The Great Lakes St. Lawrence Seaway System

NORTH AMERICA'S OPPORTUNITY BELT

Connecting North America's 'Opportunity Belt' to the World

THE SEAWAY SYSTEM

...THE SHORTEST ROUTE TO THE HEARTLAND OF NORTH AMERICA

GATEKEEPER TO THE GREAT LAKES

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

THE SEAWAY, TAKE A CLOSER LOOK...

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

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.

The Seaway's current binational ballast water management regulations and inspection regime are among the most stringent in the world and have proven effective in preventing invasive species from entering the Great Lakes.

www.green-marine.org

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

1 SHIP

OR

301 RAIL CARS

OR

963 TRUCKS

NEARLY 7x
MORE FUEL EFFICIENT THAN TRUCKS

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.

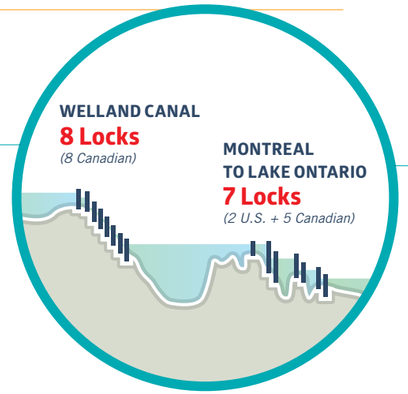
MOVING CARGO
by water instead of by rail or truck results in:

- LESS TRAFFIC CONGESTION
- REDUCED HIGHWAY INFRASTRUCTURE COSTS
- BETTER QUALITY OF LIFE, IMPROVED WORKPLACE SAFETY, LESS NOISE, AND POLLUTION

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



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

LOCK DIMENSIONS

LENGTH
233.5 m (766 ft.)

WIDTH
24.4 m (80 ft.)

WATER DEPTH
9.1 m (30 ft.)

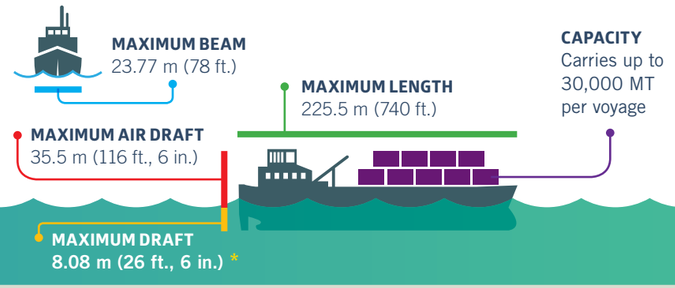
The locks use the law of gravity to fill and empty

TO RAISE A SHIP, *the upstream lock valves are opened and the water flows in*

TO LOWER A VESSEL, *the downstream valves are opened and water flows out*

30 MIN A lockage requires about **30 minutes** from start to finish

MAXIMUM HANDYSIZE VESSEL



* *Commercial vessels equipped with Draft Information System (DIS) technology are allowed to load to a maximum draft of 8.15 m (26 ft., 9 in.)*

DULUTH, MINNESOTA
on Lake Superior

ATLANTIC OCEAN

Sailing Time = 8.5 sailing days

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

SAILING TIMES (IN DAYS)

	Montreal, Canada	Bilbao, Spain	Le Havre, France	Casablanca, Morocco	London, England	Rotterdam, Netherlands	Antwerp, Belgium	Oslo, Norway	Brake, Germany	Gdynia, Poland	La Spezia, Italy	Istanbul, Turkey	Santos, Brazil
Montreal	-	9.9	9.9	10.1	10.4	10.5	10.6	10.9	10.9	12.0	13.0	16.0	17.7
Valleyfield	0.4	10.5	10.3	10.5	10.8	10.9	11.0	11.2	11.3	12.3	13.4	16.4	18.1
Ogdensburg	0.6	10.5	10.6	10.7	11.0	11.2	11.2	11.5	11.5	12.6	13.6	16.6	18.3
Oswego	0.9	10.9	10.9	11.1	11.4	11.5	11.5	11.8	11.8	12.9	13.9	16.9	18.7
Oshawa	1.0	11.0	11.0	11.2	11.5	11.6	11.7	12.0	12.0	13.1	14.1	17.1	18.8
Toronto	1.2	11.2	11.2	11.4	11.7	11.8	11.8	12.1	12.1	13.2	14.3	17.2	19.0
Hamilton	1.3	11.3	11.3	11.5	11.8	11.9	11.9	12.2	12.2	13.3	14.3	17.3	19.1
Buffalo	1.8	11.8	11.9	12.1	12.3	12.5	12.5	12.8	12.8	13.9	14.9	17.9	19.7
Erie	2.0	12.0	12.0	12.2	12.5	12.6	12.6	12.9	12.9	14.0	15.0	18.0	19.8
Conneaut	2.0	12.0	12.1	12.3	12.6	12.7	12.7	13.0	13.0	14.1	15.1	18.1	19.9
Ashtabula	2.1	12.1	12.1	12.3	12.6	12.7	12.7	13.0	13.0	14.1	15.2	18.1	19.9
Cleveland	2.2	12.3	12.3	12.5	12.8	12.9	12.9	13.2	13.2	14.3	15.3	18.3	20.1
Lorain	2.3	12.3	12.4	12.5	12.8	13.0	13.0	13.3	13.3	14.4	15.4	18.4	20.1
Toledo	2.4	12.5	12.5	12.7	13.0	13.1	13.1	13.4	13.4	14.5	15.6	18.5	20.3
Monroe	2.4	12.5	12.5	12.7	13.0	13.1	13.1	13.4	13.4	14.5	15.6	18.5	20.3
Detroit/Windsor	2.5	12.5	12.5	12.7	13.0	13.1	13.2	13.4	13.5	14.5	15.6	18.6	20.3
Port Huron/Sarnia	2.6	12.7	12.7	12.9	13.2	13.3	13.3	13.6	13.6	14.7	15.8	18.7	20.5
Green Bay	3.9	14.0	14.1	14.3	14.5	14.7	14.7	15.0	15.0	16.1	17.1	20.1	21.8
Muskegon	3.9	14.1	14.2	14.3	14.6	14.8	14.8	15.1	15.1	16.2	17.2	20.2	21.9
Milwaukee	4.0	14.2	14.3	14.4	14.7	14.9	14.9	15.2	15.2	16.3	17.3	20.3	22.0
Chicago	4.2	14.4	14.5	14.6	14.9	15.1	15.1	15.4	15.4	16.5	17.5	20.5	22.2
Thunder Bay	4.1	14.3	14.4	14.5	14.8	15.0	15.0	15.3	15.3	16.4	17.4	20.4	22.1
Burns Harbor	4.2	14.4	14.5	14.7	15.0	15.1	15.1	15.4	15.4	16.5	17.5	20.5	22.3
Duluth	4.5	14.7	14.7	14.9	15.2	15.3	15.3	15.6	15.7	16.7	17.8	20.7	22.5

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

NAUTICAL DISTANCES (IN NAUTICAL MILES)

	Montreal, Canada	Bilbao, Spain	Le Havre, France	Casablanca, Morocco	London, England	Rotterdam, Netherlands	Antwerp, Belgium	Oslo, Norway	Brake, Germany	Gdynia, Poland	La Spezia, Italy	Istanbul, Turkey	Santos, Brazil
Montreal	-	3,091	3,103	3,159	3,249	3,290	3,295	3,386	3,389	3,729	4,049	4,980	5,529
Valleyfield	41	3,132	3,144	3,200	3,290	3,331	3,336	3,427	3,430	3,770	4,090	5,021	5,570
Ogdensburg	107	3,198	3,210	3,266	3,356	3,397	3,402	3,493	3,496	3,836	4,156	5,087	5,636
Oswego	202	3,293	3,305	3,361	3,451	3,492	3,497	3,588	3,591	3,931	4,251	5,182	5,731
Oshawa	246	3,337	3,349	3,405	3,495	3,536	3,541	3,632	3,635	3,975	4,295	5,226	5,775
Toronto	297	3,388	3,400	3,456	3,546	3,587	3,592	3,683	3,686	4,026	4,346	5,277	5,826
Hamilton	318	3,409	3,421	3,477	3,567	3,608	3,613	3,704	3,707	4,047	4,367	5,298	5,847
Buffalo	340	3,431	3,443	3,499	3,589	3,630	3,635	3,726	3,729	4,069	4,389	5,320	5,869
Erie	377	3,468	3,480	3,536	3,626	3,667	3,672	3,763	3,766	4,106	4,426	5,357	5,906
Conneaut	400	3,491	3,503	3,559	3,649	3,690	3,695	3,786	3,789	4,129	4,449	5,380	5,929
Ashtabula	411	3,502	3,514	3,570	3,660	3,701	3,706	3,797	3,800	4,140	4,460	5,391	5,940
Cleveland	460	3,551	3,563	3,619	3,709	3,750	3,755	3,846	3,849	4,189	4,509	5,440	5,989
Lorain	477	3,568	3,580	3,636	3,726	3,767	3,772	3,863	3,866	4,206	4,526	5,457	6,006
Toledo	526	3,617	3,629	3,685	3,775	3,816	3,821	3,912	3,915	4,255	4,575	5,506	6,055
Monroe	529	3,620	3,632	3,688	3,778	3,819	3,824	3,915	3,918	4,258	4,578	5,509	6,058
Detroit/Windsor	532	3,623	3,635	3,691	3,781	3,822	3,827	3,918	3,921	4,261	4,581	5,512	6,061
Port Huron/Sarnia	585	3,676	3,688	3,744	3,834	3,875	3,880	3,971	3,974	4,314	4,634	5,565	6,114
Green Bay	973	4,064	4,076	4,132	4,222	4,263	4,268	4,359	4,362	4,702	5,022	5,953	6,502
Muskegon	996	4,087	4,099	4,155	4,245	4,286	4,291	4,382	4,385	4,725	5,045	5,976	6,525
Milwaukee	1,026	4,117	4,129	4,185	4,275	4,316	4,321	4,412	4,415	4,755	5,075	6,006	6,555
Chicago	1,083	4,174	4,186	4,242	4,332	4,373	4,378	4,469	4,472	4,812	5,132	6,063	6,612
Thunder Bay	1,057	4,148	4,160	4,216	4,306	4,347	4,352	4,443	4,446	4,786	5,106	6,037	6,586
Burns Harbor	1,091	4,182	4,194	4,250	4,340	4,381	4,386	4,477	4,480	4,820	5,140	6,071	6,620
Duluth	1,163	4,254	4,266	4,322	4,412	4,453	4,458	4,549	4,552	4,892	5,212	6,143	6,692

Sources: www.sea-distances.org / *Distances Between United States Ports*, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), 2012

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

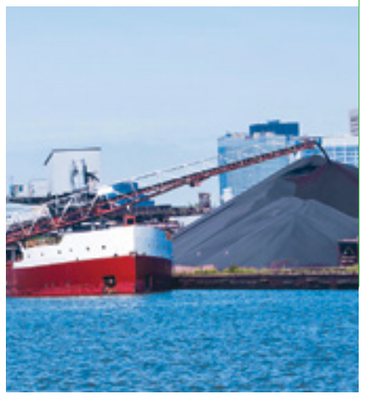
www.HWYH2O.com

MAJOR COMMODITIES

IN THE GREAT LAKES ST. LAWRENCE SEAWAY SYSTEM

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.

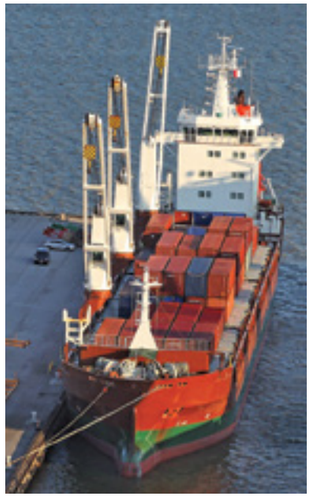
GENERAL CARGO

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.

A SAFE AND RELIABLE ROUTE FOR TRADITIONAL AND NEW CARGOES

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.



MINING

Mined 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.

DRY BULK

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

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).

NORTH AMERICA'S OPPORTUNITY BELT

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.

The cruise experience on the Great Lakes St. Lawrence Seaway System offers passengers a variety of itineraries with stops at port cities in both the United States and Canada.

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.

We are the Saint Lawrence Seaway Development Corporation

MISSION STATEMENT

The SLSDC operates and maintains the U.S. infrastructure and waters of the St. Lawrence Seaway, while performing trade development focused on driving economic activity for the Great Lakes St. Lawrence Seaway System. Our mission is to serve the marine transportation industries by providing a safe, secure, reliable, efficient, and competitive deep draft international waterway, in cooperation with the Canadian St. Lawrence Seaway Management Corporation.

VISION STATEMENT

The SLSDC will be a model federal agency, leading the Great Lakes Seaway System as the safest and most efficient, competitive, technologically advanced, and environmentally responsible marine transportation system in the world.

CORE ORGANIZATIONAL VALUES

Accountability, Competitiveness, Customer Focus, Dedication, Diversity, Excellence, Integrity, Operational Efficiency, Relevance, Service, Sustainability, and Quality

Connecting North America's 'Opportunity Belt' to the World

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.

CONTACT US

Saint Lawrence Seaway Development Corporation

Policy Headquarters:
55 M Street, S.E.
Suite 930
Washington, D.C. 20003, USA
Telephone: 202-366-0091
Toll-Free: 800-785-2779
Fax: 202-366-7147

Mailing Address:
1200 New Jersey Ave., S.E.
Washington, D.C. 20590

Operations Headquarters:
180 Andrews Street
Massena, N.Y. 13662, USA
Telephone: 315-764-3200
Fax: 315-764-3235

The St. Lawrence Seaway Management Corporation
202 Pitt Street
Cornwall, Ontario K6J 397, Canada
Telephone: 613-932-5170
Fax: 613-932-7286

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www.facebook.com/usdotslsdc

www.hwyh20.com

email: slsdc@dot.gov