The Great Lakes St. Lawrence Seaway System

Connecting North America's 'Opportunity Belt' to the World
The Great Lakes St. Lawrence Seaway System is a binational waterway connecting world markets to North America’s “Opportunity Belt” – the Great Lakes region. This vital maritime gateway moves cargo between North America and international markets. This System includes the St. Lawrence River and the five Great Lakes, stretching over 2,300 miles (3,700 km) from the Gulf of St. Lawrence to Lake Superior. The Seaway is a binational system operated jointly by the U.S. Saint Lawrence Seaway Development Corporation (SLSDC) and the Canadian St. Lawrence Seaway Management Corporation (SLSMC).

Both Corporations operate and maintain the 15-lock waterway, working seamlessly on operational, environmental, and marketing initiatives.

The Seaway System directly serves the Great Lakes region that accounts for one-quarter of the U.S. gross domestic product (GDP), one-half of North America’s manufacturing and services industries, and is home to nearly one-quarter of the continent’s population.

The Great Lakes region is the world’s fourth largest economy with annual economic output of nearly $5 trillion.

www.greatlakes-seaway.com
ECONOMIC IMPACT

Maritime commerce on the Great Lakes Seaway System annually sustains:

• 227,000 U.S. and Canadian jobs;
• $34 billion in business revenues; and
• $3.6 billion in transportation cost savings compared to the next least expensive mode of transportation.

If the Great Lakes region were a country, it would rank as the fourth largest economy in the world, behind only the U.S., China, and Japan.

$14 BILLION

IN WAGES AND SALARIES

COMMERCIAL VESSELS SERVING THE SYSTEM INCLUDE:

• U.S. domestic carriers (U.S. Lakers);
• Canadian domestic carriers (Canadian Lakers); and
• Ocean-going vessels (Salties) that operate between System ports and overseas destinations.

INFRASTRUCTURE RENEWAL

• The SLSDC and the SLSMC are modernizing Seaway infrastructure, ensuring a safe and reliable waterway system for years to come. Through the year 2020, nearly $1 billion will be invested in Seaway rehabilitation and modernization.
• The marine industry has recently invested over $2 billion in new and modernized Seaway-sized ships.
• Great Lakes Seaway System port authorities continue to modernize and add new infrastructure and services.

SAFE, RELIABLE AND EFFICIENT

• 99% System Reliability: A typical navigation season is 275 days (late March to late December).
• Emergency Response: In coordination with the U.S. and Canadian Coast Guards, the Seaway Corporations are ready and able to quickly, safely, and effectively respond to any emergency situation.

99%

SYSTEM RELIABILITY

TO MOVE 30,000 TONNES OF CARGO WITH A SEAWAY-SIZE VESSEL

1 SHIP

30' RAIL CARS

963 TRUCKS

NEARLY 7x MORE FUEL EFFICIENT THAN TRUCKS

MOVING CARGO by water instead of by rail or truck results in:

• Less traffic congestion
• Reduced highway infrastructure costs
• Better quality of life, improved workplace safety, less noise, and pollution

The Great Lakes Seaway fleet is nearly 7 times more fuel efficient than trucks and 1.14 times more fuel efficient than rail. It would take 3 million railcars or 7.1 million trucks to carry the total cargo transported by the Great Lakes Seaway fleet.

ENVIRONMENTAL GATEKEEPER

• The Seaway is the gatekeeper to the Great Lakes, promoting environmentally responsible maritime commerce.
• Ballast water management practices and mandatory ballast tank examinations for ocean-going vessels ensure vessel integrity to combat invasive species.

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www.green-marine.org

THE SEAWAY, TAKE A CLOSER LOOK...
### Seaway Facts and Figures

#### 1959

- **Opened to deep draft navigation**

The Great Lakes St. Lawrence Seaway System is the world’s longest deep draft commercial waterway.

#### Sailing Times (in Days)

<table>
<thead>
<tr>
<th>Port of Departure</th>
<th>Distance (nautical miles)</th>
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<tbody>
<tr>
<td>Montreal, Canada</td>
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#### Nautical Distances (in Nautical Miles)

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#### Lifting Capabilities

**Maximum Handysize Vessel**

- **Capacity:** Carries up to 30,000 MT per voyage

**Maximum Air Draft:**

- **Maximum Air Draft:** 35.5 m (116 ft., 6 in.)

**Maximum Length:**

- **Maximum Length:** 225.5 m (740 ft.)

**To Raise a Ship**

- The upstream lock valves are opened and the water flows in.

**To Lower a Vessel**

- The downstream lock valves are opened and water flows out.

#### Lock Dimensions

<table>
<thead>
<tr>
<th>Distance</th>
<th>Length</th>
<th>Width</th>
<th>Water Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>225.5 m</td>
<td>233.5 m</td>
<td>24.5 m</td>
<td>9.1 m (30 ft)</td>
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</table>

#### Seaway Locks

- **Montreal, Canada:** 8 Locks (at Lachine Canal)
- **Montreal to Lake Ontario:** 7 Locks

#### Sailing Time

- **Sailing Time:** 8.5 sailing days

#### Distance

- **Distance:** 2,038 nautical miles (2,342 statute miles or 3,700 kilometres)

**Includes approximately 245,750 square kilometres (95,000 square miles) of navigable waters.**

#### Sources


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**FACTS (IN DAYS)**

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<tr>
<th>Distance</th>
<th>Locks</th>
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<tr>
<td>1959</td>
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**FIGURES**

<table>
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<tr>
<th>Distance</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>7</td>
<td></td>
<td></td>
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**Sources:**


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**MAXIMUM BEAM:**

- 55 m (180 ft.)

**MAXIMUM LENGTH:**

- 225 m (740 ft.)

**MAXIMUM HANDysize VESSEL:**

- Capacity: Carries up to 30,000 MT per voyage

**To RAISE a SHIP**

- The upstream lock valves are opened and the water flows in.

**To LOWER a VESSEL**

- The downstream lock valves are opened and water flows out.

**Each Seaway lock holds approximately 21 million gallons (79 million liters) of water, equivalent to roughly 30 Olympic-sized swimming pools.**

**The locks use the law of gravity to fill and empty.**

**A lockage requires about 30 minutes to start the process.**

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**SAILING TIMES (IN DAYS)**

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**The data assumes:**

- Vessels travel 13 knots/hour on international waters
- Vessels travel 12 knots/hour within the Great Lakes St. Lawrence Seaway System
- 6 hours for lockage time in the Montreal – Lake Ontario section of the Seaway
- 12 hours of lockage time in the Welland Canal section of the Seaway

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**Distance = 2,038 nautical miles (2,342 statute miles or 3,700 kilometres)**

- Includes approximately 245,750 square kilometres (95,000 square miles) of navigable waters.
MAJOR COMMODITIES
IN THE GREAT LAKES ST. LAWRENCE SEAWAY SYSTEM

COMPETITIVE ADVANTAGES
Safe, reliable, and efficient
Competitive for shipping mining products, steel, breakbulk, agricultural, and heavy lift cargoes to and from international markets
Access to major U.S.-Canadian markets
Direct water route to the heartland of North America
Expertise in moving breakbulk and project cargo
State-of-the-art maritime technologies
Customer focused
International Standards Organization (ISO) certified

IRON ORE
Iron ore is the principal ingredient in steel, an essential building block in hundreds of manufacturing industries.

GRAIN
Grain exports of wheat, corn, soybeans, barley, canola, and oats are among the top commodities shipped.

GENERAL CARGO
General cargo includes a wide range of products such as iron and steel slabs, coil, plate, machinery, wind energy components, transformers, as well as gas and electric turbines.

BREAK BULK
Break Bulk cargo shipped through the Seaway is a fast-growing sector that includes products in defined units such as bags, bales, barrels, boxes, cartons, drums, pallets, sacks, and vehicles.

DRY BULK
Dry bulk cargoes are unpackaged commodities usually shipped in large quantities such as grain, coal, ores, sand, salt, and cement.

MINING
Mineral products include coal and aggregates such as crushed stone, sand, gravel, and slag, which can be used in power generation, steelmaking, construction, and road building.

ENERGY
Liquid bulk energy products shipped routinely on the Great Lakes Seaway System include petroleum fuels (gasoline, diesel, kerosene, jet fuel) and alternate fuels (ethanol, biofuels).

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CRUISE SHIPS ON THE GREAT LAKES

The scenic Great Lakes Seaway System is the ideal cruising experience. Great Lakes cruise ships generally accommodate between 100 – 420 passengers per vessel and allow for options to visit small and large cities on all five Great Lakes.

TECHNOLOGY/COMMERCIAL SHIPPING

The Seaway Corporations use cutting-edge marine technology:

- Self spotting and hands-free mooring technologies at Seaway locks increase safety, efficiency, and reduce costs.
- An interactive binational website – www.greatlakes-seaway.com – serving as the most comprehensive single source of Great Lakes Seaway System information, with real-time navigation data, links to government and commercial marine transportation sites, pleasure craft resources, and a suite of e-business services.
- Automatic Identification System (AIS) – navigation technology mandatory for commercial vessels.
- Draft Information System (DIS) – real time data between vessel keel and river bottom allowing deeper draft transits.

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The U.S. Saint Lawrence Seaway Development Corporation and the Canadian St. Lawrence Seaway Management Corporation jointly operate the waterway and coordinate operational activities with respect to rules and regulations, traffic management, navigation aids, safety, environmental programs, operating dates, and trade and economic development programs. Since the waterway’s opening in 1959, nearly 3 billion metric tons of cargo has moved on the St. Lawrence Seaway valued at over $400 billion.