



## Navigation, Engineering, and Legislative Committee 2019 Report to the Grand Lodge

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### Overview

The past year proved to be an apparent watershed year for large projects on the Great Lakes. Cleveland Cliffs broke ground and started construction on a new Hot Briquetted Iron production facility in Toledo, OH, a synchronized ballast water management bill was passed by Congress, and the largest advance in building a new lock in Sault Ste Marie in 30 years occurred. The marquee accomplishments were secured through sustained efforts of industry groups such as ISMA working with both federal and state legislators to point out the economic significance of the Great Lakes region. The work is not done, however, as the new lock is still a long time from being completed and the region has no shortage of needed infrastructure investment. ISMA and the NELC will need to continue working alongside other stakeholders to continue the momentum of 2018 into the future.

### New Soo Lock

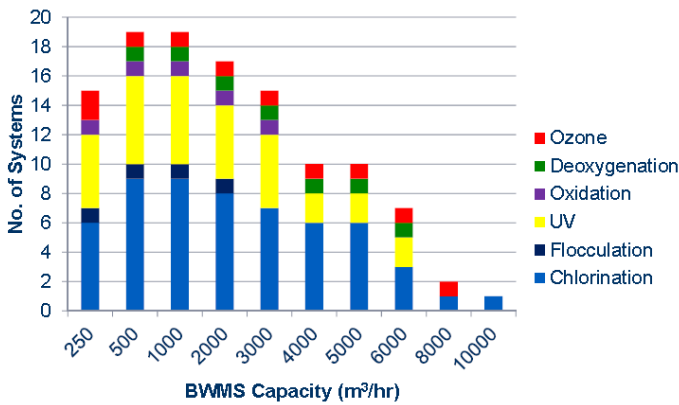
The biggest news of 2018, by far, was the huge advance towards constructing a new Poe-sized lock in Sault Ste Marie, Michigan. After waiting two long years for a revised economic study by the U.S. Army Corps of Engineers, the Benefit to Cost Ratio (BCR) was released in a June report as 1.78<sup>1</sup>. Industry stakeholders had hoped that the study would merely break a BCR of 1.0 so the results of the study were very exciting, to say the least. Following the release of this study, regional legislators helped build momentum for the project culminating in project approval by Congress under the Water Resources Development Act (WRDA) 2018. The USACE then allocated \$32 million towards the project in their 2019 work plan<sup>2</sup> and the state of Michigan pledged another \$52 million<sup>3</sup>. The total project cost, as estimated by USACE will be just shy of \$1 billion<sup>4</sup>. Construction is expected to begin in 2019 with the construction and deepening on the upstream approaches to the new lock<sup>5</sup>.



*Source: U.S. Army Corps of Engineers*

## Ballast Water

ISMA has been discussing ballast water since 2016, during the lead up to enforcement of the IMO Ballast Water Management Convention in 2017. As many of us know, the current system in the U.S. is to leave the regulation of a state’s water resources up to the state, which has led to a “patchwork quilt” of regulations on the Great Lakes whereby a vessel may be in



Source: officerofthewatch.com

compliance with one state but not with another. The solution from industry stakeholders was the Commercial Vessel Incidental Discharges Act (C-VIDA). This act would have implemented a federal standard more stringent than the IMO standard and allowed states to request a review of the regulations at any time. Most importantly, it would have granted an exemption to vessels only trading within the Great Lakes, never passing beyond Anticosti Island<sup>6</sup>. This bill was

shot down in April 2018, but a different ballast water bill was attached to the Coast Guard Authorization Act of 2018 and passed in November. The regulation will be written by the EPA, enforced by the U.S. Coast Guard, and shall use “the best technology available”<sup>7</sup>. While the new regulation does not allow for an exempt for Great Lakes vessels, it does include a mechanism for Great Lakes states to enact more stringent standards through the Great Lakes Commission and submit them to EPA for approval<sup>7</sup>. Overall, this is a significant stride toward achieving a uniform regulatory scheme regarding ballast discharges on the Great Lakes and removes many hurdles to shipping.

## Mackinac Pipeline

Following a navigational incident this past spring, the Enbridge Pipeline No. 5 has gained a lot of public attention. Repairs were made to this pipeline as well as a nearby electrical pipeline, but the incident became a rallying cry in the Michigan gubernatorial race of 2018. The short-term effect that mariners will notice is the implementation of virtual AIS aids to navigation as well as a USCG Restricted Navigation Area. The infographic included shows that an alert will be sent to a vessel’s AIS/ECDIS system warning of approach to the pipeline, but also that Enbridge will be

### Shipping vessel vigilance: An early-warning alert system

Enbridge is working with the State of Michigan to enhance protection of the Great Lakes, while continuing to safely meet Michigan’s energy needs.

We’ve identified Vesper Marine’s web-based **Guardian** protect communications system as a powerful tool to bolster shipping traffic safety in the Straits of Mackinac. This system would actively monitor and communicate with vessels near our Line 5 crude oil and natural gas liquids (NGL) pipeline, which travels across the bottom of the Straits.



Mark

The location of Line 5 is remotely marked with “virtual buoys,” along with a protection zone, so it’s visible to shipping traffic via their on-board Automatic Identification Systems (AIS).



Monitor

The Guardian protect system monitors AIS equipped non-AIS vessels near Line 5 with real-time info on position, speed, course, and size.



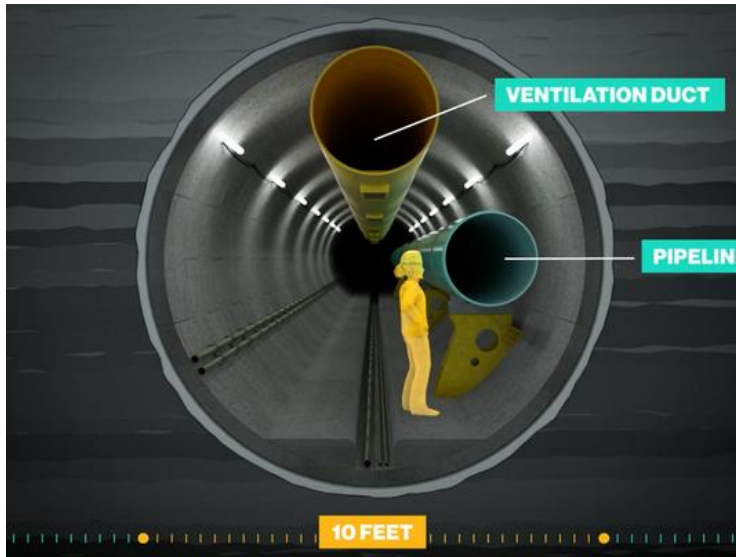
Alert

The Guardian protect system alerts us when a vessel is approaching the Line 5 path across the bottom of the Straits.



Prevent

The Guardian protect system automatically sends an alert directly to any vessel near Line 5 using its electronic navigation system.



*Proposed Tunnel, Source: Detroit News*

monitoring vessels passing over their pipeline. Long term, Enbridge has proposed boring a tunnel beneath the Straits wherein a new pipeline would be housed. This proposal was accepted by the outgoing Gov. Snyder and GOP Legislature, but has received pushback from incoming Gov. Gretchen Whitmer<sup>8</sup>. It is not yet clear what the new Michigan administration proposes as an alternative but appears to only insist that the pipeline be shut down at this point.

## Gordie Howe Bridge (Detroit)

The proposed new bridge spanning the Detroit River between Detroit and Windsor advanced in 2018 into the construction phase. The Windsor Detroit Bridge Authority (WDBA) has been in close coordination with USCG Sector Detroit through the planning stages to not only get mariner input as to the design of the bridge but also to start planning logistics for construction. NELC Chair

Scott Skrzypczak attended a stakeholder meeting in Detroit in March 2018 to get further details. WDBA has told the industry that air clearance will be the same as the existing Ambassador Bridge, 156 feet at the center and tapering to 127 feet at the banks of the river. Both towers will be on land, outside of the river.

During construction, a significant number of barges and tugs will be needed; more than exist in the Great Lakes

region. The project is budgeted to cost \$5.7 billion, have a clear span of 0.53 miles, and will be the largest cable-stay bridge in North America<sup>9</sup>. The towers will be approximately the same height as Detroit's Renaissance Center.



*Source: WDBA*

## Autonomous Shipping

No industry brief would be complete without commenting on the increasing ground swell towards autonomous shipping. On land, companies such as Ford, GM, Chrysler, and Tesla are investing heavily in driverless cars, with some of them looking beyond the entire concept of car ownership and towards shared mobility. Those initiatives spill over to other modes of transportation and waterborne transportation is arguably the next logical step.

Maritime technology firm Wartsila has completed its first successful trial onboard a fully autonomous ferry in Norway this past November<sup>10</sup>. Rolls Royce also developed and tested an autonomous ferry in Finland last year. However, the biggest development is a start-up in Norway that claims it will only operate autonomous ships. The company, named Massterly, is a joint effort of Wilhelmsen shipping and Kongsberg technology, both large firms in the industry and based in Norway. The company will establish shore-based control centers where humans will monitor the ships and take control only in the event of a malfunction<sup>11</sup>.

Another small container vessel named the *Yara Birkeland* is scheduled to begin manned operations in Norway in 2019 with Yara hoping to transition to autonomous operations in 2020. This vessel will be fully electric, with zero emissions, and transport fertilizer within Norway in an effort to displace trucks from that country's highways<sup>12</sup>.



Source: Yara

Closer to home, a new “test bed” for development of autonomous vessels is scheduled to be established in 2019 in Lake Superior. This testing area was established by a coalition of



stakeholders calling themselves the Smart Ships Coalition of the Great Lakes-St Lawrence and will be open to any company wishing to conduct tests there<sup>13</sup>. The Smart Ships Coalition is partnered with the Norwegian Forum for Autonomous Ships through a Memorandum of Understanding for, “exchange of information and non-competitive cooperation on smart ship technology and autonomous ships”<sup>13</sup>. Membership is open to industry groups, non-profit groups, and companies with no annual dues yet. Current members include Interlake Steamship, Transport Canada, Mercury, Schottel, Wartsila, Fincantieri Marine, and Moran Ironworks among others.

## NELC Projects 2018

### U.S. NELC

#### Revision of LCA Courses

Last year at the LCA Captains Committee meetings, it became apparent that the project to revise the LCA/CSA courses from 2017 had completely stalled. LCA expressed that they were overloaded with other projects, as evidenced by the previously covered sections, and somebody else should pick up this project. ISMA stepped forward to this task and LCA appointed their members to coordinate on this project. As happens every winter, people had grand plans for this which rapidly dissipated during fit-out. NELC Chair Skrzypczak had tried to assemble a coalition from ISMA, LCA, and CMC to meet and review the courses over a couple of days in a centralized location; this did not happen.

In October, LCA retook the project and delegated it to one of their members, who did all of the work on his own. There was a meeting of shipping captains and NOAA on November 15 to review progress so far, NELC was told only the day prior and couldn't muster anyone to attend. NELC Chair Skrzypczak has been given access to the spreadsheets that came from this meeting and the project has striven to modernize the old courses with GPS coordinates, without deleting any old routes or adding new ones. NELC is of the opinion that this project is progressing well in the hands that it has been given to and we have direct access to be able to make changes in the future.

#### Congressional Sail-In

NELC Chair Skrzypczak and PGP Barnhill had planned on attending the Congressional Sail-In in Washington D.C. in March, however, a bad storm passed through the D.C. area that morning and cancelled flights from Detroit. We were able to recover funds for flights and hotels, so our only sunk costs for the day were Captain Barnhill's fuel from Alpena to Detroit and back. ISMA plans to attend this event annually and it is tentatively scheduled for March 6, 2019.

### Canadian NELC

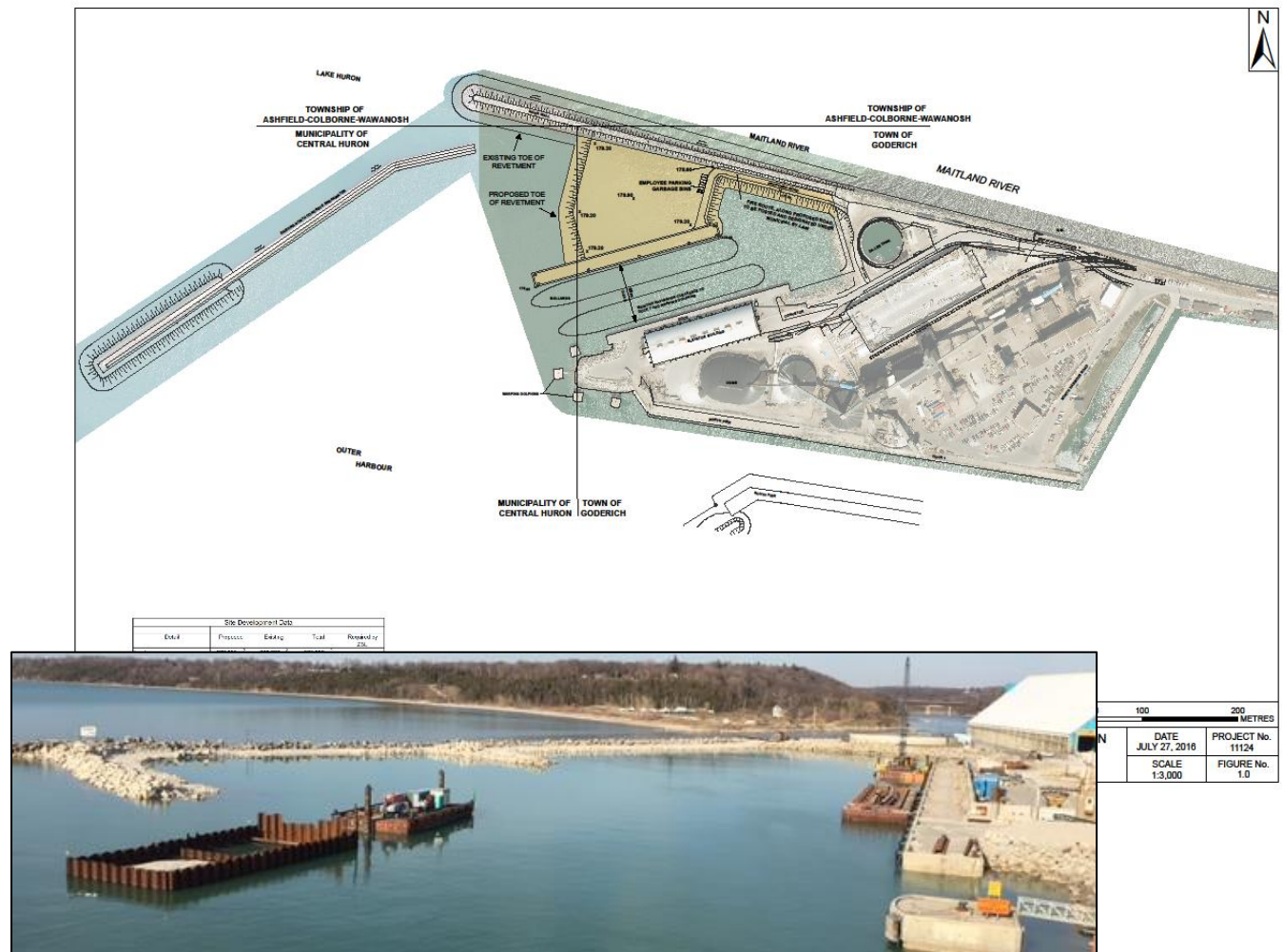
- Attendance at the Annual Marine Advisory Committee meeting to Georgian College, January 18, 2019 (ISMA has had a seat at this meeting for over 20 years).
- Communications with the Canadian Hydrographic Service (CHS) requesting an updated survey for Little Current Harbour, Ontario, and connecting channels, based on the influx of Passenger Ship travel in Ontario. In 2018, there were approximately cruise ship 6000 visitors to Little current from two cruise ships. The *PEARL MIST* and *VICTORY 1* made over 30 visits combined.

In 2017, Every cruise ship on every voyage made to the upper lakes stopped at Little Current, on Manitoulin Island. Over the five months from May 28, 2017 until about October 25, 2017, the *PEARL MIST* made 12 voyages, the *VICTORY 1* made 16 voyages and the *HAMBURG* made 2 voyages that visited Little Current. A total of approximately 8,116 people were brought to Little Current, Ontario by cruise ships in 2017. The Harbour was improved between 2007 and 2009. None of the harbour improvements have been published to date.

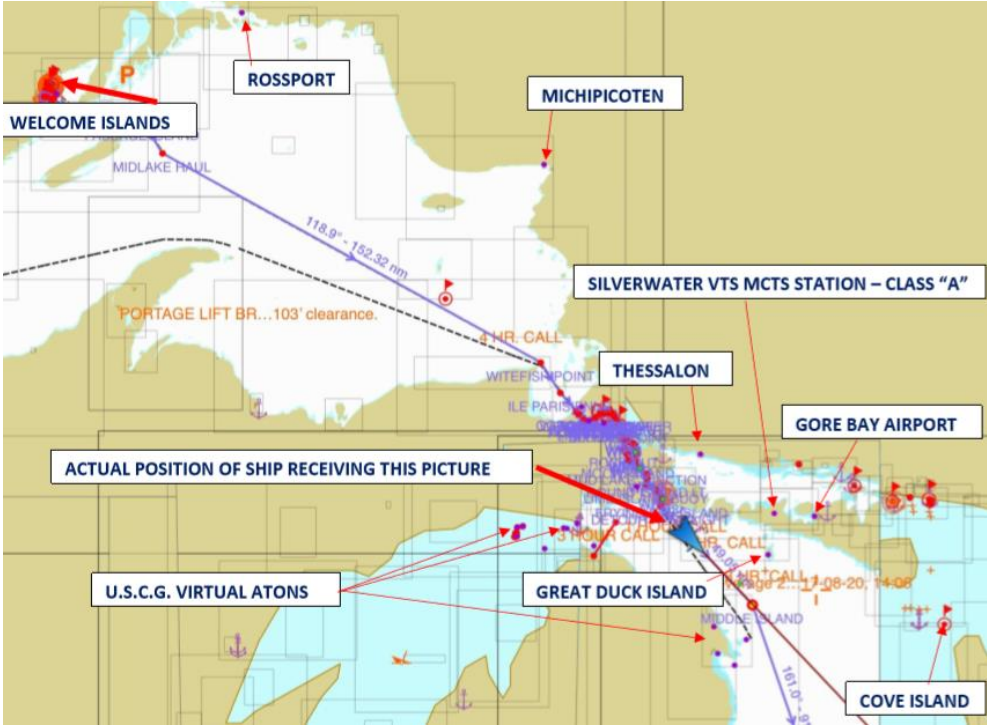
- Letter written to the Canadian Hydrographic Service on the installation of a new Break wall at the port of Gore Bay Ontario, which has not been published yet on current navigation charts or notices to mariners. The break wall was installed in 2013, and officially opened in 2014.

[Regarding these two items, CHS has stated that funding levels from the previous conservative government were lacking, but they expect conditions to improve under the current liberal government and these should be able to be addressed.]

- Investigated and resolved a concern over recent changes to the Sugar Island Lead Light in the St Mary's River. This light was changed to a sectored light in 2017 but the sector dimensions were never published in either the Light List or the Local Notice to Mariners. After some inquiries and help from friends of ISMA, USCG admitted that they had mistakenly not published this information. They are currently in the process of rectifying the situation by pushing that information out.
- Liaising with the port of Goderich, Ontario to exchange information on the new port expansion, which will be occurring over the next several years and to be a point of contact between commercial shipping and the Port of Goderich.

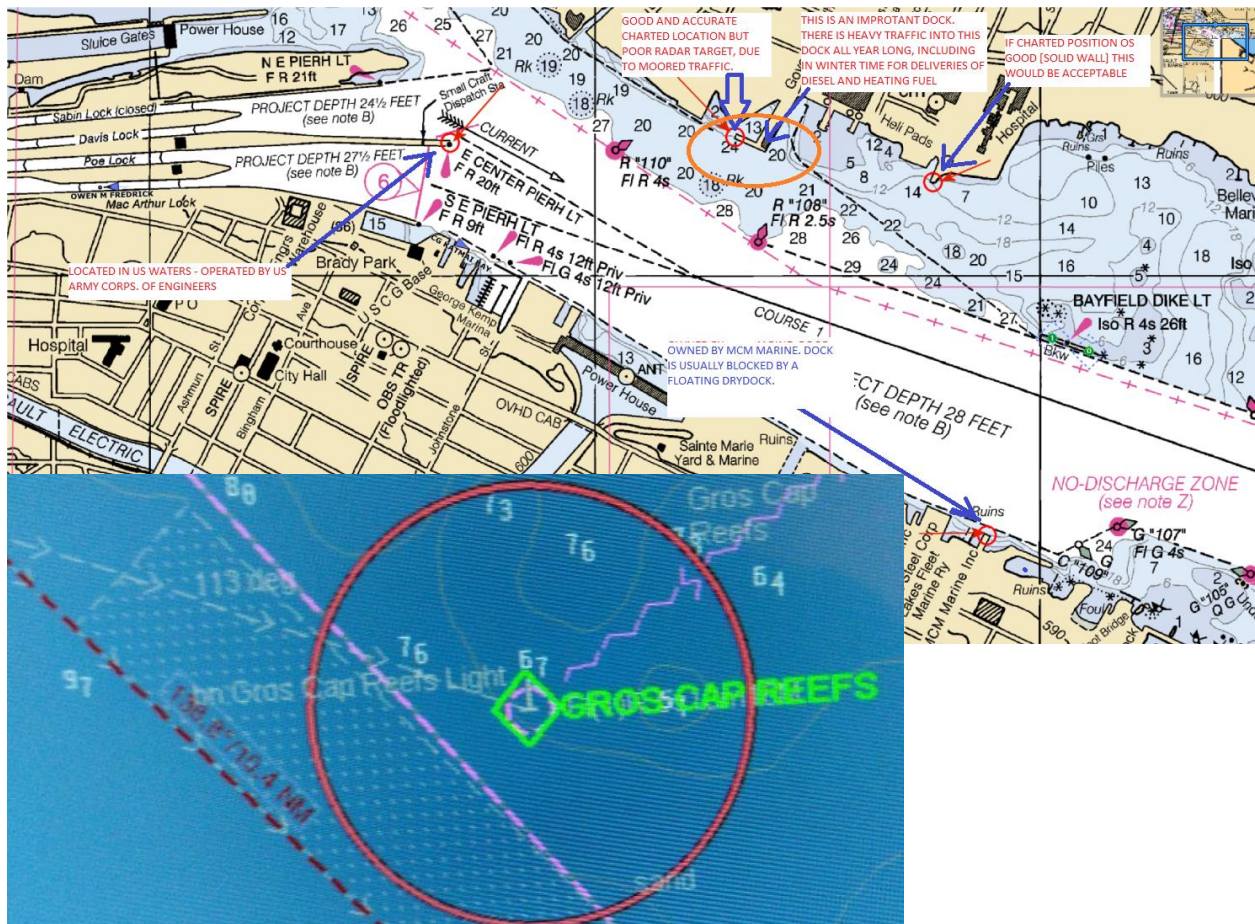


- 2018 communications between ISMA and Canadian Coast Guard regarding feedback on the newly placed AIS weather stations on the Great Lakes, and suggestions for improvement, enhancement, and additional locations before the experimental phase is over and changes are made.



- Throughout 2018, the NELC has been working with the Canadian Coast Guard on the newly placed experimental Virtual AIS Aids to Navigation (V-ATONs) on the Great Lakes. On December 11<sup>th</sup>, 2018, the Canadian Coast Guard commissioned three experimental V-ATONs in the St. Mary's River; One at Gros Cap and two on the Bayfield dike light. Our input was sought by the CCG on short notice and many vessel observations containing a lot of feedback were given. The process is ongoing, and more stations will be added in 2019, on an experimental base. We will be making more observations in 2019.
- *Our input was extremely appreciated by the CCG and will be sought for future projects.*





- Letter writing campaign to keep one large Groupe Ocean tug in Goderich, in lieu of the mosquito fleet. Groupe Ocean decided to leave a tug in Goderich, and exchanged the twin screwed 1200 tug, which was removed for use in Montreal and replaced by a 1000 hp Voith Scheider tug for use in Goderich.
- Liaising with the Toronto Marine Club and the Canadian Institute of Marine Engineers to assist Georgian College cadets in their career roles, and the networking of three Professional associations in a small community. This has included having speakers at Georgian College for the students and ISMA members, as well as orchestrating shipboard tours for cadets.
- Canadian ISMA Lodge 15, is providing webmaster service for the Canadian Missions to Seafarers of Southern Ontario. This was done to assist ISMA in liaising with the Missions to Seafarers, the Toronto Marine club, the Canadian Institute of Marine Engineers. ISMA is still providing this service to the Missions, and the connections and news feeds are good for all four organisations.
- In the coming year, there will be a continued active outreach by Lodge 15, to improve and enhance networks and information contacts in the Canadian Upper Lakes in 2018.



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- <sup>5</sup> U.S. Army Corps of Engineers. (2018, November 29). *New soo lock importance and next steps*. Retrieved from [https://www.lre.usace.army.mil/Portals/69/soolocks/SooLocksNewSooLock\\_ImportanceNextSteps\\_112918.pdf](https://www.lre.usace.army.mil/Portals/69/soolocks/SooLocksNewSooLock_ImportanceNextSteps_112918.pdf)
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- <sup>7</sup> Senate RPC. (2018, October 17). Coast guard authorization act of 2018 (substitute amendment to s.140). Retrieved from <https://www.rpc.senate.gov/legislative-notices/coast-guard-authorization-act-of-2018-substitute-amendment-to-s140>
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