Boxes are everywhere at Green Marine as 2015 draws to a close but, no, they’re not filled with gifts! The environmental program’s Secretariat is moving into new offices in Quebec City on Dec. 18th and will start operating in full swing from these premises in 2016.

Between packing each box, we’ve had the chance to reflect on 2015 with appreciation. This past year has indeed been a successful one for Green Marine with the number of members in all of the environmental program’s categories significantly rising to a total of 249. The 15 new participants include the first California and Florida ports to join Green Marine, as well as a European ship owner!

The program’s relevance and credibility have been recognized on several new fronts over this past year. Green Marine was honoured to be selected as this year’s winner in the Environment category of the Lloyd’s List North American Maritime Awards, as well as nominated in the same category on the world stage. Green Marine also signed a contractual agreement with Transport Canada to analyse in detail the underwater sounds caused by shipping activities and their impacts on marine life.

Faced with the welcomed challenge of integrating a steadily increasing membership while maintaining the environmental program’s rigour, Green Marine has just completed a lengthy process that establishes how to recruit, train, assist and test new verifiers. The new verifiers will be accredited in time for the eighth year of benchmarking the results of the participating North American marine industry’s environmental performance. These evaluations commence in January.

Last but not least, Green Marine has significantly increased its visibility by taking flight on Twitter @GMarine_AVerte.

We look forward to maintaining all of this great momentum within our new offices in January. Until then, the Green Marine team wishes you a happy holiday season!

See the “Spotlight on partners” on page 8 to learn about an original idea for sending environmentally friendlier holiday greetings.
10 NEW MEMBERS!

WELCOME TO OUR THREE NEW PARTICIPANTS

The **Port de Hueneme** is the only deep-water harbor between Los Angeles and the San Francisco Bay area and one of the most productive and efficient commercial trade gateways for niche cargo on the West Coast. The port is governed by five locally elected port commissioners. It facilitates the movement of $9.2 billion in goods annually and consistently ranks among the top ten U.S. ports for handling automobiles and fresh produce. Port operations support the community by generating $1.1 billion in economic activity and creating 10,226 trade-related jobs. The port recently launched the first stage of its Wharf 1 shore-side power program – the largest single emissions-reduction program in Ventura County's history. Over the next 30 years, the electrification of Wharf 1 will reduce PM by 92%, NOx by 98% and CO$_2$ by 55%.

**Port Alberni Port Authority** on British Columbia's Vancouver Island is one of the finest deep-sea inland harbours on the continent and the closest deep-sea port to the Pacific Rim. Panamax vessels can easily navigate the Alberni Inlet. The Port Alberni Port Authority is responsible for the harbour's day-to-day operations and the long-term development and improvement of the waterfront facilities, including the recreational marinas and secondary industries to the extent that these activities are specified in the Port Alberni Port Authority Letters Patent. The port authority is committed to working with the community towards economic diversification. Its vision to be “a thriving diversified port” encompasses its mission to facilitate profitable maritime trade and marine-related industries and tourism by offering leadership and services that respect both the community and environment.

The **Oshawa Port Authority** is an Ontario gateway to world markets through the St. Lawrence Seaway. This national deep-sea port has welcomed more than 500 vessels and shipped upwards of three million tonnes of cargo over the past decade. The port annually handles $23 million worth of cargo on average – everything from asphalt and grain to salt and steel products.
FOUR NEW SUPPORTERS FOR GREEN MARINE

The **St. Lawrence Global Observatory (SLGO)** is a non-profit organization bringing together a network of scientists, observers, modelers and managers from universities, research organizations, provincial and federal government agencies, environmental and community groups and the industry. SLGO’s mission is to promote the pooling of scientific information about the St. Lawrence ecosystem.

**INREST** is a Nordic institute with a mission to carry out research on environmental and health issues within the workplace in northeastern Quebec. Created in 2013, it is an independent corporate entity associated with Cégep de Sept-Îles through a management agreement with the college. INREST has several objectives, most notably to encourage and support innovative projects that take into account the need for sustainable development, to provide scientific backing for sound business and work-related decision-making, to connect researchers involved in environment/health issues in Northern workplaces, and to make their research activities and findings better known to more of the public.

**Clear Seas** is an independent, not-for-profit organization that provides impartial, evidence-based research to inform the public and policymakers about marine shipping in Canada, including risks, mitigation measures and best practices for safe and sustainable marine shipping. Clear Seas’ vision for safe and sustainable shipping is holistic, encompassing environmental, social and economic impacts of the shipping industry. Based in Vancouver, British Columbia, Clear Seas was officially launched in 2014 to be a leading source of independent, fact-based information on safe and sustainable marine shipping in Canada, after discussions with the marine shipping sector, port authorities, First Nations, NGOs, coastal communities and others concerned about marine shipping risks, prevention, preparedness and response strategies along Canada’s coastlines and waterways.

**PortTech Los Angeles** is an innovation and commercialization center dedicated to creating sustainable businesses for ports and the goods movement industry. It brings together entrepreneurs, strategic partners and investors to accelerate innovation, advance clean technologies and create economic opportunities. PortTech promotes and supports the development of technologies that enable enterprises to meet their environmental, energy, safety/security and transportation goals. PortTech is a non-profit organization serving the greater Southern California port community and the global goods movement industry. The organization was founded by the City of Los Angeles, the Port of Los Angeles, and Harbor Area business communities.

A 19TH ASSOCIATION JOINS THE PROGRAM

The **American Society of Naval Engineers** (ASNE) is the leading professional engineering society for engineers, scientists and allied professionals who conceive, design, develop, test, construct, outfit, operate and maintain complex naval and maritime ships, submarines and aircraft and their associated systems and subsystems. ASNE also serves the educators who train the professionals and researchers who develop related technology, and students who are preparing for the profession. The organization’s activities include providing support for the U.S. Navy, Coast Guard, Marine Corps, Army and Merchant Marine. ASNE is the seventh oldest technical society in the United States. It was founded in 1888 by a group of naval engineering pioneers. Most of them were officers of the Navy’s Engineering Corps who sought a unified approach to their profession to make the most of new advances in technology.
GREEN MARINE ALSO WELCOMES TWO NEW PARTNERS

CR Ocean Engineering LLC (CROE) is a leading air-pollution reduction technology supplier offering a full range of systems customized to a client’s specific needs. With its roots dating back to 1917, CROE is the marine-focused entity of one of the world’s oldest and most reputable air-pollution control companies. CROE’s global headquarters are located in Parsippany, New Jersey, with shops and sales offices across the globe. Its well-proven, state-of-the-art scrubbing system offers the shipping industry a low-cost, easy-fit and highly reliable alternative to low sulfur fuel use. With a CROE scrubbing system, ship owners can continue to use lower-cost fuel oil with higher sulphur content within an Emission Control Area (ECA). The CROE scrubbing system is currently operating or being installed on bulk carriers, RoRo, Ro-Pax and cruise ships around the world.

The DSS Group of Companies is Canadian-owned and involved in the importation, distribution and service of marine, environmental response and military equipment and supplies throughout Canada. The company is headquartered in Dartmouth, Nova Scotia, and also operates regional sales and service facilities in Newfoundland, Quebec and British Columbia. Its Environmental Products Division has products and services to help with the recovery of spilled oil and chemical products in a marine environment. Clients include response organizations, the Canadian Coast Guard, port and harbour facilities and the Canadian Navy, to name but a few.

GREEN MARINE IS MOVING!

As of December 18, 2015, the address of our Quebec offices will be:

25, du Marché-Champlain, #402
Québec City (Québec) G1K 4H2

Our phone number and email address will remain the same but we have a new fax number.

418-649-6004
info@green-marine.org
418-476-1906
GREEN MARINE is delighted to hold its next GreenTech conference where it all began for the environmental program in October 2007. Our ninth annual conference will take place at the Hilton Québec, in Québec City, Canada.

**SAVE THE DATES:**
**MAY 30-JUNE 1, 2016**

**THANK YOU TO OUR SPONSORS!**

**GOLD SPONSORS**
- PORT QUÉBEC
- PRINCE RUPERT PORT AUTHORITY
- Groupe Desgagnés inc.
- PORT MONTREAL
- QSL
- FEDNAV
- CANADA STEAMSHIP LINES
- GLOBAL CONTAINER TERMINALS

**SILVER SPONSORS**
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- Chamber of Shipping of British Columbia

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- BC SHIPPING NEWS

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- BC SHIPPING NEWS
Algoma Central Corporation and Lower Lakes Towing have jumped aboard in support of the new Marine Emergency Duties Training and Research Centre at Georgian College. Both the students enrolled in Georgian's marine programs and working mariners will benefit from the Centre. Algoma announced its $1 million donation at the campus in Owen Sound, Ontario, in November. The company has been a longtime supporter of Georgian’s marine programs, and the Marine Emergency Duties Training and Research Centre will be named in the company’s honour. “Fleet renewal has been a priority for our company, but the need to invest in training our current and future personnel is equally important to ensure our shipping operations continue to flourish,” Ken Bloch Soerensen, Algoma’s president and CEO, said.

Capt. Scott Bravener, president of Lower Lakes Towing and Grand River Navigation, announced Lower Lakes Towing will contribute $500,000 towards the centre’s development. “The addition of this Centre at Georgian’s Owen Sound Campus ensures shipping companies have a one-stop shop for quality marine programs and training in Ontario,” he said. “I am proud to be able to return to my college and participate in this important project that will address our industry’s needs today and into the future.” The Centre’s common area will be named in recognition of Lower Lakes Towing. Overall construction has started and is scheduled to be completed by September 2016.
NEWEST FEDNAV SHIP FAVOURS THE ENVIRONMENT

Fednav’s newest vessel has been equipped with a BallastAce system developed by the JFE Corporation in Japan to effectively treat the freshwater ballast that the Federal Biscay will load and unload when it begins operating in the Great Lakes next spring. Employing a sophisticated filter and sodium hypochlorite (bleach) injection system, BallastAce works in both fresh- and saltwater environments. With Fednav’s assistance, the JFE Corporation is pursuing U.S. Coast Guard approval for the system’s use in fresh, brackish and salt water with the necessary testing being done at the GSI facility in Superior, Wisconsin, and at MERC in Baltimore, Maryland.

The Federal Biscay completed its maiden voyage from the Oshima Shipyard when it arrived in Baie-Comeau, Quebec, on Dec. 8 after 39 days at sea loaded with anode cargo from Asia. The bulk carrier will move to the Great Lakes as soon as the Seaway reopens. In the meantime, it’s making the rounds at Baie-Comeau, Quebec City and Sorel to pick up cargo destined for the Netherlands, Belgium and Germany. Fednav is using the BallastAce system ahead of regulations that will require ballast water treatment systems aboard vessels. The company announced in April that it would equip all 12 of its new-builds with the BallastAce system well ahead of any regulatory obligations to do so.

A founding member of Green Marine, Fednav has twice earlier this year been commended for its environmental leadership by receiving the corporate award for marine environmental protection from the North American Marine Environmental Protection Association (NAMEPA) in October, and the Green Ship Owner of the Year award at the Green Ship Technology North America conference in November.

ALGOMA CENTRAL CORPORATION SIGNS CONTRACTS FOR TWO EQUINOX CLASS SELF-UNLOADERS

Algoma Central Corporation has ordered two new self-unloading bulk freighters for its Great Lakes–St. Lawrence Waterway dry-bulk fleet. The carriers have an overall length of 225.55 metres (740 feet) and a beam of 23.77 metres (78 feet) and feature a standard rear boom, qualifying them as Seaway Max-sized vessels. The ships are designed to carry 29,300 tonnes at maximum Seaway draft.

The new-builds will have all of the existing Equinox features, including the exhaust gas scrubber technology pioneered by Algoma on the Great Lakes in its first Equinox Class gearless bulk carriers. (Information about the Wärtsilä scrubber is featured in the Spotlight on partners section below). The vessels are scheduled for delivery in the first half of 2018.

Since 2009, three Equinox Class bulk carriers and two coastal class self-unloaders have been added to the domestic dry-bulk fleet operated by Algoma. This new order brings the total number of Equinox Class vessels under construction to seven. Algoma expects to invest approximately $450 million overall in this phase of its fleet renewal program.
PORT OF HAMILTON RECOGNIZED AS A BICYCLE FRIENDLY BUSINESS

The Hamilton Port Authority (HPA) was recently recognized by the Share the Road Coalition as a bicycle friendly business. The port received an honourable mention for its work to make cycling a viable option for staff, customers and visitors. HPA supports SoBi, Hamilton’s bike-sharing program, by providing storage space for bicycles and equipment.

HPA also sponsors a SoBi bike-sharing station where visitors to the neighbourhood can consult a signpost with directions to the Arts & Science Brewery, Bayfront Park, HMCS Haida and other area destinations.

The port encourages active transportation among staff by providing access to SoBi passes, as well as onsite parking for bicycles at its James St. office.

SPOTLIGHT ON PARTNERS

ALGOMA OPTS FOR WÄRTSILÄ FRESHWATER SCRUBBERS ABOARD EQUINOX VESSELS

Algoma Corporation has awarded Wärtsilä the contract to supply freshwater integrated scrubbers for a series of six new vessels being constructed to transport bulk commodities on the Great Lakes and St. Lawrence Seaway, with the option to buy another two. The scrubber units have been proven to remove 97% of sulphur oxide emissions generated by vessel engines. The scrubber concept works with fresh water recirculating in a closed-loop system and meet all International Maritime Organization (IMO) requirements for air emissions and treated effluent discharges. Sulphur oxides are washed out of the exhaust then neutralized, and sludge is removed to port reception facilities. One major advantage of fresh water scrubbers is the possibility to operate in zero discharge mode if necessary.

CHRISTMAS LASTING FOR TECHSOL MARINE CARDS

Techsol Marine has found an original way to preserve trees and demonstrate its support for the Green Marine program. The company has opted to send ecards rather than traditional cardboard holiday greeting cards to all of its clients and partners. The company has also donated the $500 in paper savings to Green Marine. Thank you, Techsol Marine, and happy holidays!
**SHIPOWNERS**
- Algoma Central Corporation
- Atlantic Towing Limited
- BC Ferries
- Canada Steamship Lines
- Canfornav
- Cogema
- Croisières AML
- CSL Americas
- CSL Australia
- CSL Europe
- CTMA Group
- Fednav Limited
- Desgagnés
- Lower Lakes Towing Limited
- Marine Atlantic Inc.
- McAsphalt Marine Transportation Ltd.
- McKeil Marine
- North Arm Transportation
- Ocean Group
- Oceanex
- Owen Sound Transportation Company
- Reformar
- Seaspan ULC
- SMIT
- Société des Traversiers du Québec
- SVITZER Canada
- TBS Ship Management Inc.

**GREEN MARINE | PARTICIPANTS**

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- Owen Sound Transportation Company
- Reformar
- Seaspan ULC
- SMIT
- Société des Traversiers du Québec
- SVITZER Canada
- TBS Ship Management Inc.

**PORTS & SEAWAY**
- Bécancour Waterfront Industrial Park
- Cleveland-Cuyahoga County Port Authority
- Duluth Seaway Port Authority
- Greater Victoria Harbour Authority
- Halifax Port Authority
- Hamilton Port Authority
- Illinois International Port District
- Montréal Port Authority
- Nanaimo Port Authority
- Oshawa Port Authority
- Port Everglades
- Port Metro Vancouver
- Port of Gulfport (Mississippi State Port Authority)
- Port of Hueneme (Oxnard Harbor District)
- Port of Indiana - Burns Harbor
- Port of Longview
- Port of Milwaukee
- Port of Monroe
- Port of New Orleans
- Port of Seattle
- Port of Valleyfield
- Port Alberni Port Authority
- Prince Rupert Port Authority
- Québec Port Authority
- Saint John Port Authority, NB
- Saguenay Port Authority
- Sept-Îles Port Authority
- St. John’s Port Authority, NL
- St. Lawrence Seaway Development Corp.
- St. Lawrence Seaway Management Corp.
- Thunder Bay Port Authority
- Toronto Port Authority
- Trois-Rivières Port Authority
- Windsor Port Authority

**TERMINALS & SHIPYARDS**
- BC Ferries
- Bunge of Canada
- Ceres Terminals Inc.
- Empire Stevedoring Company Limited (Montreal)
- Federal Marine Terminals
- Fraser Surrey Docks
- GCT Global Container Terminals Inc.
- Groupe Desgagnés (Relais Nordik Sept-Îles)
- IOC (Iron Ore Company, Sept-Îles)
- Logistec Corporation
- Marine Atlantic Inc.
- Maher Terminals Holding Corp.
- Marine Recycling Corporation
- McAsphalt Industries Limited
- Montreal Gateway Terminals Partnership
- Neptune Terminals
- Norcan Petroleum Group
- Northern Stevedoring
- Ocean Industries (shipyard)
- Pacific Coast Terminals
- Pinnacle Renewable Energy (Windsor Terminal)
- Portlier Express
- QSL
- Richardson International
- Ridley Terminals Inc.
- Rio Tinto Alcan (Port-Alfred)
- Seaspan ULC (shipyards)
- Squamish Terminals
- Sterling Marine Fuels (Windsor Terminal)
- Témont Montreal
- Tidal Coast Terminals Ltd.
- Valero (Jean-Gauvin Refinery)
- Valleytank
- Valport
- Westridge Terminal (Kinder Morgan Canada)
- Westshore Terminals
- Yellowline Asphalt Products Ltd.

**ASSOCIATIONS**
- American Association of Port Authorities
- American Great Lakes Ports Association
- American Society of Naval Engineers
- Association of Canadian Port Authorities
- BC Marine Terminal Operators Association
- Canadian Ferry Operators Association
- Canadian Marine Pilots Association
- Canadian Shipowners Association
- Chamber of Marine Commerce
- Chamber of Shipping of British Columbia
- Council of Marine Carriers
- International Ship-Owners Alliance of Canada
- North American Marine Environment Protection Association
- Ontario Marine Transportation Forum
- Shipping Federation of Canada
- St. Lawrence Economic Development Council
- St. Lawrence Shipoperators
- U.S. Great Lakes Shipping Association
- Washington Maritime Federation
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• Filtramax
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• InnovMarine Inc.
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• Marine and Offshore Canada
• Marine Clean Ltd.
• Moran Coastal & Ocean Resources, Inc.
• MSI3D
• OpDAQ Systems
• Pronova Systems Inc.
• RBM HoldSolutions
• RSC Bio Solutions
• Schneider Electric
• Scott’s Marine Interiors
• Seagulf Marine Industries Inc.
• S.I.G.E.I.M Inc.
• Technsol Marine
• Terragon Environmental Technologies
• Thordon Bearings Inc.
• Total Marine Solutions Inc.
• True North Marine
• Urgence Marine Inc.
• Usom Marine AB
• VapCor Inc.
• Vickers Oil
• Wärtsilä Canada

CLASS SOCIETIES, VERIFICATION & VETTING SERVICES
• American Bureau of Shipping
• DNV-GL
• Lloyd’s Register Marine North America
• Canadian International Bureau of Shipping
• Rightship Americas

SHIPPERS, LOGISTICS & SHIP MANAGERS
• Aluminaire Alouette
• K+S Windsor Salt Ltd.
• Quickload CEF
• VSHips Canada Inc.

PILOTAGE
• Atlantic Pilotage Authority
• Corporation des pilotes du St-Laurent Central
• Corporation of Lower St. Lawrence Pilots
• Great Lakes Pilotage Authority

GOVERNMENTS
• Environment Canada
• Fisheries and Oceans Canada
• Ministère de l’Énergie et des Ressources naturelles du Québec
• Ministère des Transports du Québec
• Ministère du Développement durable, de l’Environnement et de la Lutte aux Changements Climatiques du Québec
• Ministère des Forêts, de la Faune et des Parcs du Québec
• Ministry of Transportation of Ontario
• Puget Sound Clean Air Agency
• Transport Canada

MUNICIPALITIES
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• City of Bécancour
• City of Calixa-Lavallée
• City of Contrecoeur
• City of Longueuil
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• City of Montréal-Est
• City of Port-Cartier
• City of Québec
• City of Saint-Amable
• City of Sept-Îles
• City of Varennes
• Communauté métropolitaine de Québec
• Great Lakes and St. Lawrence Cities Initiative
• Marguerite-D’Youville MRC

ENVIRONMENTAL GROUPS AND NGOs
• Carbon War Room
• Ducks Unlimited Canada
• Georgia Strait Alliance
• Georgian Bay Forever
• International Secretariat for Water
• Les Amis de la vallée du Saint-Laurent
• Marine Mammals Observation Network (ROMM)
• Nature Conservancy of Canada
• Nature Québec
• One Drop
• Pacific Salmon Foundation
• Sedna Foundation
• Stratégies Saint-Laurent
• World Wildlife Fund Canada

RESEARCH, EDUCATION & CONSERVATION
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• Clear Seas
• CPEQ
• EcoMaris
• Great Lakes Maritime Research Institute
• INREST
• Northwest Community College
• Ocean Networks Canada
• PortTech Los Angeles
• Promotion Saguenay
• Seattle Aquarium
• Société de promotion économique de Rimouski
• St. Lawrence Global Observatory
• St. Lawrence River Institute of Environmental Sciences
• Technopole Maritime du Québec
• Vancouver Aquarium

ENERGY COMPANIES
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• Gaz Metro
• Pacific Northwest LNG
• Stolt LNGaz

ENGINEERING AND ENVIRONMENTAL CONSULTING
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• EcoLogix Group
• Envirochem
• Gallesten
• Groupe-Conseil Génipur inc.
• Hemmera
• Moffatt & Nichol
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• Roche
• SNC-Lavalin Environment
• Ventus Development Services Inc.
• WSP Canada

R&D, RESPONSE, TRAINING & COOPERATIVE
• Human Resources Sectorial Committee of the Maritime Industry (CSMOIM)
• Georgian College’s Great Lakes Interna
tional Marine Training Centre
• Marine Exchange of Puget Sound
• Maritime Innovation
• Western Canada Marine Response Corporation (WCMRC)