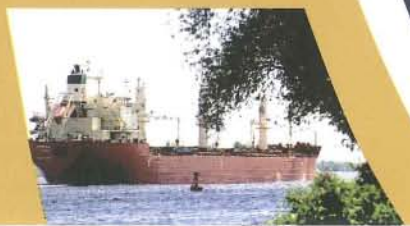
GREAT LAKES-ST. LAWRENCE SEAWAY

North America's Link to Prosperity



MARINE™
DELIVERS

THE GREAT LAKES-ST. LAWRENCE SEAWAY NAVIGATION SYSTEM

A Vital North American Trade Route

The five Great Lakes and the St. Lawrence Seaway combine to form an efficient, low-cost marine super-highway that supports North America's industrial heartland and serves a consumer market of more than 100 million people.

The Great Lakes-Seaway navigation system is the longest deep-draft navigation system in the world — extending 3,700 kilometres and bordering two Canadian provinces (Ontario and Quebec) and eight U.S. states (Indiana, Illinois, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin).

There are more than 100 commercial ports in the navigation system. These facilities serve as gateways for waterborne commerce moving within the region or between North America and overseas destinations.

Saving Consumers Money

The economic benefits of marine transportation on the Great Lakes are far-reaching. North American farmers, steel producers, construction firms, food manufacturers and power generators depend on the 164 million metric tons of iron ore, coal, stone, salt, sugar, grain, steel, wind turbines and machinery that are delivered by Great Lakes ships every year to keep their businesses running.

Marine transportation is the most economical mode of commercial freight transportation for these industries. For example, a maximum Seaway-size Laker can carry 25,000 metric tons per voyage, which is the equivalent of 225 rail cars or 870 semi-trailer trucks. This efficiency of Great Lakes ships translates into lower costs for the companies that use marine transportation and, ultimately, for North American consumers. According to a U.S. Army Corps of Engineers study[1], Great Lakes marine shipping saves companies approximately $3.6 billion per year in transportation costs compared to the next least-costly, land-based alternative.

1 Great Lakes Navigation System: Economic Strength to the Nation, U.S. Army Corps of Engineers (January 2009)

QUICK FACTS

Great Lakes-Seaway marine shipping in Canada and the U.S.:

- *Creates 227,000 jobs*
- *Produces $34.6 billion in economic contribution annually*
- *Generates $14.5 billion in employment wages annually*
- *Contributes $4.7 billion in federal, state/provincial and local taxes every year*
- *Moves 164 million metric tons of essential raw materials and finished products annually*
- *Saves cargo shippers $3.6 billion in transportation costs every year*

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SHIPPING = $34.6 BILLION IN ECONOMIC ACTIVITY

ECONOMIC CONTRIBUTION

Delivering Wealth to Great Lakes Communities

The most recent economic data[2] show that cargo shipments on the Great Lakes-Seaway system generate $34.6 billion of economic activity within the adjoining two Canadian provinces[3] and eight U.S. states.

Marine transport-related activities on the waterways create more than 227,000 jobs and generate $14.5 billion in salaries and wages in the two countries.

The revenue generated by the marine sector gives rise to $4.7 billion in income and corporate tax payments. In 2010, the marine sector raised Canadian government tax receipts in total by $2 billion and increased U.S. government budget revenues by $2.7 billion.

Great Lakes-Seaway Navigation System Economic Impacts — 2010 (CDN$)

	In Canada	In the United States	Combined Economic Benefit
Employment (Direct, Induced and Indirect)	98,000 jobs	129,000 jobs	227,000 jobs
Economic Contribution (Business Revenue)	$15.9 billion	$18.7 billion	$34.6 billion
Personal Income (Wages & Salaries)	$4.6 billion	$9.9 billion	$14.5 billion
Federal Taxes	$1.4 billion	$1.8 billion	$3.2 billion
State/Provincial and Local Taxes	$0.6 billion	$0.9 billion	$1.5 billion
Total Taxes Paid	$2.0 billion	$2.7 billion	$4.7 billion

2 The Economic Impacts of the Great Lakes-St. Lawrence Seaway System, Martin Associates (October, 2011). Full study at: www.marinedelivers.com.

3 Quebec calculations include economic impacts related to cargo transiting the St. Lawrence Seaway only, and not the Lower St. Lawrence River.

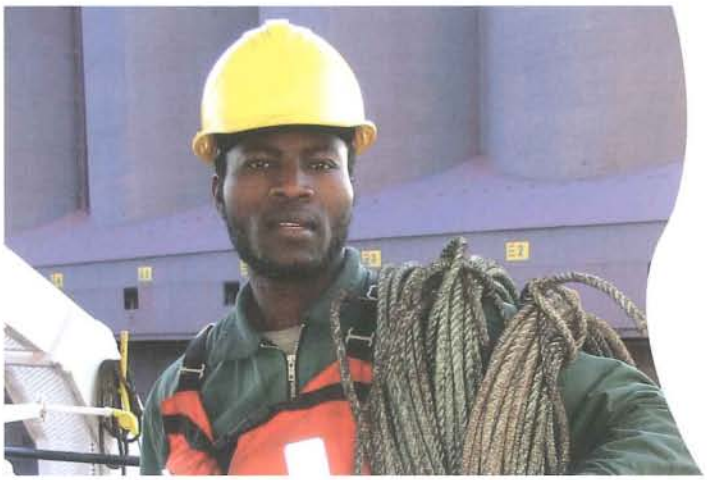
MARINE SHIPPING KEEPS NORTH AMERICA WORKING

Creating Employment from Ship to Shore

In addition to helping keep the Canadian and U.S. economies competitive, Great Lakes-Seaway shipping generates more than 227,000 direct, indirect and induced jobs in the two provinces and eight states that border the system.

Direct, Induced and Indirect Jobs by Country

	Total	Canada	United States
Direct	93,000	48,000	45,000
Induced	66,000	22,000	44,000
Indirect	68,000	28,000	40,000
Total	**227,000**	**98,000**	**129,000**



Direct Jobs Impact

Some 93,000 jobs are directly dependent on the cargo handled at the ports and marine terminals on the Great Lakes-Seaway navigation system.

Direct Jobs by Sector and Country

	Total	Canada	United States
Marine Operations and Services	35,000	16,000	19,000
Cargo Shippers	42,000	25,000	17,000
Truck and Rail Transportation	16,000	7,000	9,000
Total	**93,000**	**48,000**	**45,000**

- ***Marine Operations And Services — 35,000 jobs:*** Waterborne shipping is supported by employees in a wide range of operational and service-related professions. These include environmental managers, safety inspectors and lock operators, as well as workers at ship-repair and parts companies. Chandlers provide food and supplies to ships stopping in port, while longshoremen, terminal and warehouse workers unload and process cargo for its next destination. In addition, port, Seaway and government-agency staff oversee critical infrastructure, manage operations and enforce regulations.
- ***Cargo Shippers — 42,000 jobs:*** Marine shipping is directly connected to employment in steel mills as well as iron ore and salt mines, which are located near ports and are highly dependent on receiving products by water. Out of the 93,000 direct jobs created by Great Lakes-Seaway marine activity in Canada and the U.S., half of these are in companies that ship products on the system. For example, the movement of iron ore from mines in Quebec, Michigan and Minnesota to ports throughout the system directly creates about 17,000 jobs in Canadian steel mills and about 12,000 jobs in American steel mills. Manufacturers have specifically located their plants on the Great Lakes to have direct access to waterborne transportation. Without this service, these jobs would be at risk.
- ***Truck and Rail Transportation — 16,000 jobs:*** Many Great Lakes-Seaway ports are intermodal hubs that have on-site rail and trucking links to take goods on the next leg of their journey to inland destinations. Great Lakes shipping is responsible for 13,500 jobs at trucking firms and 2,500 positions at railroads.

The Employment Ripple Effect

The local purchases made by industry-related employees lead to another **66,000 induced jobs** in restaurants, shops and other businesses in communities situated near the Great Lakes and the Seaway.

Great Lakes marine businesses spend $6.6 billion on goods and services such as maintenance and repairs, utilities and professional services in Canada and the U.S., creating an additional **68,000 indirect jobs**.

MARINE – SUPPORTING NORTH AMERICAN INDUSTRIES

Transporting over 164 million metric tons per year

IRON ORE — Over 60 million metric tons of iron ore — all used in the production of steel — account for the largest volume of cargo shipped through the Great Lakes-Seaway navigation system. The system handles more than 80 per cent of the iron ore used in the U.S. steel industry; and supports the activities of more than 60 steel manufacturers in Ontario. This steel, in turn, is used to build schools, hospitals and bridges; and to produce automobiles and numerous other consumer goods.

GRAIN — North American farmers depend on Great Lakes-Seaway shipping to move approximately 11 million metric tons of wheat, barley, soybeans and corn to domestic and international markets each year — about 10 per cent of the combined total of all Canadian and U.S. grain exports. These crops are made into beer and ethanol fuel in the U.S., bread in England, pasta in Italy and couscous in Morocco.

AGGREGATES & CEMENT — Over 26.5 million metric tons of construction materials such as aggregates and cement are transported annually between ports situated on the system. These materials are used for highway construction and other infrastructure projects.

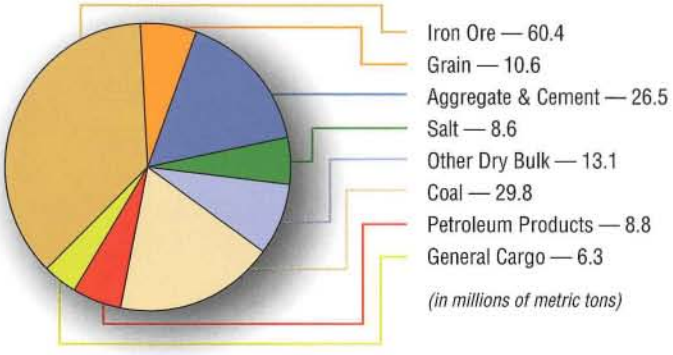
SALT — Each year, more than 8.5 million metric tons of salt are transported by vessels to cities and communities throughout the Great Lakes region to keep icy roads safe during the winter months and to season food on the dinner table. The majority of salt is produced at mines located in Ontario and Michigan.

SUGAR — More than 500,000 metric tons of bulk raw sugar are transported each year to Great Lakes ports in Seaway-size ocean-going vessels. Once refined in Canada, this sugar is sold on supermarket shelves and is used as a staple ingredient in baked goods and other food and drink products.

COAL — Close to 30 million metric tons of coal are shipped through the Great Lakes-Seaway navigation system each year. This coal is vital for steel production, as well as for power generation in both Canada and the U.S. One 1000-foot-long vessel carrying 63,000 metric tons delivers enough coal to power Greater Detroit for one day.

PETROLEUM PRODUCTS — Approximately nine million metric tons of refined products such as gasoline, diesel fuel and heating oil move through the Great Lakes-Seaway navigation system each year. These products, among other uses, supply gas stations and provide heating for homes throughout the region.

GENERAL CARGO — The Great Lakes-Seaway system handles imports and exports of general cargo — including forest products, steel and project cargo — totalling approximately six million metric tons annually. Marine shipping makes a major contribution to green energy, as the safest and most cost-effective way of transporting giant wind turbine components to new power projects near the Great Lakes and interior provinces and states.



MEETING: CANADIAN SHIPOWNERS ASSOCIATION AND THE OFFICE OF MANAGEMENT AND BUDGET

ADDRESSING CSA VESSELS AS PART OF A BI-NATIONAL BALLAST WATER REGULATORY FRAMEWORK

FEBRUARY 6, 2012

PURPOSE

- Introduce CSA and its member companies
- Review the current regulatory environment
- Review CSA's comments to USCG Proposed Rulemaking
- Continuing concerns
- Recommendations for an overall ballast-water regulatory approach

WHO WE ARE

- Companies operating Canadian-flagged vessels in the Great Lakes and St. Lawrence Seaway, along the East Coast of North America and the Arctic:
  - Essential element in Great Lakes' intermodal transportation network – "Short Sea Shipping"
  - Provide the most environmental and efficient mode of freight transport
  - 70-vessel fleet carried an average of over 50 million tonnes of bulk commodities and general cargo (2008-2010)
  - 73 Billion tonne-kilometres of cargo movements; half of cargo carried by the CSA fleet is U.S.-bound
  - Canadian fleet supported over 100,000 jobs and over $16 billion in direct business revenue in GLSLS region
  - US Export of iron ore, aggregate, and coal

Canada Steamship Lines

Groupe Desgagnés inc.

Maximized cargo carrying US Lakers-like

FLEET DIRECTION

- Fleet renewal: 12 new vessels in 2012 and 2013
  - More efficient vessels with smaller environmental footprint
  - Space and design for future technology
- Investing in Ballast Water R & D:
  - Installing and testing ballast water treatment system (filtration)
  - Transfer Risk Mitigation Project - Collaboration between industry, science, academia, and government
  - CSA vessels enrolled in USCG STEP programme
- Investing in technology to address air emissions

Feasibility on these ships

<3MM per vessel

No tech

3 ppt

Chlorination works at 3 psu but Fl[illegible] is 0 psu

Systems don't work in GL, need to be tested there

Cold water, Fresh water

So volumes of water going through is higher

Not enough time on short trips for treatment

CURRENT ENVIRONMENT

- Canadian companies face a complex and uncertain regulatory environment, in which 12 regulatory authorities participate in ballast water regulation:
  - U.S. Federal Government (USCG and EPA)
  - Canadian Federal Government (Transport Canada)
  - Eight U.S. States (Ohio, New York, Illinois, Indiana, Michigan, Minnesota, Pennsylvania and Wisconsin)
  - International Maritime Organization
- Ballast water is one of several major regulatory initiatives currently under development

SIGNIFICANT CHALLENGES

- The obstacles for Great Lakes vessels in achieving the IMO standard are significant and must be recognized:
  - Unique requirements:
    - Operating environment (fresh water, very cold water)
    - Technical constraints (high ballast flow and volume, short trips, power generation, space constraints)
  - Lack of commercial supply of systems (no USCG type-approved systems for use in the Great Lakes)
  - Economic barriers:
    - High costs ($2-3 million/vessel) in view of regulatory uncertainty
    - Risk of modal loss and modal shift is real

SIGNIFICANT CHALLENGES

- New Canadian vessels face similar design and operational limitations to the adoption of IMO-based technology as existing vessels.
  - Misconception about Best Available Technology above the Welland Canal and below the Welland Canal
- Need a realistic implementation timeline required for new vessels once suitable type-approved systems exist for use in the unique environment of the Great Lakes.

Systems designed to lower Hg waters than what's on GL vessels, so need multiple systems and space for multiple

Safety is also uncertain

CSA 2009 COMMENTS TO USCG

- Summary of CSA response to the USCG NPRM:
  - Work with individual states and the Government of Canada towards one federal bi-national standard
  - Undertake a practicability review of Phase I specific to Great Lakes vessels
  - Withdraw Phase II from final rulemaking until the Phase I practicability review is complete
  - Incorporate a mandatory requirement for type approval testing in Great Lakes waters as a condition of approval for GLSLS
  - Extend Phase I grandfather clause to lifetime of vessel

2 year 4 months for type-approval process

CSA CONTINUING CONCERNS

- Suitable systems remain unavailable for all Great Lakes vessels.
- Timeline for phase 1 new builds remains unachievable.

RECOMMENDATIONS FOR REGULATORY FRAMEWORK

1. CSA supports IMO BWTS standard by all governments for vessels entering the GLSLS from abroad.
2. USCG and EPA must recognize Great Lakes vessels as a unique sub-category of the world fleet and regulate accordingly.
3. USCG type-approval is necessary to ensure that systems work effectively in the Great Lakes operating environment, including a testing protocol of instantaneous maxima.
4. Deadlines for installation must provide sufficient time for type-approval of suitable systems, for design and contracting once approved, and for phasing in the entire fleet.

RECOMMENDATIONS FOR REGULATORY FRAMEWORK

5. An accelerated timeframe for installation of treatment systems on new vessels would be unachievable. A pragmatic timeline that reflects the current unavailability of systems suitable to the Great Lakes is needed.
6. Requirements that include the installation of equipment must include a mechanism that will ensure the system is recognized as a sufficient solution for the life of the system and not superseded by a more stringent regulatory standard.
7. The VGP should specifically preclude any state under a S. 401 Certification from regulating innocent passage through state waters where no ballast water discharge takes place.

NY court decision

RECOMMENDATIONS FOR REGULATORY FRAMEWORK

8. Since the Coast Guard IFR is integrally linked to the VGP2, EPA should provide the opportunity for additional comments during a reasonable period after the USCG rule is published. on VGP
9. Canada/US Government consultation is required to develop an achievable, bi-national regulatory framework.

- Welland Canal bander use favors US vessels in one port over Canadian based travel
- not based on Science

No Canadian cgs on lakers only on international vessels

The CSA Fleet

- 70 Canadian vessels operating throughout the Great Lakes and St Lawrence Seaway System. 60% of Canadian traffic is destined for the United States.
- Regulations must facilitate both the best short-term solutions and also a sustained solution.
- Solutions today include advanced filtration, risk-based assessment and best practises to mitigate risk.
- Introducing 12 new vessels in 2012/2013. Improved fuel efficiency, hull design, reduced air emissions with scrubbers, more room for additional technology when ballast water treatment systems are developed for the unique water of the Great Lakes.
- Vessel type faces similar technical challenges to most of the US Fleet.

The Challenge

- A complex regulatory environment which discourages long-term investment in costly technological solutions.
    - 12 regulatory authorities – seldom synchronised
- Canadian companies are renewing their Fleet now and making a sizable investment in green technology. Regulatory uncertainty could result in costly decisions.
- 17 IMO approved systems/2 in fresh water but none have met the IMO standard of the unique water environment of the Great Lakes
- The potential for a US regulatory regime that accepts different testing protocols for type –approval and compliance.
- The potential for a US regulatory regime that does not promote a reasonable installation timetable of technology once it is developed and commercially available.

Economic Importance

- 35,000 direct jobs (US & Canada)
- 227,000 direct, induced, and indirect jobs (US & Canada)
- $34.6 billion in economic contribution annually
- $4.7 billion in federal, state/provincial and local taxes annually
- The movement of 164 million tons of essential raw materials and finished products annually
- 60 million tons of iron ore (80% of total US steel industry)
- 30 million tons of coal
- Reduced air emissions from efficiency of mode as compared to rail and truck

Current Regulatory Environment

- CSA is supportive of collaboration between federal and state agencies
- Supportive of adoption of IMO standards
- Challenges remain with USCG NPRM
  - Significant barriers for CSA fleet to meet Phase I
  - Uncertainty on mechanism to address vessels unable to achieve standard
  - Limitations placed on grandfathering
  - Lack of science to support proposed Phase II
- Unrealistic expectation of installation of systems in new vessels
- Rationalisation for the division of the system at the Welland Canal not readily apparent.

The Potential Investment and Impact on Ship Owners

- $1.5 – 3.0 million per Canadian ship
  - Total $105 – $210 million
- The cost of making mistakes in the design of new builds
- Unique environment of the Great Lakes (cold fresh water)
- The lack of proven treatment systems currently.
- Technical limitations of retrofitting older ships.
- The risk of modal shift to road and rail.

Opportunities

- **The regulatory solution must:**
  - **Promote investment in new vessels and associated technologies.**
    - Canadian companies are building ships now with solutions for air emissions, fuel efficiency, and the ability to adopt ballast water treatment once a system is developed and properly type-approved.
  - **Recognise that all vessels in the Great Lakes face a similar challenge.**
  - **Ensure that systems intended for use in the unique environment of the Great Lakes are type-approved by only the USCG.**
  - **Have a mechanism that accounts for a reasonable installation period of new treatment technology once it has been USCG type-approved. Ship owners need a minimum number of USCG type-approved systems to be commercially feasible.**
  - **Recognise the significant constraints with retrofitting older vessels.**
    - Canadian companies are investing in technology and testing alternate solutions now with the cooperation of government, and the scientific and academic communities. CSA has led a collaborative project to identify the risk and measures to mitigate that risk. These are solutions available today.