

Connecting the Heartland of North America to the World

Annual Corporate Summary
2016–2017



The St. Lawrence
Seaway Management
Corporation

Corporation de Gestion
de la Voie Maritime
du Saint-Laurent



Photo: Francis Fontaine

Table of Contents

Connecting the Heartland of North America to the World	2	Operational Excellence	17
The Great Lakes/Seaway System	3	Navigation Season	18
About the St. Lawrence Seaway	4	Emergency Preparedness	18
Seaway Facts and Figures	4	Marine Safety	19
Benefits of Shipping Cargo on the St. Lawrence Seaway	5	Ballast Water Management	19
Principal Seaway Cargoes	6	Modernization	20
The St. Lawrence Seaway Management Corporation	7	Reliable Infrastructure and Asset Renewal	20
Vision	7	Health and Safety	24
Corporate Goals and Desired Outcomes	7	High Performance Workforce	25
Values	8	Recognizing Employee Engagement	26
Mission	8	Reinforcing Performance Management and Leveraging Technology	27
President's Message	9	Supporting Employee Health And Wellness	27
Business Growth	12	Stakeholder Engagement	28
Traffic Results	13	Green Marine	29
2016 New Business Results	14	Greenhouse Gas Emissions	29
Seaway Tolls	14	Environmental Management System	30
Seaway Toll Incentives	14	Supporting Our Communities	30
Bi-National Marketing Initiatives	15	Serving As Ambassador For The Seaway	31
		Financial Sustainability	32
		Corporate Governance	34
		Board of Directors	35
		Officers	35
		Industry Members 2016/17	36

Connecting the Heartland of North America to the World

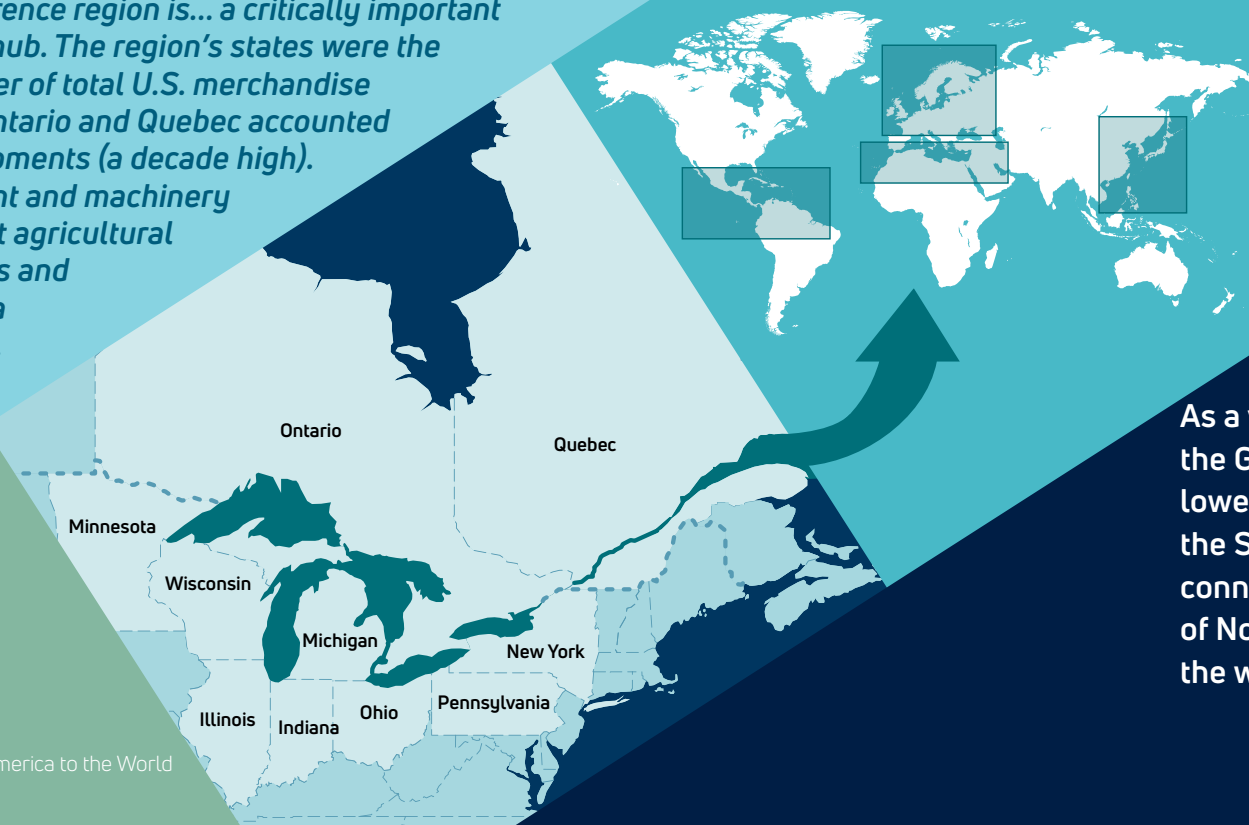
According to a special report compiled by BMO

Capital Markets, the eight states and two provinces that border the Great Lakes/St. Lawrence Seaway System generate an immense economic impact within North America.

- GDP of US \$6 trillion (2016 est)
- Population: 107 million (2015)
- 30% of Canadian/U.S. economic activity
- 51 million jobs
- 30% of Canadian/U.S. workforce
- More than half of Canada/U.S. cross-border trade

The Great Lakes-St. Lawrence region is... a critically important North American trading hub. The region's states were the origin of roughly a quarter of total U.S. merchandise exports in 2016, while Ontario and Quebec accounted for 60% of Canadian shipments (a decade high). Transportation equipment and machinery are the major drivers, but agricultural and food products metals and chemicals contribute to a diverse range of exports.

(Source: BMO Capital Markets – Spring 2017)



As a vital artery between the Great Lakes and the lower St. Lawrence River, the St. Lawrence Seaway connects the heartland of North America to the world.

The Great Lakes/Seaway System

The Great Lakes/Seaway System is a 3,700 km “marine highway” that extends from the Atlantic Ocean to the Great Lakes. Over 160 million tonnes of cargo travel on the waterway on an annual basis.

CARGO MOVING ON THE GREAT LAKES/
ST. LAWRENCE SEAWAY SUPPORTS:

\$35 Billion
in Economic Activity

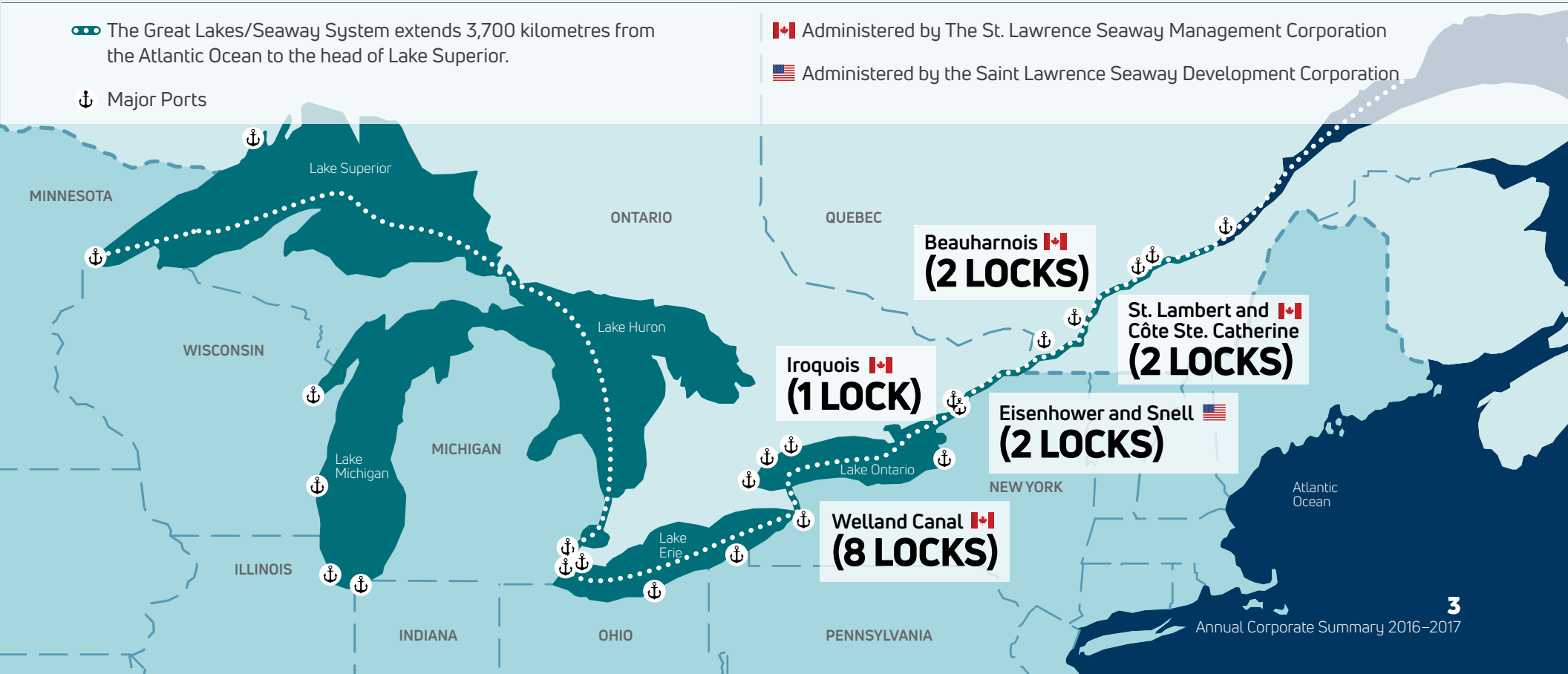
227,000
Jobs

\$14.6 Billion
in Wages

Source: The Economic Impacts of the
Great Lakes-St. Lawrence Seaway
System (Martin Associates, October
2011)

••• The Great Lakes/Seaway System extends 3,700 kilometres from the Atlantic Ocean to the head of Lake Superior.

⚓ Major Ports

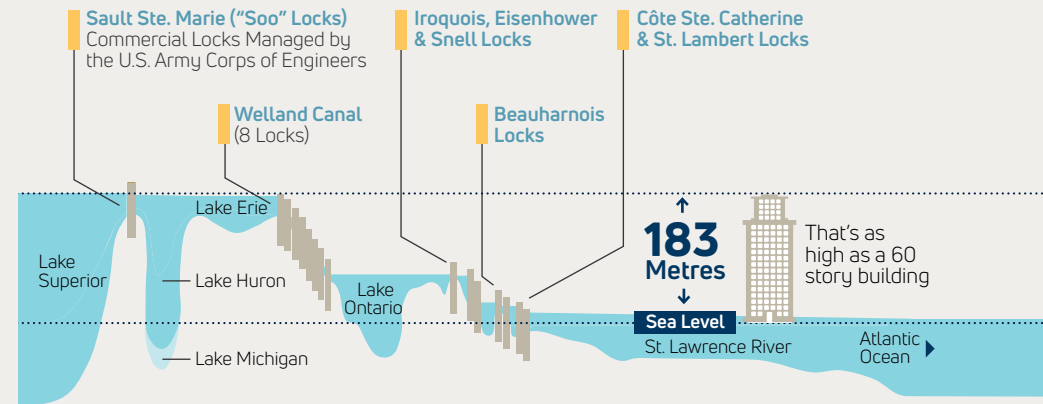


🇨🇦 Administered by The St. Lawrence Seaway Management Corporation

🇺🇸 Administered by the Saint Lawrence Seaway Development Corporation

About the St. Lawrence Seaway

The binational St. Lawrence Seaway's 15 locks (13 Canadian and 2 American) allow ships to transit between Montreal and Lake Erie, a difference in elevation of 168 metres. The "Soo" Locks, managed by the U.S. Army Corps of Engineers, enable ships to reach Lake Superior, which is 183 metres above sea level.



Seaway Facts and Figures

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

1959
Opened to deep draft navigation

Lock dimensions

Length
233.5 m (766 ft.)
Width
24.4 m (80 ft.)
Water depth
9.1 m (30 ft.)

Maximum vessel size

Maximum beam
23.77 m (78 ft.)
Capacity
Carries up to 30,000 MT per voyage
Maximum length
225.5 m (740 ft.)
Maximum air draft
35.5 m (116 ft., 6 in.)
Maximum draft
8.08 m (26 ft., 6 in.)*

*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

Sailing Time = 8.5 sailing days

ATLANTIC OCEAN

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

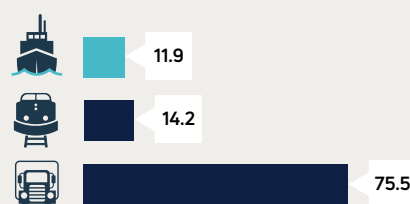
Benefits of Shipping Cargo on the St. Lawrence Seaway

Shifting Cargo from Land to Water

- **lowers** congestion on our highways and railways
- **raises** our overall fuel efficiency
- **lowers** total greenhouse gas emissions

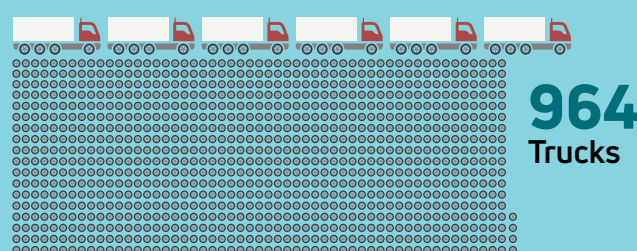
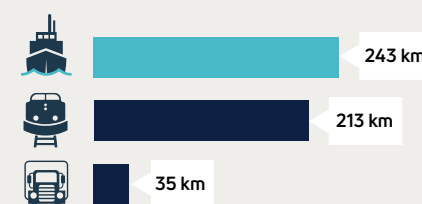
SHIPS HAVE THE SMALLEST CARBON FOOTPRINT

CO₂ grams per tonne/km

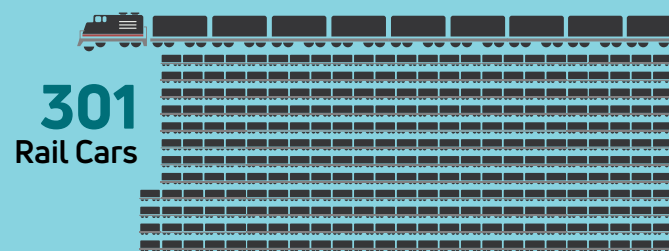


SHIPS HAVE THE BEST FUEL EFFICIENCY

Distance (kilometres) one tonne of cargo travels on 1 litre of fuel

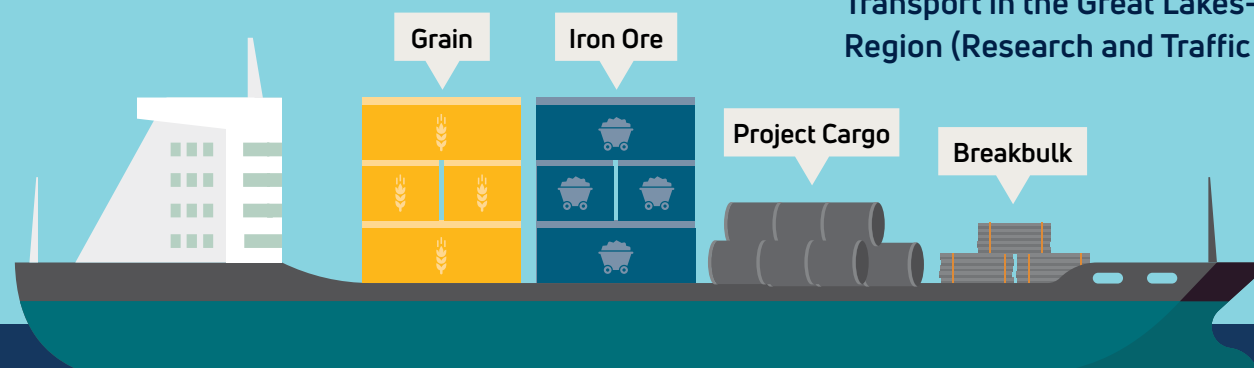


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Ship with cargo of up to 30,000 Tonnes

Environmental and Social Impacts of Marine Transport in the Great Lakes-St. Lawrence Seaway Region (Research and Traffic Group, January 2013)



Principal Seaway Cargoes

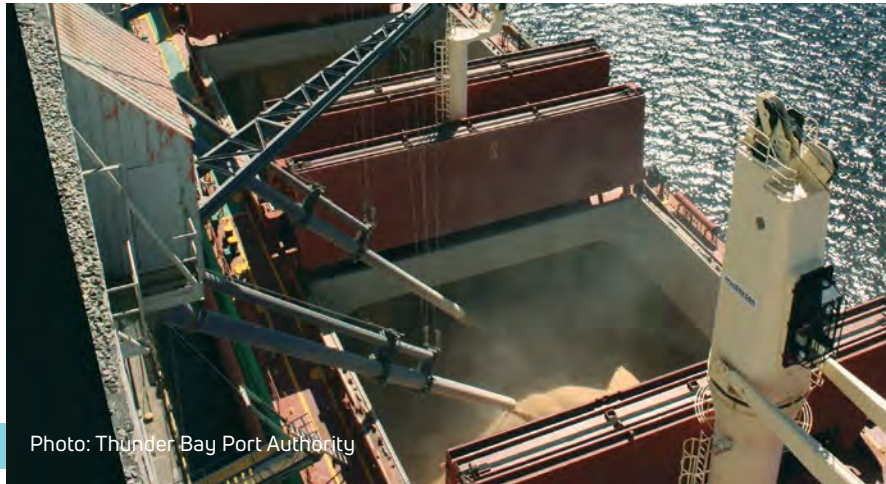


Photo: Thunder Bay Port Authority

GRAIN

Wheat, corn, soybeans, barley, canola, and oats are among the top commodities shipped.



Photo: Ron Samson

IRON ORE

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

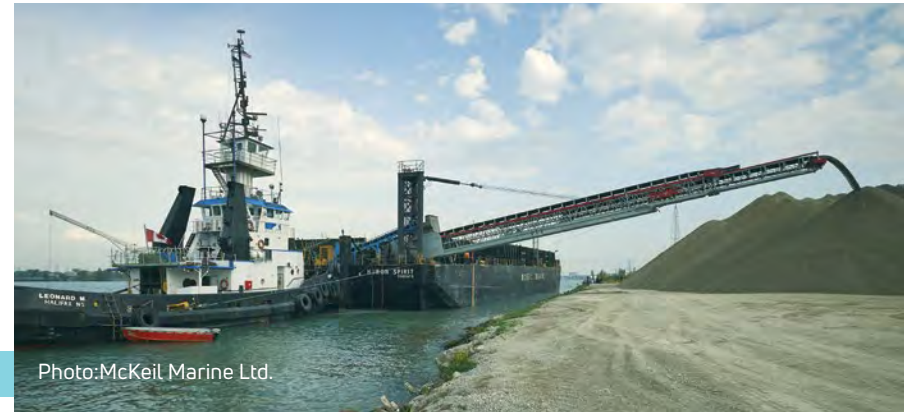


Photo: McKeil Marine Ltd.

DRY BULK

Dry bulk cargoes are unpackaged commodities, such as stone/gravel, sand, salt, cement, potash, and gypsum.

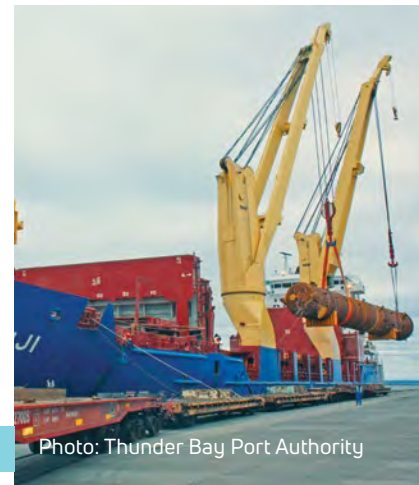


Photo: Thunder Bay Port Authority

GENERAL CARGO

General cargo includes a wide range of products such as iron and steel slabs, machinery, and wind energy turbines.

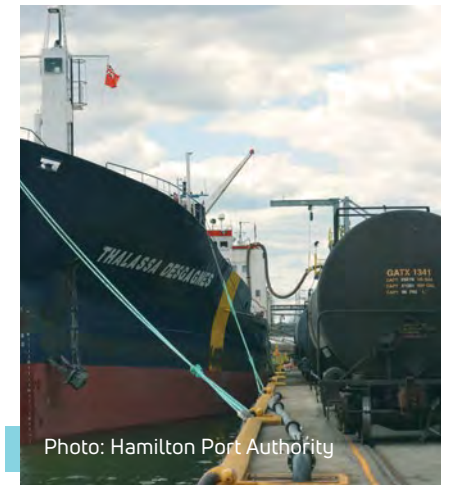


Photo: Hamilton Port Authority

LIQUID BULK

Liquid bulk products shipped include refined petroleum products (gasoline, diesel, kerosene, jet fuel) and alternate fuels (ethanol, biodiesel).

The St. Lawrence Seaway Management Corporation

The St. Lawrence Seaway Management Corporation (the “SLSMC” or the “Corporation”), the successor to the St. Lawrence Seaway Authority, was established in 1998 as a not-for-profit corporation by the Government of Canada, Seaway users and other key stakeholders. In accordance with provisions of the *Canada Marine Act*, the Corporation manages and operates the Canadian assets of the St. Lawrence Seaway, which remain the property of the Government of Canada, under a long-term agreement with Transport Canada.

Vision

The SLSMC and its partners... an essential and responsive transportation system connecting the heartland of North America to the world.

Corporate Goals and Desired Outcomes

BUSINESS GROWTH

Increase the benefits — economic, social and environmental — provided by marine transportation, by making optimal use of the Seaway’s locks and channels

OPERATIONAL EXCELLENCE

Ensure that all Seaway users enjoy safe and reliable service, enabling them to efficiently perform their transportation activity

HIGH PERFORMANCE WORKFORCE

Create an environment leading to a skilled, engaged, and versatile workforce that is accountable for personal success and business results

STAKEHOLDER ENGAGEMENT

As stewards of a shared resource, align all stakeholder views as to how the Seaway can effectively support economic, social, and environmental interests

FINANCIAL SUSTAINABILITY

Manage resources for optimal use, while minimizing costs to the users and owners of the system

Values

RESPECT



SAFETY



INTEGRITY



COLLABORATION



INNOVATION



Mission

We serve our customers by passing ships through a safe, secure and reliable waterway system in a cost effective, efficient, environmentally and socially responsible manner to deliver value to the North American economy.



President's Message

The theme of this year's report, *Connecting the Heartland of North America to the World*, underscores the vital role played by the St. Lawrence Seaway.

On March 20, 2017, I was pleased to welcome Minister of Transport Marc Garneau to the St. Lambert Lock to mark the official opening of the 59th navigational season. As keynote speaker, the Minister paid tribute to the Corporation's role in effectively managing a vital transportation

gateway, noting in his remarks: "It is gratifying to see that the Seaway and its partners continue to modernize their operations, to make them more efficient as well as environmentally sustainable". Another noteworthy element of the opening was the *CSL St-Laurent*, the first vessel of the season, which featured a work of art commissioned by CSL as a tribute to Canada's 150th anniversary and the 375th of the City of Montreal. The mural depicts a Canada goose in flight, a common sight along the St. Lawrence River, and represents the vessel sailing in harmony with the environment, a fitting message for those of us who depend on the waterway.

Dignitaries attending the official opening the Seaway's 2017 navigation season (Photo: Joe Alvoeiro)

From left to right: Catherine Higgins (Assistant Deputy Minister, Transport Canada), Georges Farrah (Stratégie Maritime du Québec), Tom Lavigne (Associate Administrator, Saint Lawrence Seaway Development Corporation), Julie Gascon (Assistant Commissioner, Canadian Coast Guard), Finn Martin (son of David Martin), David Martin (Canada Steamship Lines), Joé Belley (Captain, *CSL St-Laurent*), Vincent Paradis (Chief Engineer, *CSL St-Laurent*), Louis Martel (President and CEO, CSL Group), Terence Bowles (President and CEO, The St. Lawrence Seaway Management Corporation), Hon. Marc Garneau (Minister of Transport), Hon. Jean D'Amour (Minister for Maritime Affairs, Québec), Aref Salem (City of Montreal), Hon. Benoit Bouchard (Commissioner, International Joint Commission), Craig Middlebrook (Interim Administrator, Saint Lawrence Seaway Development Corporation)



Over the course of the 2016/17 fiscal year, the Seaway continued its role as a crucial trading artery for many sectors of the economy. Grain movements were the largest contributor to the 35 million tonnes of cargo which transited the St. Lawrence Seaway locks. A surge of shipping activity late in the 2016 navigation season allowed farmers to move their crops safely and efficiently to markets around the globe.

On the financial front, we finished the year with toll revenues of \$65.4 million, thanks to a favourable mix of higher value cargoes. With other revenues of \$3.6 million, total revenues amounted to \$69 million. Operating costs were \$59.5 million, down 6% compared to the previous year, reflecting efficiency gains from the modernization program and other improvements. The end result was revenues exceeding operating costs by \$9.5 million.

As a crucial linchpin connecting the heartland of North America to the world, the St. Lawrence Seaway enables trade with more than 50 nations overseas. Since the Seaway was completed in 1959, over 2.9 billion tonnes of cargo have moved through the waterway. A report published this spring outlined the immense economic output generated by the two provinces and eight states that border the Great Lakes/St. Lawrence Seaway System.

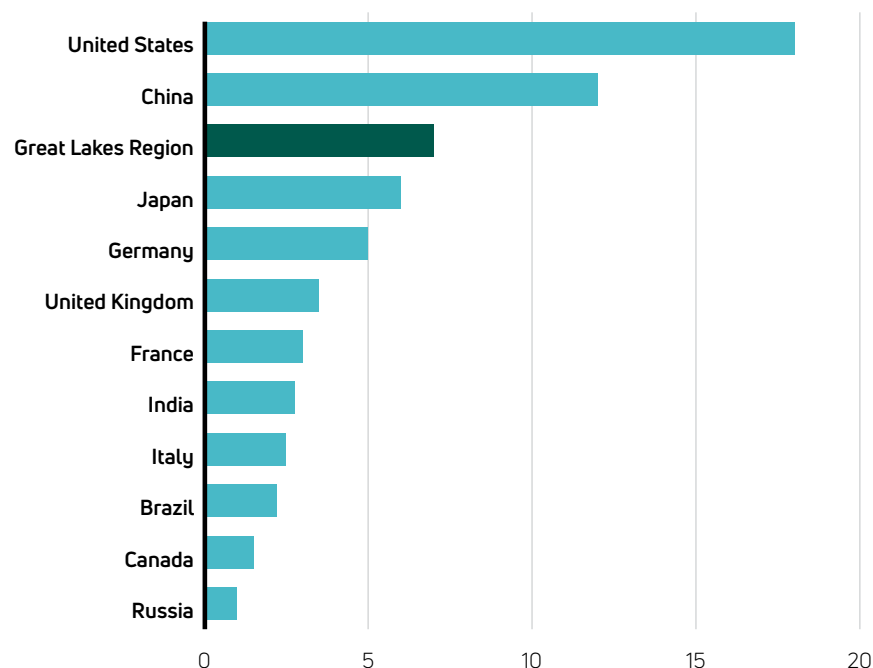
Today, cargo moving through the combined Great Lakes/Seaway System supports over 227,000 jobs in Canada and the U.S.¹ While these numbers are impressive, the St. Lawrence Seaway can contribute even more to the North American economy. The existing Seaway locks and channels have the capacity to handle double the present shipping volume and reach 80 million tonnes of cargo annually.

To make the most of this available capacity, The St. Lawrence Seaway Management Corporation developed a modernization program to convert the Seaway's high-lift locks to Hands Free Mooring (HFM) and Remote Operation. This program started in 2013, with work on the final three locks initiated this past winter. Once these locks become operational during the 2017 navigation season, the Corporation will have completed its modernization program.

The St. Lawrence Seaway enables trade with more than 50 nations overseas. Since the Seaway was completed in 1959, over 2.9 billion tonnes of cargo have moved through the waterway.

GROSS DOMESTIC PRODUCT

2015 (US\$ trlns)



The Great Lakes-St. Lawrence region boasts a massive geographic footprint, and is a major driver of the North American economy. With economic output estimated at US\$6 trillion in 2016, the region accounts for 30% of combined Canadian and U.S. economic activity and employment. The region's output ranks ahead of Japan, Germany, the U.K. and France, and it would rank as the third largest economy in the world if it were a country, behind only the U.S. and China—notably, the region overtook Japan a few years ago. Quite simply, the economic importance of the region can't be overstated.

(Source: BMO Capital Markets, Spring 2017)

1 The Economic Impacts of the Great Lakes – St. Lawrence Seaway System (Martin Associates, October 2011)

Using vacuum mooring pads to secure a ship in a lock eliminates the need, in most cases, for Seaway personnel to manually tie-up ships using lines. The locks will also be operated from our newly modernized, state-of-the-art operations centres in the Montreal/Lake Ontario and Niagara sections of the Seaway. These changes mark the greatest change to operations since the Seaway's inception in 1959 and will enable ship transits to be safely and efficiently processed for decades to come.

Our modernization program has also contributed to improved safety for Seaway employees and vessel crews. The Corporation recorded very strong safety results in 2016/17, with only one lost-time injury. Our excellent safety performance can also be attributed to a number of initiatives that we have undertaken in recent years to instill a "safety first" culture.

In addition to our modernization program, we continue reconditioning and upgrading the Seaway's locks and structures, which for the Welland Canal date back to 1932. Over the past year, we invested \$68 million in asset renewal and this proactive approach to maintenance is key to continuing the Seaway's stellar record of system availability.

I am confident we, together with our partners, are well positioned to continue playing a valuable role in connecting the heartland of North America to worldwide markets. Economists are forecasting a period of slow but steady growth for world economies. In particular, the encouraging economic upswing in Canada and the U.S., combined with the ratification of the Comprehensive Economic and Trade Agreement (CETA) between Canada and Europe, should benefit Seaway trade.

Let me close with the Corporation's vision statement – *The SLSMC and its partners... an essential and responsive transportation system connecting the heartland of North America to the world.* As we are about to conclude our first 20 years of managing the Seaway, this year's report helps to bring into focus how the Corporation is successfully meeting its mandate set out in 1998 and fulfilling its vision.

Our excellent safety performance can also be attributed to a number of initiatives that we have undertaken in recent years to instill a "safety first" culture.



Three sets of vacuum pads, mounted on rails, serve to secure a ship in a lock without the need for tie-up lines



The pads slide up or down along the lock wall, as the ship is raised or lowered



Niagara section's newly constructed Operations Control Centre

Business Growth

The results for 2016/17 cover the March 21, 2016 to December 31, 2016 navigation season.

Simple. Competitive. Connected.

Simple. The Corporation through HWY H₂O is focused on creating an easy, streamlined approach to doing business on the Great Lakes/Seaway System.

Competitive. Continued toll incentives and the unique ability to bring transportation decision makers together create a System that is economical and competitive.

Connected. The network of contacts and connections via HWY H₂O are vast and experienced.

The Corporation is focused, together with invested stakeholders, on diversifying cargo opportunities and growing tonnage on the System.

Photo: Canfornav



Traffic Results

Seaway traffic in 2016 totaled 35.0 million tonnes, a decrease of 3.4% or 1.2 million tonnes compared to 2015. While grain exports, steel imports, and liquid bulk remained comfortably above their respective five-year averages,

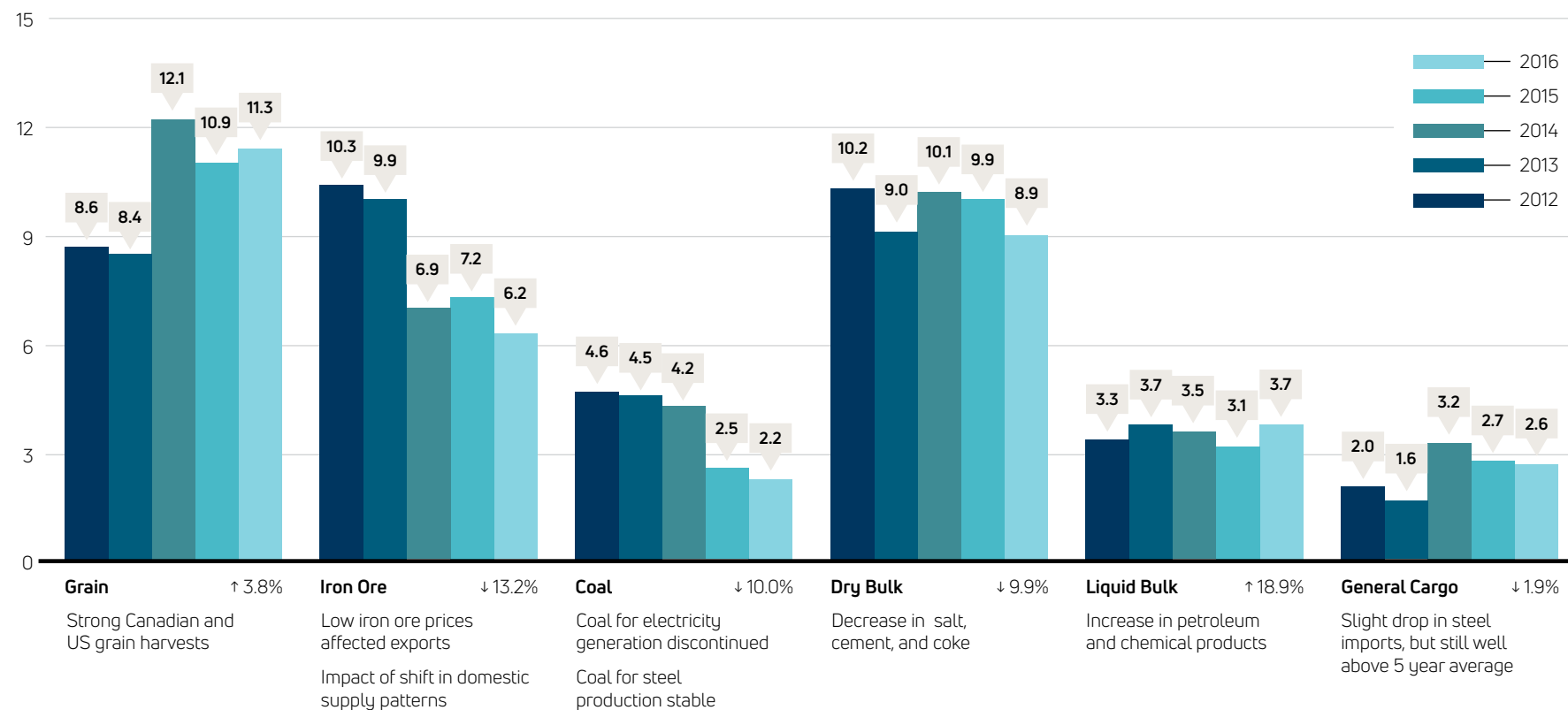
there was some weakening in volumes of other commodities such as iron ore, coal and salt. Vessel traffic however remained stable.

TRAFFIC RESULTS

(total cargo in millions of tonnes)

Total tonnage: 35.0 MT ↓ 3.4%

Vessel traffic: 3,774 ↓ 0.2%



2016 New Business Results

The New Business Incentive program, which offers reduced tolls for eligible “new” cargo movements, attracted 51 applications in 2016, of which 48 were approved.

A total of 491 movements of new business were recorded in 2016. This translated into 1.3 million tonnes of cargo, led by movements of imported steel and exported grain, and revenues of \$2.8 million.

Wind turbines originating from Germany, Denmark and China, and bound for destinations in both Canada and the United States constitutes one example of new business. Another example is the import and export of machinery between Canadian and U.S. firms and entities in Belgium, Netherlands and Germany. Until the introduction of certain incentives, the machinery was primarily being shipped via other gateways.

Seaway Tolls

Tolls increased by 2% for the 2016 navigation season and, likewise, have increased an additional 2% in 2017.

Seaway Toll Incentives

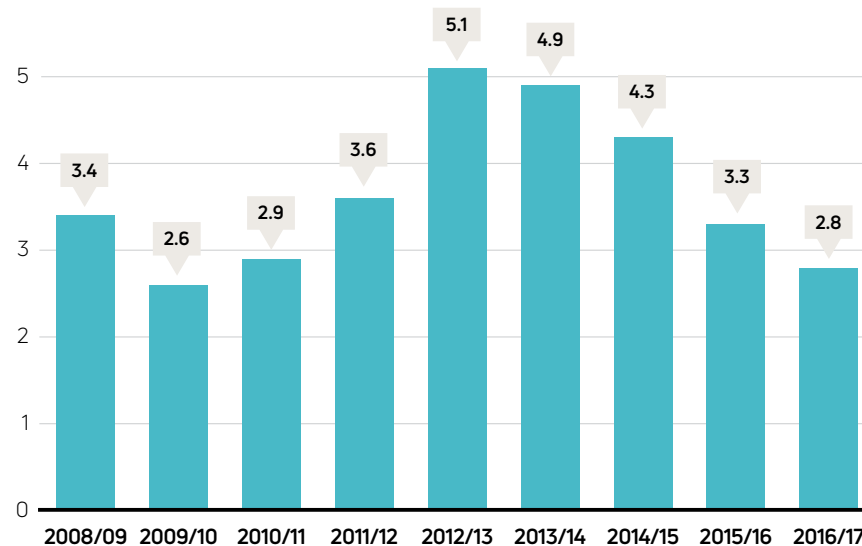
The Corporation’s various toll incentive programs will remain in place for the 2017 navigation season. These programs currently consist of the New Business Incentive, the Volume Incentive, the Service Incentive, and the new Gateway Incentive.

The New Business Incentive and Service Incentive programs continue to generate interest from current and potential customers. The new Gateway Incentive offers shippers a negotiated percentage reduction in cargo toll rates, in order to attract shipments to the Seaway that are currently using a competing gateway.

NEW BUSINESS REVENUE

(in millions of dollars)

Total tonnage: 1.3 MT
Shipments: 491

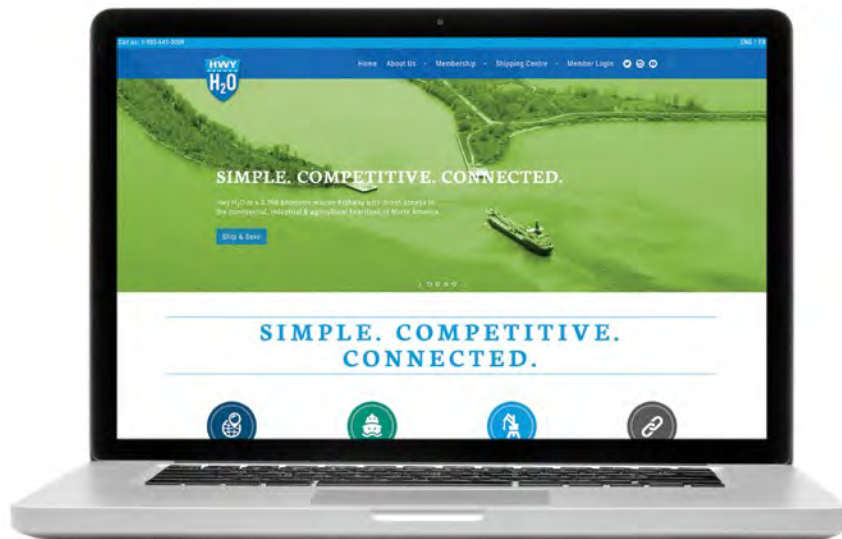


Bi-National Marketing Initiatives

Market Development Teams from The St. Lawrence Seaway Management Corporation and the U.S. Saint Lawrence Seaway Development Corporation continue to work together to create and implement joint marketing initiatives. These initiatives are anchored by the Highway H₂O program, and include sponsoring various marketing campaigns, organizing trade missions, hosting the annual Highway H₂O Conference, and participating at various trade shows and workshops.

In an effort to gain more traffic and cargo, efforts continue in targeting specific bulk and general cargo market segments through the use of GO H₂O themed ads. The latest campaign reads "Simple. Competitive. Connected".

The new Highway H₂O website has been active for just over a year. Featuring a responsive design, the revised website is able to optimally format content for display on smartphones, tablets, and desktop computers. Overall, the website has benefitted from an increase in the number of visitors, the length of time a visitor stays on the website, and the number of pages viewed during a visit.



THE GREAT LAKES & ST. LAWRENCE SEAWAY SYSTEM

HWY/AUT H₂O

SAVE TIME &

SAVE MONEY

DIRECT ACCESS INTO ALL OF NORTH AMERICA

TRADING IN OVER 50 GLOBAL MARKETS

BULK, BREAK BULK, LIQUID & SPECIAL CARGO

SEAMLESS SUPPLY CHAIN WITH A CONNECTED NETWORK

SIMPLE. COMPETITIVE. CONNECTED.

EUROPE TO U.S. MID-WEST

5+ DAYS FASTER

U.S. MID-WEST TO NORTH AFRICA

SHIP WITH US TODAY

CALL HWY H₂O 1-905-641-0309

LET'S CONNECT: HWYH20@SEAWAY.CA @HWYH20 WWW.HWYH20.COM

The annual Seaway Trade Mission took on a domestic flair for the second time in its history. The bi-nationally hosted initiative gathered twenty-six Great Lakes St. Lawrence Seaway stakeholders in Houston, Texas. The Trade Mission enabled delegates to participate in the Breakbulk Americas Exhibition, at which the HWY H₂O booth served as a base from which delegates could promote their respective organizations to potential customers. The delegates benefitted from insights on commodity movements, benchmarking information, and business development contacts.

The HWY H₂O market development team also participated in the Breakbulk Europe Exhibition, the biggest trade show for project cargo and breakbulk transportation specialists, with about 8,000 attendees and over 400 exhibitors.

The 2016 HWY H₂O Conference boasted over 160 attendees and received solid financial support from its sponsors – breaking records in both categories. The conference continues to be a key HWY H₂O initiative supporting networking, education and business growth for Great Lakes St. Lawrence Seaway stakeholders.



HWY H₂O booth at Breakbulk Americas in Houston, Texas

Front row, from left to right: Bruce Hodgson (Director, Market Development, The St. Lawrence Seaway Management Corporation), Adam Schlicht (Great Lakes Regional Representative, Saint Lawrence Seaway Development Corporation), Kim Sedore (Commercial Real Estate Manager, Hamilton Port Authority), Vince D'Amico (Manager, Market Development, The St Lawrence Seaway Development Corporation),

Back row, from left to right: Joseph Cappel (Vice President, Business Development, Toledo-Lucas Port Authority), Chris Blessing, (Marketing and Customer Service, Midwest Terminals of Toledo International), Peter Hirthe (Senior Trade Development Representative, Port of Milwaukee).

Operational Excellence

The Corporation and its employees are transforming the nature of Seaway ship transits and lock operations through the installation of Hands Free Mooring (HFM) and the transition to remote control operation of locks. In conjunction with the ongoing renewal of the

Seaway's assets, these investments will bring gains in operating efficiency, reliability and safety, and will ensure that the St. Lawrence Seaway can effectively serve its stakeholders for decades to come.

Welland Canal Lock 3
(with HFM pads ready to secure a ship)



Navigation Season

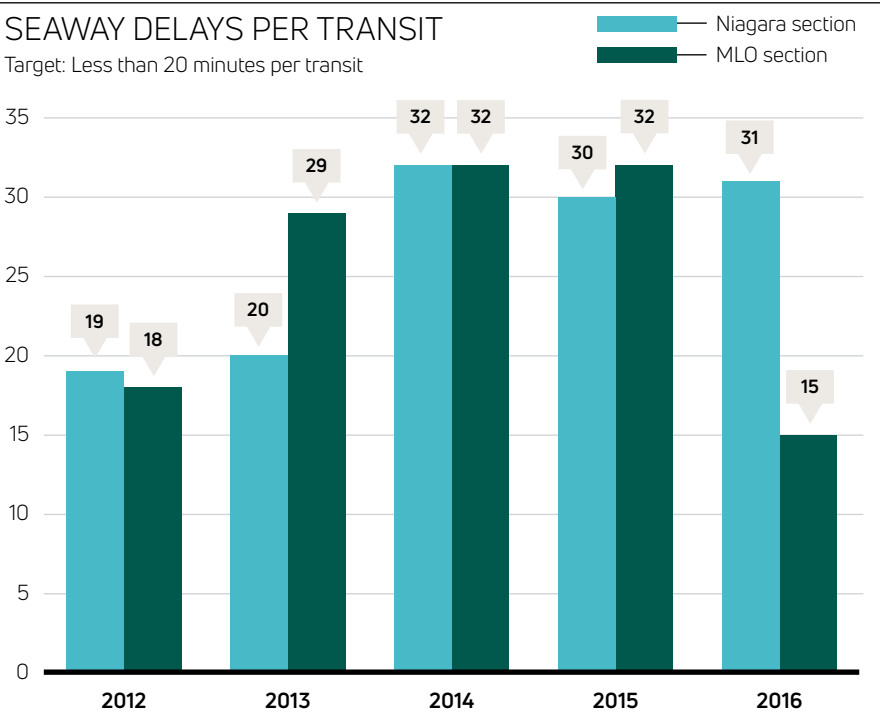
In 2016, the St. Lawrence Seaway opened its 58th navigation season on March 21st in the Niagara section (Welland Canal) and on March 23rd in the Montreal/Lake Ontario (MLO) section. The MLO section remained open for 284 days, while the Niagara section was open 286 days, tying the record for the longest navigation season. The last transit of the MLO section occurred on December 29th, while in the Niagara section it was on December 30th.

In terms of transit time performance, the Niagara section recorded an average delay of 31 minutes, above the target of 20 minutes or less. A significant portion of the delay was due to one-way navigation at the beginning of the season to allow for completion of HFM equipment installation in the flight locks. In the MLO section, results were strong with an average delay per transit of 15 minutes, well ahead of the Corporation’s objective of 20 minutes or less.

Emergency Preparedness

The Corporation held exercises throughout the 2016 navigation season to test its emergency response plan, train personnel, and improve communications and coordination capabilities with external agencies.

- In November, MLO staff conducted a tabletop exercise with personnel from the Corporation’s U.S. counterpart, the Saint Lawrence Seaway Development Corporation (SLSDC), to discuss planning and coordination of activities to ensure that at least one of the Seaway’s cranes, either the SLMSC’s *Hercules* or the SLSDC’s *Grasse River*, is available to service Seaway locks at all times.
- Niagara staff conducted an exercise focused on an oil spill scenario. Emergency response personnel considered a number of operating scenarios, and the lessons learned have been incorporated into the Corporation’s emergency response measures.



In addition to more formal exercises, the Corporation participates in boom deployment training on an annual basis to ensure an effective and efficient response in the event of a spill.

In parallel to the special examination audit conducted in 2016, the Corporation contracted Emergency Response Management Consulting Ltd. to validate its Emergency Response Plan. It was found that, based on established criteria, the Corporation’s Emergency Response Plan addressed the key elements required to mount an effective emergency response.

Marine Safety

During the 2016 navigation season, there were four vessel incidents in which damage to a vessel occurred. The four incidents, which involved contacting a structure, translated to a rate of 0.6 incidents per 1,000 vessel transits, a significant decline compared to 2015 and the lowest rate recorded in the past five years. The marine mode of transportation continues to be the safest and most reliable means of moving cargo.

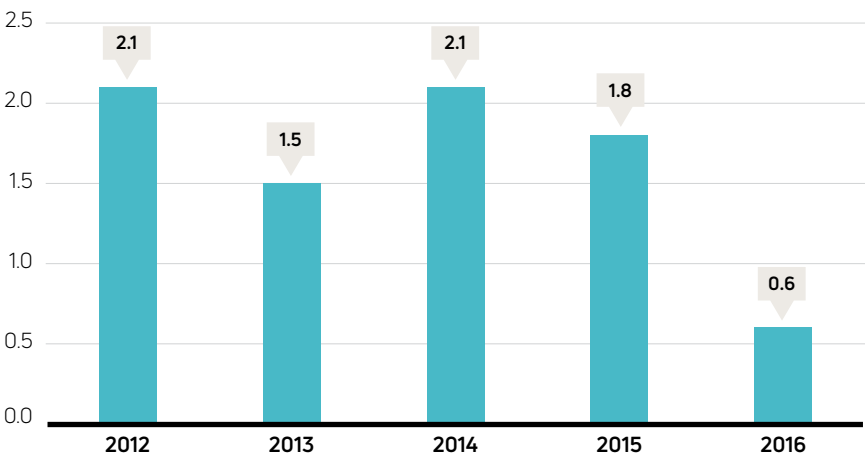
Ballast Water Management

The Great Lakes Seaway Ballast Water Working Group (BWWG), comprised of representatives from the United States Coast Guard (USCG), the U.S. Saint Lawrence Seaway Development Corporation (SLSDC), Transport Canada – Marine Safety and Security (TCMSS), and The St. Lawrence Seaway Management Corporation (SLSMC), compiled the 2016 Summary of Great Lakes Seaway Ballast Water Working Group report. The group’s mandate is to develop, enhance, and coordinate binational compliance and enforcement efforts to reduce the introduction of aquatic invasive species via ballast water and residuals.

In 2016, 100% of vessels bound for the Great Lakes/Seaway System originating from outside the Exclusive Economic Zone (EEZ) received ballast management tests. Verification efforts indicated that there was no non-compliant ballast water discharged in the Great Lakes Seaway System. Of the 466 vessel transits, some 8,488 ballast tanks were assessed and 100% of ballast water reporting forms were screened for ballast water history, compliance, voyage information and proposed discharge location. Inspectors identified 69 non-compliant ballast water transits, representing 293 tanks, and these vessels were required to either retain the ballast water and residuals on board, treat it in an environmentally sound and approved manner, or return to sea to conduct a ballast water exchange.

VESSEL INCIDENT RATE

Number of incidents per 1,000 transits



Since 2006, ballast water management requirements in the Great Lakes St. Lawrence Seaway System have been the most stringent in the world. USCG, TCMSS, and Seaway ballast regulations that include saltwater flushing, detailed documentation requirements, increased inspections, and civil penalties provide a comprehensive regulatory enforcement regime to protect the Great Lakes/Seaway System. Independent research by Fisheries and Oceans Canada (Science) indicates that the risk of a ballast water mediated introduction of aquatic invasive species into the Great Lakes is extremely low.

Modernization

The Corporation's modernization program focuses on implementing technology to enhance the efficiency and safety of lock operations. This project is centered on implementing the world's first vacuum mooring system, known as Hands Free Mooring (HFM), for use at high-lift locks.

By the end of the 2017 navigation season, all Canadian high-lift locks will be operating with HFM technology to process vessel transits, eliminating the need for mooring wires. In addition to HFM, the modernization program includes remote operation of Seaway locks. Controllers and operators are now based in two world-class Operations Control Centers located in St. Lambert, Quebec, and in St. Catharines, Ontario.

Through these efforts, the Corporation is leveraging technology to meet user needs, while regularly interacting with carriers, ship captains, and pilots to ensure that the transition is progressing without detracting from the Seaway's commitment to customer service.

Reliable Infrastructure and Asset Renewal

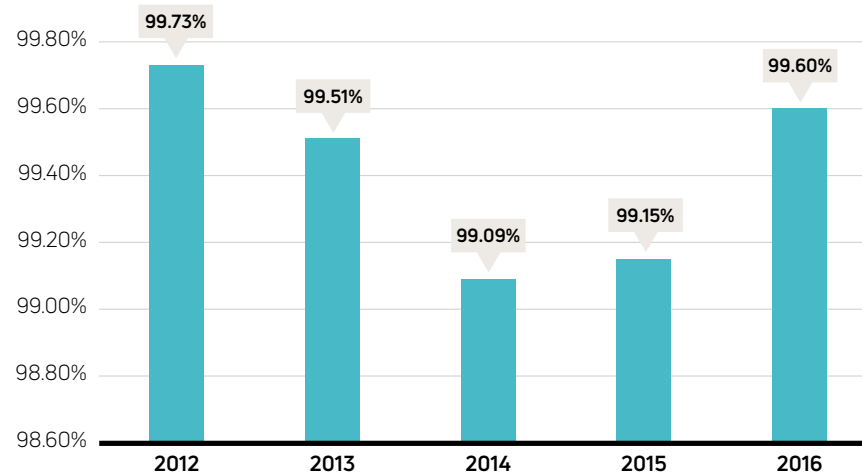
Over the course of the 2016 navigation season, the system availability rate which incorporates delays attributable to the Seaway was 99.60%, exceeding the 99.00% target.

Maintaining a safe, reliable and cost-effective transportation system is vital to the Seaway's competitive position. The Corporation has been using an Asset Management System since the mid 1990's to optimize value from its assets and provide long term planning, ensuring that capital expenditures meet operational objectives and lead to consistently high levels of system availability.

The Corporation's Asset Management System is based on a cycle of inspection and assessment activities and a risk-based decision-making process for planning remedial works. One of the outputs is an annual project portfolio, which for 2016/17 amounted to \$68 million in asset renewal ("major maintenance") activities excluding funding for the modernization program.

SYSTEM AVAILABILITY

Target 99.00%



By the end of the 2017 navigation season, all Canadian high-lift locks will be operating with HFM technology to process vessel transits



In 2016/17, the Corporation completed the major program to replace 1.9 kilometers of approach walls/tie-up walls in the Welland Canal. Undertaken as a single Design-Bid-Build contract valued at \$95 million over four years, timber pile walls were replaced at Upper Lock 1, Upper Lock 2, Lower Lock 3 and Upper Lock 3. During the past winter, the last phase of the project was accomplished with the replacement of the approach wall at Lower Lock 3 at a cost of \$19.9 million. Best in class planning skills and rigorous monitoring were key factors in ensuring that the project remained on budget and on schedule throughout its four-year execution plan.

Another significant asset renewal project is the Marine Security Program. At a cost of about \$15 million, this two year project will be completed by July 2017, and will improve monitoring and intrusion detection, perimeter and access control, and virtual security.

Always striving to optimize performance, the Corporation's engineering team consistently seeks innovative solutions to improve existing equipment design, with the goal of reducing operational costs. Some recent examples of these efforts include:

- employing a new design for roller tracks at sector gates
- applying innovative safety guards for use in confined space areas
- adopting a new design for gate diagonals without the need for turnbuckles
- using wireless control stations to boost productivity
- installing a reduction system on the windows of the Operations Control Centres to prevent radar signals from causing any interference with control and communication systems
- using rubber fenders to replace wooden fenders



INNOVATION

Our value



QUALITY

Our commitment



New wireless control station device

EXAMPLES OF MAJOR PROJECTS EXECUTED OVER THE COURSE OF THE 2016/17 FISCAL YEAR:

MONTREAL/LAKE ONTARIO SECTION



New carriage track for sector gates at the Iroquois Lock



New safety guards for confined space areas



Repairs to the approach wall at the St. Lambert Lock

NIAGARA SECTION (WELLAND CANAL)



Lock 5 and 6 – Recoating and rehabilitation of side seals and trunnions for valves 1 and 2



Lock 1 – Heel cast girder replacement for gates 1 and 2



Weir 2: Rehabilitation and replacement of valves and drive machinery



Carlton Street Bridge 3A – Demolition and replacement of fixed approach span



Carlton Street Bridge 3A – New fixed approach span after construction

Health and Safety

From April 1, 2016 to March 31, 2017, the Corporation reported one lost time injury which represents a notable improvement over the three lost time injuries reported the previous year. Good progress is being made towards our goal of zero harm.

Over the year, the Corporation’s personnel carried out 3,172 safety interactions including “toolbox meetings”, safety inspections targeting various locks, structures and equipment, as well as observations focusing on employee work habits.

In order to ensure that the Corporation’s efforts advance in a systematic manner, a Safety Management System (SMS) was developed based on the OHSAS 18001 standard. The SMS is used to structure all governing safety documentation, identify where major gaps may exist, and identify priorities. An Entropy database was also installed to record safety observations, inspections and toolbox meetings. The data entered in Entropy feeds into the Corporation’s Performance Measurement System, which enables management to monitor key performance indicators.

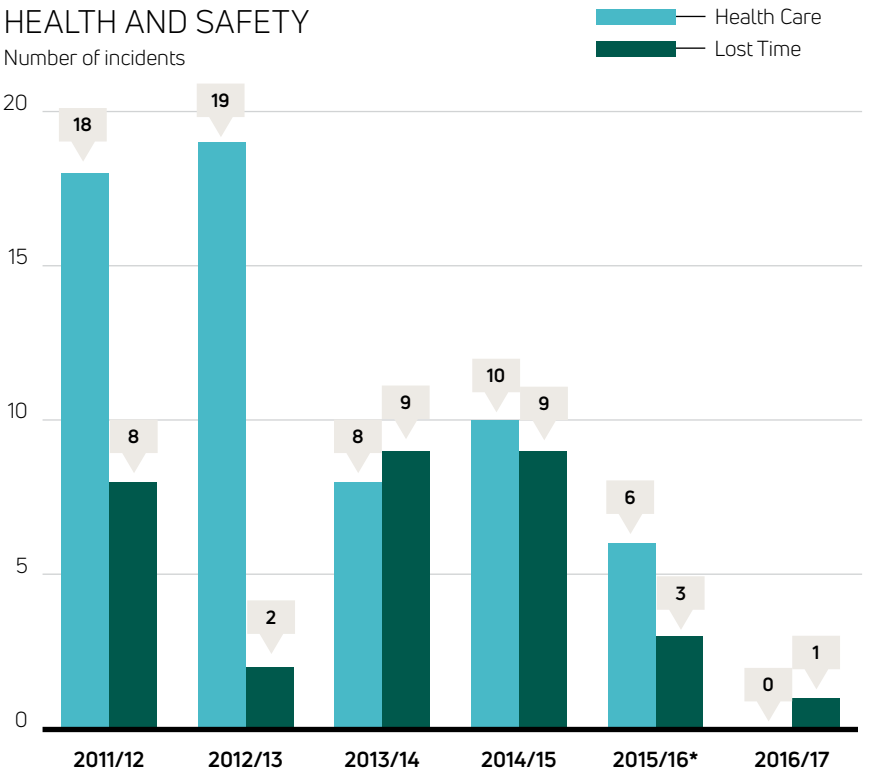
The Corporation once again hosted a series of events to mark North American Occupational Safety and Health (NAOSH) week and encouraged employees to “make safety a habit”.



Photo: Joe Alvoeiro

HEALTH AND SAFETY

Number of incidents



*restated from the previous year’s report

Over the year, the Corporation’s personnel carried out 3,172 safety interactions

High Performance Workforce

The Corporation's vision for its people is driven by leaders at all levels, who actively develop and maintain a skilled, versatile, engaged and accountable workforce.



Photo: Joe Alvoeiro

Recognizing Employee Engagement

BOB SWENOR AWARD

The annual Bob Swenor Living the Values Award is given to a Seaway Employee who lives the corporate values, demonstrates continuous personal development, shows commitment to the Corporation and the community, and holds a strong belief that people make a difference. In 2016, the recipient was Kevin Fedorchuk, CST electrical in Niagara.

Kevin has been described as someone who embraces change and is supportive of the Corporation and his colleagues. As part of the committee tasked with standardizing work practices for Hands Free Mooring, Kevin exhibits good leadership qualities and has enrolled in various management courses at Niagara College. Further to his involvement in one of the Corporation's Lean Six Sigma yellow belt projects, Kevin successfully applied for the second wave of belt training. Outside of his work activity, Kevin remains committed to his community by coaching hockey and soccer.



Kevin Fedorchuk accepting the Bob Swenor Award from Terence Bowles

MVP AWARD FOR CONTINUOUS IMPROVEMENT

In June of 2016, Terence Bowles announced that the first recipient of the Corporation's Most Valuable Person or Project (MVP) Award for Continuous Improvement was Debbie Riddle.

The MVP award goes to an employee who advocates the importance of continuous improvement in his/her day-to-day activities. Debbie Riddle was part of a team that looked into reducing safety incident reporting errors. As facilitator, Debbie led a multi-disciplinary team which recommended ways to resolve some of the root causes that underlie reporting errors, and later assisted in implementing the required changes to the reporting process.

The MVP award goes to an employee who advocates the importance of continuous improvement in his/her day-to-day activities



Vice President of Operations Guy Yelle (since retired) presents Debbie Riddle with the MVP award, flanked by Vice President of Operations and Technology Jim Athanasiou (left) and President and CEO Terence Bowles (right)

PRESIDENT'S SAFETY AWARD

The 2016/17 President's Safety Award was presented to the Niagara Mechanical Engineering team. Some of their accomplishments included an improved Lockout/Tagout Program, engineering of enhanced harness tie-off points, and spearheading improvements to platforms used in the maintenance of bridges and other raised structures.

Reinforcing Performance Management and Leveraging Technology

In 2014, the Corporation introduced "Connexions", a software application designed to help streamline human resource processes, integrate workflows, eliminate manual processes, and enhance employee access to HR Programs. During the past year of this multi-year project, the Corporation launched the Recruitment and Onboarding modules.

Supporting Employee Health And Wellness

The Corporation has mapped out a three year health strategy, with the principal goal of gaining insight into employee health needs. Over the past year, employees were invited to complete an online health risk assessment. The aggregated results will assist the Corporation to target health programs that best support employees and embody leading-edge workplace health practices.

To symbolize its ongoing commitment to wellness, the Corporation launched a new Wellness logo. The colourful design was launched during our annual Corporate Wellness Month.

In addition to Wellness Month, the Corporation has undertaken many other initiatives such as a Physical Fitness Reimbursement Program, hosting mental health awareness information sessions (e.g. Bell Let's Talk), organizing pink shirt day to raise awareness against bullying, and promoting a "nutritional tip of the month".



Niagara Mechanical Engineering Team – Recipients of the President's Safety Award

Supporting Employment Equity

In 2016, the Corporation worked at achieving its employment equity goals by mounting various initiatives to better align its employment opportunities with available, qualified individuals. As of the close of the 2016/17 fiscal year, the Corporation's efforts have resulted in 35% of the 2,163 job candidates voluntarily self-identifying at the time of application. Articles on the Corporation's intranet and newsletter also serve to raise awareness among its employees to the importance of workplace diversity.

Stakeholder Engagement

As a steward of the St. Lawrence Seaway, the

Corporation recognizes that the task of managing the waterway must take into account the interests of a wide range of stakeholders, including business and industry, local communities, and recreational users.



Green Marine

The Corporation is an active member and proponent of Green Marine, a world leading environmental performance measurement program for the marine industry. The program encourages ports, terminals and carriers across North America to adopt best practices in terms of managing their environmental footprint. Subject to independent audit, participants have their respective performance measured via a series of criteria, including management of aquatic invasive species, emissions of greenhouse gases and air pollutants, prevention of environmental impacts within waterways and lands, dry bulk handling and storage, stewardship of community issues, environmental leadership, and waste management.

The Corporation aligns its scores with those of its U.S. counterpart, the Saint Lawrence Seaway Development Corporation (SLSDC), and provides results on an aggregated basis. The joint Green Marine assessment for 2016 revealed that the Seaway entities made notable improvements on a number of fronts, including the enhancement of measures to prevent environmental impacts to waterways and lands, and in the management of waste. Overall for 2016, the Seaway entities achieved an aggregated score of 4.3 out of a maximum of 5.

During 2016, the Corporation implemented community bins in its offices, with the objective of increasing the recovery percentage of different waste streams generated. With the segregation and recovery of organic waste, the Corporation is taking a lead in this activity well in advance of the mandatory requirement established by the province of Quebec for the year 2020.

Greenhouse Gas Emissions

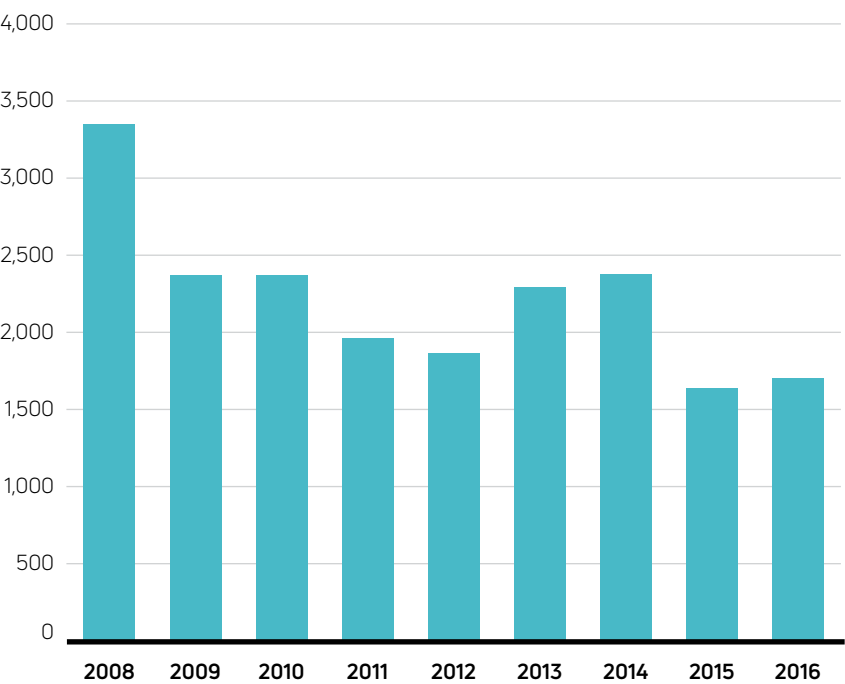
In 2016, the Corporation’s greenhouse gas (GHG) emissions were the equivalent of 1,703 tonnes of CO₂, a 4% increase when compared to the 1,641 tonnes of CO₂ generated in 2015. This slight increase is principally due to colder weather conditions encountered during the closing of the 2016 navigation season, when equipment designed to prevent the formation of ice in Seaway locks was operated, resulting in more energy being consumed.

Over the last three years, the Corporation achieved a 45% reduction in its overall level of GHG emissions, when measured against emissions generated during the 2003–2005 baseline period. Even though the Corporation’s

the Corporation achieved a 45% reduction in its overall level of GHG emissions

SLSMC GREENHOUSE GAS EMISSIONS

Tonne equivalent CO₂



1,703 metric tonnes of emissions make up a miniscule portion of the Canadian transportation sector’s total of 171,000,000 metric tonnes, the Corporation remains committed to continuing to lower its emissions. As part of its GHG reduction plan, the Corporation inaugurated its first three charging station for electric vehicles, located at the St. Lambert and Beauharnois locks, as well as at the Brossard maintenance center.

Environmental Management System

As part of its continuous improvement process, the Corporation continued aligning its Environmental Management System (EMS) with the ISO 14001:2015 Standard, and has now implemented 50% of EMS procedures and forms.

Supporting Our Communities

In 2016, contributions of almost \$140,000 were made to various United Way campaigns through donations from employees and matching funds by the Corporation. Of note, the Niagara section was presented with the 2016 “Campaign of the Year” award from the St. Catharines and District United Way.

During the summer of 2016, Niagara section employees once again participated in Port Colborne’s annual Canal Days festival, welcoming visitors to the Corporation’s tent, where staff handed out Seaway literature and answered questions.

Niagara section employees were also active in a number of other events, including:

- the annual Wainfleet safety awareness day/bicycle rodeo
- “Take Our Kids to Work” day
- Port Colborne’s Top Hat Ceremony at Lock 8

In the MLO section, the “flagship event” continued to be the Corporation’s participation in Montreal’s annual “Salon nautique” held in January, 2017. At the event, employees staffed a kiosk and interacted with thousands of pleasure craft operators, educating boaters on Seaway navigation and safety topics and answering a myriad of questions on various issues such as lockage schedules.

The Corporation’s MLO section also played a role in supporting a number of community oriented activities, including:

- assisting in the development and distribution of the Canadian Hydrographic Society’s booklet
- working with the Canadian Coast Guard Auxiliary, which promotes safe boating practices and provides search and rescue functions



Charging station at the Beauharnois Locks



Corporation's presence at the Salon nautique event in Montreal

Serving As Ambassador For The Seaway

Within its mandate to foster strong relations with external stakeholders, the Corporation continually seeks opportunities to reinforce the value of the Seaway and the marine mode of transportation.

In December 2016, Terence Bowles was invited to address the Quebec Arctic Circle Forum and share the podium with a number of other senior officials from Canada, the United States, Finland and other Arctic countries. Mr. Bowles shared how the Seaway's governance model was devised, and how the Corporation serves to ensure that navigation on the St. Lawrence Seaway is practiced in a safe and secure manner (a model that is of interest, as nations seek to collaboratively establish a means of governing navigation in Arctic waters).

Over the course of the year, the Corporation continued to engage stakeholders by participating in a wide range of activities, including the sponsorship of the St. Lawrence River Institute's Annual Conference held in Cornwall (Ontario) in cooperation with its U.S. counterpart, the Saint Lawrence Seaway Development Corporation. At the conference, a wide range of issues were examined, pertaining to the St. Lawrence River and its ecosystem.

In addition, the Corporation provided support to the Quebec-based "Comité ZIP du Haut St-Laurent" as part of their 11th series of summer activities in advocating sound stewardship of the St. Lawrence River, and continues to work closely with the Quebec City based SODES (St. Lawrence Economic Development Council) in supporting a number of public information initiatives concerning the benefits of marine transportation on the St. Lawrence River.

The Corporation continually seeks opportunities to reinforce the value of the Seaway and the marine mode of transportation



Terence Bowles at the Quebec Arctic Circle Forum



Ship transiting the St. Lawrence Seaway near Prescott, Ontario

Financial Sustainability

*The results for 2016/17 cover the period April 1, 2016 to March 31, 2017.
The comparative numbers reflect the same time span for the preceding fiscal years.*



Photo: Brian M. Kutner, Millville, NJ

FINANCIAL HIGHLIGHTS	2016/2017	2015/2016	2014/2015
Full-time equivalents (FTE)	543	564	583
	(‘000s)		
Revenue			
Tolls	\$ 65,382	\$ 66,377	\$ 71,489
Other	3,617	3,868	4,746
Total revenue	68,999	70,245	76,235
Manageable expenses			
Salaries and benefits*	68,024	73,208	73,111
Other	12,276	13,216	12,772
Employee Future Benefits (Non-cash)	(20,780)	(23,324)	(20,082)
Total manageable expenses	59,520	63,100	65,801
Excess of Revenue Over Manageable Expenses	\$ 9,479	\$ 7,145	\$ 10,434
Asset renewal expenses			
Regular maintenance	\$ 9,664	\$ 8,681	\$ 6,293
Major maintenance	92,697	105,888	95,901
Capital acquisitions	1,811	2,092	2,372
Total asset renewal expenses	\$ 104,172	\$ 116,661	\$ 104,566

* Includes pension solvency deficit payments of \$10,741 (16/17), \$15,665 (15/16), and \$16,358 (14/15).

Corporate Governance

(AS OF MARCH 31, 2017)

The St. Lawrence Seaway Management Corporation is governed by a nine-member board that is responsible for ensuring the long-term viability of the Seaway as an integral part of Canada's transportation infrastructure. The Board is composed of the Corporation's President and CEO, representatives from grain; iron ore and steel;

other industry members; the domestic and international carriers; as well as one each from the federal government and the provincial governments of Québec and Ontario. Individual Board Committees oversee governance, human resources, audit and asset renewal.

Photo: Brian M. Kutner, Millville, NJ



Board of Directors

Robert J. Armstrong
Ontario Provincial Government

Jonathan Bamberger
Other Members

Terence F. Bowles
President and Chief Executive
Officer

Gerald Carter
Québec Provincial Government

Wayne Devlin
Grain

Tim Dool (Chair)
Domestic Carriers

Bronko Jazvac
Steel and Iron Ore

David Muir
Federal Government

Georges Robichon
International Carriers

Officers

Terence F. Bowles
President and Chief Executive
Officer

Karen Dumoulin
Chief Financial Officer

Mark MacKeigan
Chief Legal Officer and Corporate
Secretary



Front row, from left to right: Wayne Devlin, Terence Bowles, Jonathan Bamberger, David Muir
Back row, from left to right: Bronko Jazvac, Georges Robichon, Tim Dool, Robert Armstrong, Gerald Carter

Industry Members 2016/17

DOMESTIC CARRIERS

Algoma Central Corporation
St. Catharines, Ontario

**Canada Steamship Lines,
A Division of The CSL Group Inc.**
Montréal, Québec

Groupe Desgagnés Inc.
Québec, Québec

Lower Lakes Towing Ltd.
Port Dover, Ontario

**McAsphalt Marine
Transportation Ltd.**
Toronto, Ontario

McKeil Marine Limited
Hamilton, Ontario

St Marys Cement Inc. (Canada)
Toronto, Ontario

GRAIN

ADM Agri-Industries Company
Windsor, Ontario

Cargill Limited
Winnipeg, Manitoba

G3 Canada Limited
Winnipeg, Manitoba

**Louis Dreyfus Commodities
Canada ULC**
Calgary, Alberta

Richardson International Limited
Winnipeg, Manitoba

Viterra Inc.
Regina, Saskatchewan

INTERNATIONAL CARRIERS

Colley Motorships Ltd.
Montréal, Québec

Fednav International Ltd.
Montréal, Québec

Gresco Ltée
Montréal, Québec

Inchcape Shipping Services
Dorval, Québec

McLean Kennedy Inc.
Halifax, Nova Scotia

Montreal Marine Services Inc.
Longueuil, Québec

**Navitrans Shipping Agencies
(East) Inc.**
Laval, Québec

Protos Shipping Limited
Montréal, Québec

**Robert Reford, A Division of MRRM
(Canada) Inc.**
Montréal, Québec

OTHER MEMBERS

K & S Windsor Salt Ltd.
Pointe-Claire, Québec

Lafarge Canada Inc.
Concord, Ontario

**Lehigh Hanson Canada ULC
(formerly Essroc)**
Edmonton, Alberta

Redpath Sugar Ltd.
Toronto, Ontario

Suncor Energy Inc.
Mississauga, Ontario

STEEL AND IRON ORE

ArcelorMittal Dofasco Inc.
Hamilton, Ontario

Iron Ore Company of Canada
Montréal, Québec

U.S. Steel Canada Inc.
Hamilton, Ontario