025. Photo: Scott Bjorklund; (Below): ALGOMA COMPASS is the former ADAM E. CORNELIUS, purchased from American Steamship in 2018. Shown at Muskegon, MI, May 30, 2026. Photo: Brendan Falkowski



A 1935 Amendment restricted former Jones Act vessels that were reflagged or sold to foreign owners from regaining Jones Act status unless by act of Congress. Vessels can still be reflagged American, but are not able to return to Jones Act-compliant status. When American Steamship Co. sold the *Adam E. Cornelius*, *Buffalo*, *American Valor*, and *American Victory* to Algoma Central in 2018, all four ships were reflagged Canadian and lost Jones Act status. None of them would be able to trade between two American ports ever again.

Legislation expanded the Jones Act to include towing vessels in 1940 and in 1988 to include dredge work vessels. Additional restrictions apply to offshore service vessels, oil and gas rigs, and offshore wind farm service vessels. Separate laws and statutes restrict operation of foreign vessels involved in coastwise transportation of passengers as well as commercial fishing in U.S. waters.

The Jones Act can be temporarily waived for specific occasions and circumstances, but are restricted to times of emergency or for national security purposes. Jones Act waivers can be dealt by

acts of Congress, though the Department of Homeland Security has authority to authorize waivers. These are typically for cases when no domestic vessels are capable or available to handle a particular trade, natural disaster or emergency, or national defense needs, and only last for a short finite period of time. Extensive waiver periods can be damaging to domestic maritime operators if their work is augmented or taken over by foreign competitors operating on waivers. Waivers were issued earlier in 2026 for specific commodities to alleviate regional supply chain disruptions.

In addition to cabotage, the Jones Act also allows injured sailors the basis to collect damages from employers following trial by jury for claims against ship owners for unseaworthiness or negligence. This is applied by an extension of the Federal Employer's Liability Act to mariners.

Cabotage is nothing new to the world, or even the United States. The first recorded cabotage law was the English Navigation Act adopted in 1381. In fact, the first cabotage laws in the U.S. were enacted by the First Congress of the United States all the way back in 1789, with duties levied on foreign ships participating in coastwise trade. Additional laws and changes came in following years, first restricting domestic trade to American-built and owned vessels, and eventually evolving into the Jones Act we know today. Each version of the U.S. cabotage laws can be traced to the blueprint laid by the English Navigation Act of 1563.

The Jones Act plays a major role in domestic American shipping, extending from how vessels are built to how they operate. **In the next edition of *Shipwatcher News*, we will focus on the purpose of the Jones Act and why it continues to be a part of the maritime landscape in America today.** □



THE WORLD OF THRUSTERS

ENHANCING MANEUVERABILITY AND CAPABILITY



(Top): Tugs assist the SAM LAUD while she uses her bow thruster in the Trenton Channel, September 28, 2023. Photo: Sam Hankinson; (Below): View of the bow thruster tunnel onboard the PHILIP R. CLARKE, September 17, 2024. Photo: Daniel Lindner

Thrusters represent a relatively modern innovation in marine engineering, being originally developed and marketed in the 1940s and 1950s. Large cargo ships are difficult to maneuver in confined waters, their main propulsion propellers at the stern make it naturally difficult to dock or make controlled low-speed turns in tight spaces. Even in the days of sail, large ships have been reliant on assistance from much smaller, more nimble tugboats to assist in docking and navigating confined waters. The advent of thrusters freed ships from this dependency, allowing them to navigate on their own in these tight places. As the costs of hiring tugboats continues to rise, thrusters give ships a new level of independence.

Thrusters come in many shapes, sizes, and configurations. Tunnel thrusters are the most common type found on Lakers, they consist of a tunnel running perpendicular below the waterline with a single propeller inside. This setup allows for the thruster to direct a thrust force through to the port or starboard side of the ship, turning the respective end of the vessel that it is on. Tunnel thrusters are relatively simple and have fewer moving parts in comparison to other varieties.

Azimuthing thrusters are another common type of thruster, more often found on offshore service vessels, cruise ships, and tugboats on the oceans. While technically classified as thrusters, azimuthing thrusters are frequently used as main propulsion drives, termed as “podded propulsion units” by classification societies. Azimuthing thrusters consist of an articulated pod connected to the outside of the vessel, with a propeller on one end. Different manufacturers produce slightly different variants, some come with a Kort Nozzle, a form of protective ring that surrounds the propeller, to direct waterflow more effectively at low speeds. These are often found on tugboats that require large amounts of thrust at low speeds. Other versions do not have a nozzle at all, and are often found on cruise ships, and even on the icebreaker USCGC *Mackinaw*.

Drop-down thrusters are very similar to azimuthing thrusters in that they consist of a propeller on an appendage unit fixed to the ship, except that they can be tucked away inside a port in the hull to reduce drag while underway. These thrusters can either be azimuthing or operate in a fixed athwartships, or perpendicular, direction.

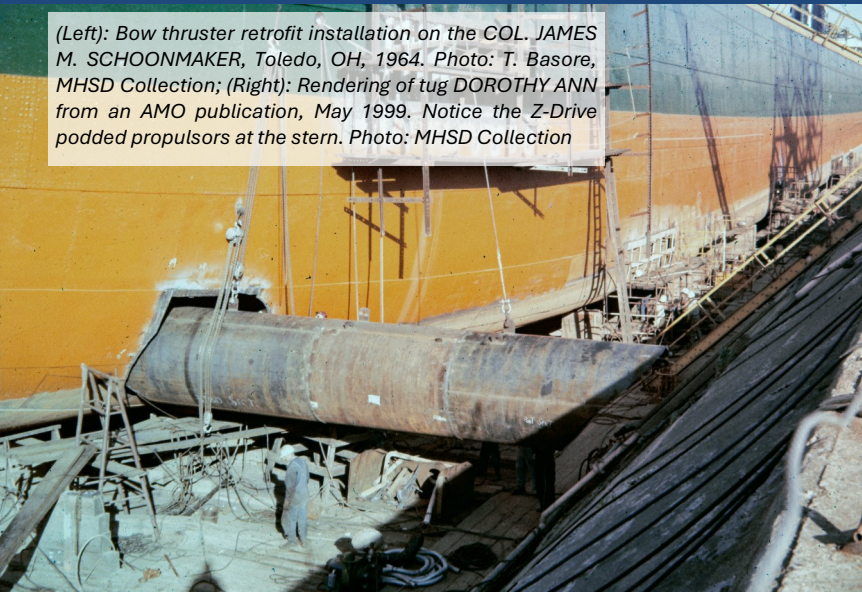
Another type of thruster is the water-jet thruster. These consist of a water-jet pump fixed on either side of a ship’s hull. Water-jet



thrusters are less intrusive than tunnel thrusters as they do not require a tunnel to be fitted through the ship, but rather direct a flow of water through a pump nozzle.

Thrusters can be powered in several ways. Early tunnel thrusters were almost all set up with mechanical direct-drive, and often used a small diesel engine connected directly to the thruster propeller through a mechanical drive. Direct-drive thrusters were often used in retrofits onboard vessels. This setup requires a large space for direct-drive connection to the thruster engine, and is difficult to access for repairs due to being deep within the forward or aft spaces of the ship. Another challenge is ventilation and engine cooling. A thruster engine located deep

(Left): Bow thruster retrofit installation on the COL. JAMES M. SCHOONMAKER, Toledo, OH, 1964. Photo: T. Basore, MHSD Collection; (Right): Rendering of tug DOROTHY ANN from an AMO publication, May 1999. Notice the Z-Drive podded propulsors at the stern. Photo: MHSD Collection



inside a ship's bow void space still needs adequate cooling airflow.

The most common method used now is electrical powering. Electrically-operated thrusters are powered by an electric motor tied to the vessel's power grid, and offer simplified control of the system. Space requirements are much less at the actual thruster location, as the electric motor can be connected by cable to the main electrical grid. If the thruster is located on the opposite end of the ship from the machinery spaces, e.g. a bow thruster with generators located aft, a large diameter cable will need to be used to make up for a significant voltage drop over the length of the cable. Some may consider placing a service generator closer to the thruster to allow for using a smaller cable. Azimuthing thrusters are most often powered electrically, using an electric motor in the pod itself to turn the propeller, and are connected to the ship's electrical grid.

Hydraulic power can be used in tandem with mechanical or electrical systems, and are much less common. Hydraulically-operated thrusters use a hydraulic fluid system to turn the thruster propeller, with hydraulic pressure provided by a mechanically or electrically-actuated hydraulic power unit (HPU).

When designing a thruster for a particular ship, several factors must be taken into account, beginning with the type of thruster desired and what sort of environment the vessel will be operating in. The thruster power requirements are calculated based on a combination of wind profile and current forces expected to act on the vessel in its operating environment. Positioning is another critical consideration for thruster design. Thrusters must be submerged below the waterline below a specific draft to prevent adverse effects such as siphoning, ventilation, or cavitation, all of which are hard on propellers and equipment. For tunnel thrusters, the ideal depth is at least two tunnel diameters below the minimum sailing waterline for the vessel. Then comes the trade-off of placing the thruster at a deeper depth or more forward or aft while maintaining structural integrity of the vessel.

Almost all tunnel thrusters, at least installed on Great Lakes vessels, are fitted with debris grids on either end of the tunnel to prevent logs and other items from getting sucked into the propellers. Additional access points, such as bolted covers to the tunnel from inside the vessel or submerged cofferdams allow

for access for performing maintenance and repairs without requiring drydocking.

Thrusters fall into a unique area of regulations. They are classified in one of two categories, "thrusters used for propulsion", and "thrusters not used for propulsion". Thrusters used for propulsion are subject to stricter operational capability and redundancy guidelines from classification societies such as American Bureau of Shipping (ABS), as must have redundant means of power and control. Thrusters that are not used for propulsion are primarily intended to enhance maneuverability, and regulations are much more relaxed. The primary guidelines for thrusters not used for propulsion focus on plating thickness for the thruster tunnel and other seaworthiness concerns. All thrusters are required are to be able to be controlled from the navigation bridge.

Some vessels are equipped with thrusters designed to meet Dynamic Positioning System (DPS) regulations set by classification societies. DPS notation means a vessel is equipped to be able to maintain a level of station-keeping capability, reliability, and redundancy. Increasing DPS notation comes with increased level of automation, control, and redundancy from faults in the operational systems. Offshore service vessels are often built to DPS notation for maintaining position while operating in place in open waters. Some U.S. Coast Guard vessels on the Great Lakes have DPS, primarily for aids-to-navigation service work.

Thrusters are a very important part of the engineering systems onboard a ship, especially when navigating on the Great Lakes. Tight rivers and complex conditions require nimble vessels able to maneuver independently. Rising tugboat assist costs further emphasize these needs. Most Lakers are equipped with tunnel-style bow thrusters, and many have stern thrusters as well. Some specialized vessels on the Great Lakes utilize podded azimuthing thrusters for main propulsion drives. Interlake's *Dorothy Ann* is fitted with Z-Drives, a form of azimuthing thruster with nozzles. The icebreaker USCGC *Mackinaw* is equipped with Azipods, podded azimuthing thrusters. The Great Lakes gives a small snapshot of some of the many uses for thrusters in the maritime engineering world. ▣

Special thanks to Travis Martin and Fred Koller from Bay Engineering for contributing their expertise to preparing this story.

SPRUCEGLEN



The early 1980s was a challenging period of time for Canadian shipping operators. Cross-border trades, primarily served by Canadian ships, were running at a reduced capacity due to a depressed American steel market. Grain trade was down. A period of market consolidation was beginning. Operators began to seek ways to keep vessels operating year-round, still making money during the time that would normally be spent in winter layup. Following an example set by competitor Upper Lakes Shipping LTD. as early as the mid-1960s, Misener Transportation looked to revive an old idea. The solution: a vessel that could operate on the Great Lakes during the main Seaway season and transition to ocean service during the winter layup period. Upper Lakes developed a pair of ocean-going Lakers, otherwise known as “saltie-lakers”, almost two decades prior to shuttle coal from Sydney, NS, to power plants in Ontario. These were the self-unloaders *Cape Breton Miner* and *Ontario Power*. As Misener was developing their own “saltie-lakers” in the early 1980s, Upper Lakes Shipping built two new “saltie-lakers” of their own to replace their earlier vessels, these being the *Canadian Ambassador* and *Canadian Pioneer*.

Misener contracted shipbuilder Govan Shipyards of Govan, Scotland, to build three gearless vessels for Great Lakes and ocean trades. Two were built for Misener, and one to be owned by Pioneer Shipping LTD., but also operated by Misener. The Misener boats were built to serve a five-year contract with the Canadian Wheat Board to move grain from the upper Great Lakes to St. Lawrence River ports for export. The first of the trio was named *Selkirk Settler*, launched on January 28, 1983. She was christened in a joint ceremony with her other Misener sister, *Canada Marquis*, on April 15, 1983. The third sister, *Saskatchewan Pioneer*, was completed for Pioneer.

Selkirk Settler measured 730'01" long, 75'09" wide, and 48' deep, with a total capacity of 33,636 Long Tons at her summer



(Top): *SPRUCEGLEN* in the Welland Canal, June 29, 2014. Photo: Isaac Pennock; (Below): *SELKIRK SETTLER* in Misener colors, 1980s. Photo: Misener Transportation

draft of 32', and 25,875 Long Tons at the Seaway draft of 26'05". MacGregor folding hatches providing access to each of their seven cargo holds. Their holds offer large cubic dimensions to maximize capacity of grain cargoes, as well as coal and other bulk cargoes. All three ships were built with private air-conditioned rooms for all crewmembers. They are powered by a single Sulzer 4RLB76 diesel engine providing a total of 10,880 BHP, directly linked to a single controllable pitch propeller in a Kort nozzle. All three vessels were built to Lloyd's Register 100 A1 and Ice Class 3 classifications, meaning they are able to sail the oceans of the world unrestricted without necessary modifications.

Following successful completion of sea trials, *Selkirk Settler* departed Scotland on her maiden voyage on April 25, 1983. She passed upbound through the Welland Canal on May 5th, falling

(Main): SPRUCEGLEN loading taconite at Superior, WI, August 10, 2023. Photo: David Schauer; (Top Inset): Waves cresting over the bow in a mid-Atlantic storm. Photo: Paul Crannie, Ron Beaupre Collection; (Below): FEDERAL ST. LOUIS in the Seaway, July 19, 1991. Photo: Jim Sprunt, René Beauchamp Collection.



into her usual Seaway grain trade operations.

Misener marketed their new vessels to serve Atlantic Ocean routes during the winter months, ranging from the North American east coast to the Caribbean, to Europe and the Mediterranean, to South America all the way to west Africa. *Selkirk Settler* loaded her first cargo bound for overseas at the end of her first season, departing Duluth, MN on December 8, 1983, with grain for Limassol, Cyprus. *Selkirk Settler* worked ocean routes over the winter, making calls in England as well, and returning to the Great Lakes in early April 1984. The *Settler* made visits to Leningrad, Casablanca, France, Belgium, and the US eastern seaboard throughout the later 1980s. She was also reflagged in the Isle of Man in 1987, representing a further shift towards ocean trades as Canadian bulk trades weakened.

The 1990s represented a period of constant changing of hands for *Selkirk Settler*. In 1991 she was sold to Federal Navigation, part of Fednav of Montreal, QC. At this time she was renamed *Federal St. Louis* and reflagged in the Bahamas. Later in 1991 she

was sold to Ubem S.A. of Antwerp, Belgium and renamed *Federal Fraser*. In 1994, she was first sold to Primera Ship Management, then to Crimson Line of Japan, then Koyo Lines of Japan. The following year she was sold again to Prominent Star of Hong Kong. In 1998, she was sold to M&N Shipping of Japan and reflagged in Panama. Fednav International took over her charter in 1998, all while Fednav Ship Management was as the operator. Her name was shortened to *Fraser* in 2001.

After a turbulent 1990s, *Fraser* was purchased by Fednav who in turn sold her to Canada Steamship Lines of Montreal, QC, in October 2002. She was reflagged Canadian while still overseas in Belgium and arrived in Canada in December. She was officially renamed *Spruceglen* on December 11, 2002. Her first domestic cargo upon her return to the Canadian flag was a load of sugar from Quebec City, QC, for delivery to the Redpath facility in Toronto. She underwent repairs and modifications over the winter in Toronto before starting the 2003 shipping season.

An innovative scrubber system was installed onboard *Spruceglen* prior to the 2013 season, designed to remove Nitrogen Oxide (NOx), Sulfur Oxide (SOx), and Carbon Dioxide (CO₂) emissions from her engine exhaust. Of the three sisters, only two survive today. The *Birchglen*, originally *Canada Marquis*, was retired and scrapped in 2015. *Saskatchewan Pioneer* still sails as Algoma's *Kaministiquia*.

Besides sporadic layups in times of low demand, *Spruceglen* continues to serve the Canadian Seaway taconite and grain trades for Canada Steamship Lines, often called upon in time for the fall grain rush. While she no longer serves ocean routes in the offseason, *Spruceglen* still represents the legacy of the first generations of saltie-lakers that drew the blueprints for their modern-day counterparts. Since her debut, many dual-purpose bulk carriers representing flags around the world have sailed their careers and paid visits to the Seaway, with more to come. ▣



Scott Bjorklund Photo

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SHIPWATCHER NEWS CREW: Content: Brendan Falkowski, Sam Hankinson, Jack Hurt, Scott Bjorklund; Photo: Daniel Lindner, Roger LeLievre, Isaac Pennock, David Schauer, Gus Schauer, Ethan Severson, Logan Vasicek

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JOHN G. MUNSON downbound on the St. Marys River, June 26, 2026. Photo: Brendan Falkowski

