



**GREEN  
MARINE**

**2018**

**PERFORMANCE  
REPORT**

## CHAIRMAN'S ADDRESS



What a pleasure to chair Green Marine's board of directors this past year. Having served on the board since 2013, I am in constant awe of what the organization achieves through its small but diligent staff with the steadfast assistance of the membership on a volunteer basis. The amount of time, energy and information that so many of the members regularly give to the regional committees, working groups, and/or the annual GreenTech conference is impressive.

It has been my honour to chair the organization's board while this leading environmental certification program for North America's maritime industry is significantly expanding its reach, scope and efforts at a critical time for the planet's future.

Green Marine is bigger and better! The expanding membership has embraced a broader range of environmental priorities for measurable improvements, as well as more stringent criteria to achieve some of the same performance levels. There's no resting on our laurels at Green Marine!

The organization received 144 self-evaluation reports for 2018 – a 17% increase over the previous year. The 21 additional evaluations constitute the largest group of first-time reporting participants since the initial group did so when the program was established in 2007. It is gratifying to have Green Marine's certification program recognized by more and more enterprises as a challenging but feasible approach to improve sustainability through a step-by-step framework to address priority issues.

It's also great to see the number of U.S. ports in the program now at par with the Canadian number. While Canada took the lead with most of its port authorities signing up in quick succession, the steady addition of U.S. ports is further anchoring Green Marine's position as North America's premier environmental certification program. There is little doubt that the official collaboration that began in October 2013 with the American Association of Port Authorities (AAPA), an organization I also had the pleasure to chair this past year, has made a real difference in raising the number of participating U.S. ports from the initial five in Green Marine to the current 22 American ports.

The 2018 performance results are quite good in my view. The overall average for Green Marine's participating membership has dipped by less than a quarter of a point even with the expanded participation, new performance indicators, and tougher criteria to maintain some existing levels.

I encourage you to take a few moments to examine the performance results and the accompanying information. Substantial effort goes into boiling down a year's worth of initiatives by each of the participants so that we can present a relatively simple and straightforward progress report. It clearly shows the measurable improvements being made by our membership in advancing environmental excellence.

A handwritten signature in black ink, reading "William D. Friedman". The signature is written in a cursive style and is positioned above a horizontal line.

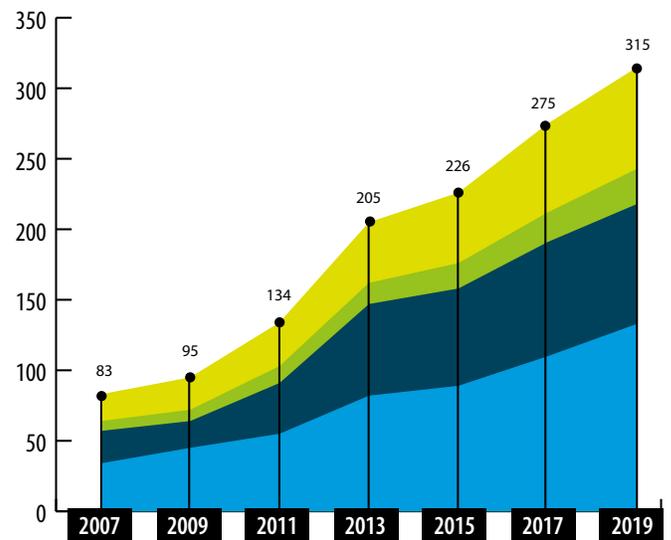
**William D. Friedman**

# INTERNATIONAL AND TECHNICAL COLLABORATIONS

In June 2018, Green Marine signed a memorandum of understanding with the Worldwide Network of Port Cities (AIVP) to combine efforts to promote the social acceptability of ports. The accord signed at the conclusion of AIVP's annual general meeting at the start of the organization's 16th world conference is serving as a framework for cooperation to encourage and improve port relations with communities.

The Society of Naval Architects and Marine Engineers (SNAME) became a new association member of Green Marine in March 2019 and signed an accord with Green Marine to further their common goals in fostering greater environmental sustainability in the maritime sector. The partnership will enhance the exchange of technical information between Green Marine and SNAME to further minimize the environmental impact of marine commerce.

MEMBERSHIP GROWTH



## PARTICIPANTS

Green Marine's **133 participants** are ship owners, port authorities, terminal operators, shipyard managers and the Seaway corporations that benchmark their annual environmental performance, have their results verified, and commit to transparency and continual improvement to earn their Green Marine certification



## PARTNERS

The **85 partners** are businesses that assist participants in improving their environmental performance through maritime-related expertise, technology, equipment and services.



## ASSOCIATIONS

The **25 association members** play a pivotal role as Green Marine's ambassadors, recommending the certification program to their respective memberships and making governments and other relevant stakeholders better aware of the organization and its progress.



## SUPPORTERS

Green Marine's **72 supporters** encourage and bolster the sustainable development initiatives undertaken by the maritime industry, most notably through Green Marine's three regional advisory committees. These supporters help to review and shape the environmental certification program as well as endorse it.

# STEADILY HIGHER PARTICIPATION

Green Marine is firmly established as the premier environmental certification program for the maritime industry in the United States and Canada. Membership has steadily grown, averaging more than 10% year on year since its founding 12 years ago. The program had 133 participants as of May 15, 2019, which is 14 more than last year. This year's 12% rise in the participating membership indicates a strong momentum fueled in good part by existing members recommending the program to others based on their measurable success with it.

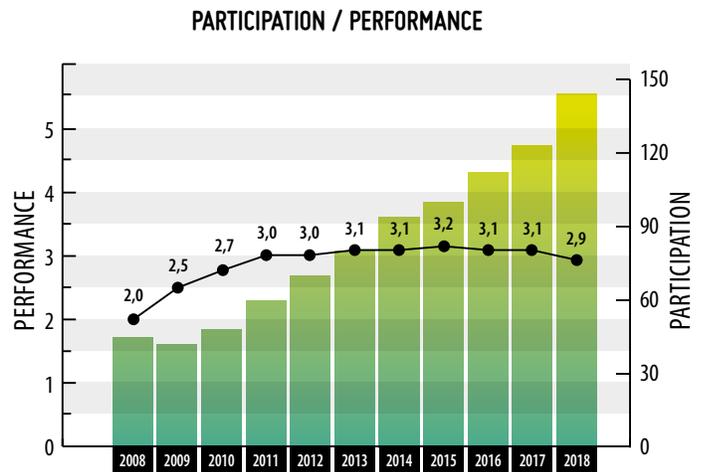
Some participating enterprises submit more than one report to assess the environmental performance of multiple terminal locations or sectors of their business. For example, some ferry companies submit a ship owner evaluation for their fleet and a shipyard evaluation for their maintenance and repair shop. It is for this reason that Green Marine currently has 133 participants but received 144 performance reports for 2018.

With the participating membership's significant growth and retention, a steady trend has been observed showing continual improvement by participants the longer they remain in the program. New participants generally start out at lower levels. Participants reporting for the first time in 2018 averaged 1.8. Most require some time to familiarize themselves with the detailed criteria for the various performance indicators, benchmark their sustainability efforts for their initial assessment, and then establish priorities for improvement. It takes additional time to put into place the necessary human resources, best management practices, outside expertise and frequently required new technology or equipment to achieve the program's higher levels.

Most of the companies that join Green Marine stick with the program long term as a feasible, flexible, yet continually challenging and truly accountable way to measure sustainability improvements. In fact, Green Marine has retained 85% of the founding membership that joined forces in 2007.

The fact that the overall average for 2018 held around the Level 3 mark is indicative of the program's rigour. It also reflects the challenge of maintaining a level and the expansion of the program's scope. All criteria regularly undergo reassessment to ensure that all levels are sufficiently demanding in relation to existing or imminent regulations, as well as the availability and feasibility of new technologies and/or best management practices. New performance indicators, such as the ones for underwater noise that became mandatory this past year, further challenge existing participants to continually improve their environmental sustainability.

The 2018 results indicate that the participants are continuing to rise to new challenges.



Green Marine received 144 self-evaluation reports for 2018 – a 17% increase over the previous year.

# NOTABLE PROGRESS IN THE FACE OF NEW CHALLENGES

Although the overall average for the 2018 reporting dipped to 2.9 from 3.1, it is interesting to note that all of the membership categories (i.e., ship owners, ports and Seaway authorities, terminal and shipyard operators) registered levels of improvement.

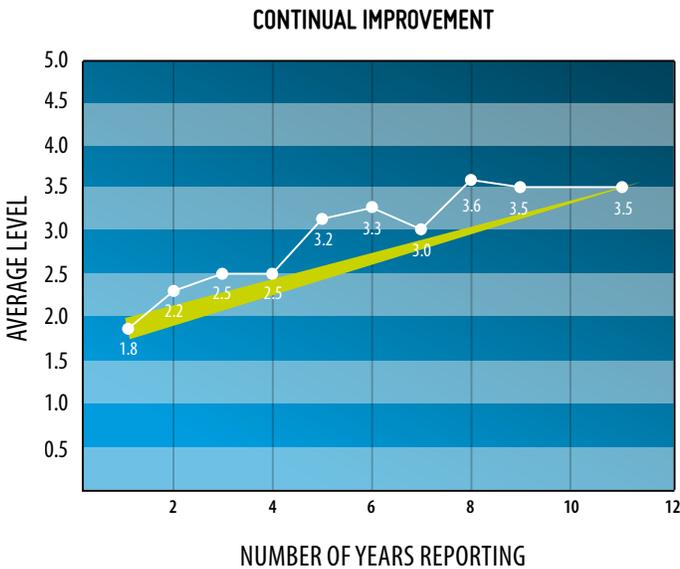
Green Marine's port and Seaway participants combined showed the greatest progress, moving up 38 levels.

Terminal operators and shipyard managers together improved an impressive 22 levels despite having the largest influx of newly reporting members (66 compared to 51 a year earlier).

Ship owners increased their overall performance by 17 levels, which is notable given that continued effort – specifically an annual inventory – is required to retain Level 3 for the greenhouse gases indicator.

The overall level improvements registered by all the different types of participants is a testimony to the real commitment by the membership to continually strive to do better while accepting greater challenges. A prime example is the underwater noise performance indicators that newly applied for 2018 reporting by ship owners and port authorities operating in salt water. Other challenges include modifications to the aquatic invasive species (AIS) indicator which now requires international vessel operators to install and use a ballast water treatment system ahead of U.S. or worldwide requirements to achieve Level 5.

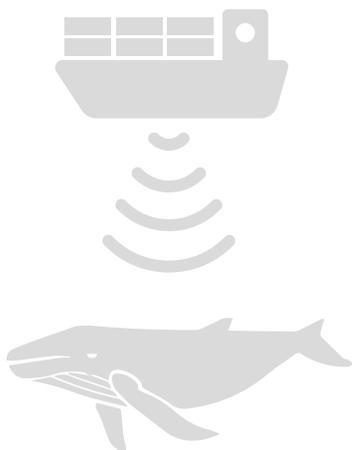
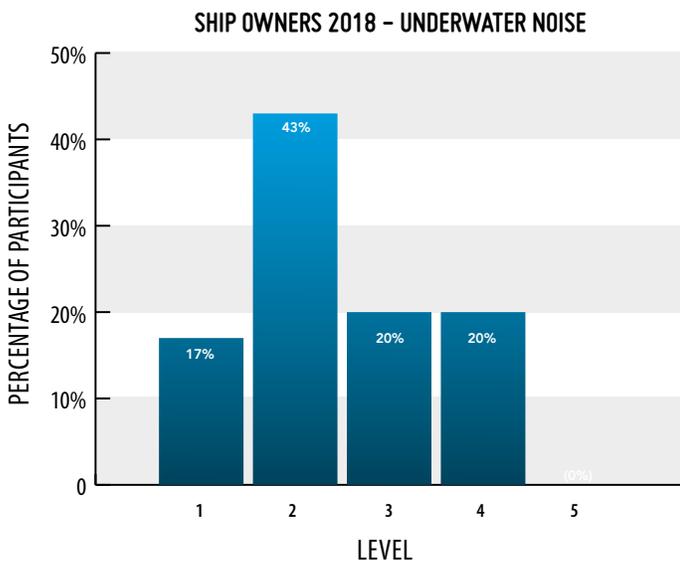
However, the spike in Level 5 results for the AIS performance indicator reflects the greater feasibility of ballast water treatment systems within the marketplace. Seven (7) of the 18 applicable ship owners achieved Level 5, which is a 39% proportion. Level 5 requires domestic ship owners to treat ballast water using a system on one or more of their vessels. International ship owners can achieve Level 5 by having established contingency measures, such as coordinated action plans with landside authorities if an onboard ballast water treatment system fails for some reason to achieve the regulated discharge standards. Green Marine's secretariat has noted the surge in this result and will review the existing criteria.



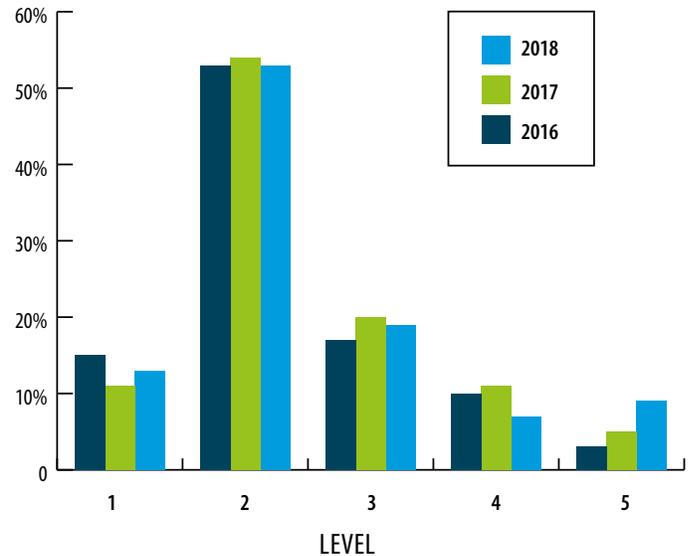
Longer term participants maintain higher levels within the program, even with the introduction of additional performance indicators and more stringent criteria to achieve existing levels.

## NEW INDICATORS FOR UNDERWATER NOISE

Green Marine has been a world leader in addressing underwater noise and its impacts on marine life: first with a comprehensive survey of the global research on this issue, and subsequently with new performance indicators regarding underwater noise. Participants were required for the first time to report on their efforts in addressing underwater noise for their 2018 evaluations. The indicators applied to ship owners and port authorities operating in salt water. Of the reporting ship owners, 60% were at Levels 1 and 2, and 40% were at Levels 3 and 4. A third of the reporting ports assessed their performance at Level 2 or higher. The higher levels require participants to monitor, quantify, collaborate and reduce underwater noise.



## WASTE MANAGEMENT PROGRESS



*The number of participants achieving Level 5 for the waste management performance indicator has steadily increased each year since its introduction in 2016.*

The progress made in terms of waste management is reflective of the kind of improvement achieved within a few years of a new performance indicator being added to the program. The 2018 reporting shows a year over year improvement by participants since they began evaluating waste management efforts three years ago. In fact, waste management recorded the highest number of improved levels for both the 2017 results (16 levels in all) and 2018 reporting (20 levels) – more than for any of the other performance indicators.

## GLOBAL OUTREACH AND RECOGNITION

Already the leading environmental certification program for North America's maritime industry, Green Marine is expanding its recognition by engaging in worldwide conversations about how to identify emerging issues, set realistic but demanding goals for environmental improvement, and benchmark progress.

Executive director David Bolduc was called upon in April 2018 to discuss the program's success at various prominent forums in Europe and Asia. His first stop was London, England, where he took part in the International Maritime Organization (IMO) Marine Environment Protection Committee (MEPC) 72nd session meeting. His next stop was Beijing, China, to discuss environmental port initiatives as part of the workshop session on the Green Ports Awards System organized during the intergovernmental economic forum of the Asia-Pacific Economic Cooperation summit. In October 2018, he spoke at the 43rd Annual Interferry Conference in Cancun, Mexico.

The United Nations invited Green Marine to attend the 19th Meeting of the Open-ended Informal Consultative Process on Oceans and the Law of the Sea and to present on the topic of anthropogenic underwater noise in June 2018 at the UN Headquarters in New York. At Transport Canada's suggestion, Green Marine and the Vancouver Fraser Port Authority had the honour of representing Canada in the discussions. Green Marine program manager Véronique Nolet presented the organization's environmental performance indicators for underwater noise in detail. She also related the methods used to rally various stakeholders towards the common goal of developing criteria for port administrators and ship owners to implement best practices and specific innovations to reduce their noise emissions in order to lessen the impact on marine mammals. In late January 2019, she took part in the Reducing Underwater Vessel Noise to Protect the Marine Environment workshop that was organized in collaboration with Transport Canada at the IMO's headquarters in London, England.

## ACKNOWLEDGED EXPERTISE

The expertise of Green Marine's staff is increasingly recognized and called upon by various organizations and communities. Dr. Eleanor Kirtley, who is Green Marine's West Coast and U.S. program manager, has served on the Washington Maritime Blue's steering committee and helped with the plans to establish a world-class sustainable maritime industry for Washington State by 2050. She also serves on Washington State's Board of Pilotage Commissioners and chairs SNAME's Technical and Research Environmental Committee.

East Coast and Great Lakes program manager Thomas Grégoire is involved in a project related to the 2016 Strategy for the Great Lakes-St. Lawrence River Maritime Transportation System whose objectives include doubling the region's marine commerce while reducing the network's footprint. He is helping with the Blue Accounting Maritime Transportation Project that is determining the data to best track progress towards key objectives.

As noted above, St. Lawrence program manager Véronique Nolet is frequently sought for her expertise regarding whales and other marine mammals, as well as the effects of underwater noise on marine life and habitat. She currently serves on the Canada-U.S. Independent Advisory Committee (IAC) for Right Whale Recovery. She has also collaborated extensively on Green Marine's behalf with the Marine Mammal Observation Network by training vessel captains and crews to identify whales so that the organization's databank has the latest possible numbers and locations when it comes to endangered whales and other marine mammals.

Repeating a productive approach first undertaken with the emerging issue of underwater noise, Green Marine recently completed a comprehensive study on ship biofouling for Transport Canada. Primarily based on a literature review, but also surveys and interviews with key stakeholders, the study presented the latest global science, voluntary initiatives and existing or imminent regulations on biofouling. The study also included the varying influencing factors and effects, current management strategies, and existing removal methods along with their efficacy.

# CONTINUAL PROGRAM REVISION

Other changes applicable to the 2018 reporting included tougher overall criteria for the dry bulk storage and handling performance indicator, while the community impacts indicator now requires the optimization of truck movements to achieve Level 4. Green Marine also reviewed the air emissions indicator related to SOx and particulate matter (PM) to recognize LNG and/or other exemplary technologies for the Level 5 category in preventing the creation and dispersal of PM.

Further requirements are under development for ship owners and landside participants. If adopted by the Green Marine board of directors after thorough consultation with the pertinent experts and relevant membership, they would be introduced in the 2020 program and become mandatory for 2021 reporting.

They include a potential new performance indicator for ship recycling for ship owners that would have a subset of criteria at every performance level for a ship owner recycling a vessel in any reporting year. The plan to have every ship owner set up and maintain a hazardous materials inventory as part of this indicator is intended to improve health, safety and the environment.

A new community relations indicator is planned for landside participants to assess their efforts to maintain and improve their interactions with community stakeholders through regular open and transparent dialogue.

# APPLICABLE ENVIRONMENTAL PERFORMANCE INDICATORS

PERFORMANCE INDICATORS	SHIP OWNERS	PORTS & SEAWAY	TERMINALS & SHIPYARDS
Aquatic invasive species			
Community impacts			
Dry bulk handling and storage			
Environmental leadership			
Garbage management			
Greenhouse gas emissions			
Oily water			
Pollutant air emissions NOx			
Pollutant air emissions SOx & PM			
Prevention of spills and leakages			
Underwater noise			
Waste management			

# FACTS & FIGURES

83%

The majority (83%) of ship owners required to report on underwater noise achieved Level 2, which included reviewing a list of sensitive areas in Canadian and U.S. waters to determine if their vessels transit or operate in these areas. If so, each vessel's captain and crew had to be made aware of these sensitive areas.



Most (83%) of Green Marine's participants are now averaging a Level 2 or higher performance.



Port membership is now 50% American and 50% Canadian.

30%

Almost a third (30%) of participating port members conducted the port-wide inventory required at Level 4 of the greenhouse gases (GHG) and air pollutants indicator. The inventory requires detailed information about GHGs (including CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O) and various air pollutants (including NO<sub>x</sub>, SO<sub>x</sub>, VOC and PM) emitted within the participant's entire area of jurisdiction within the previous five years.

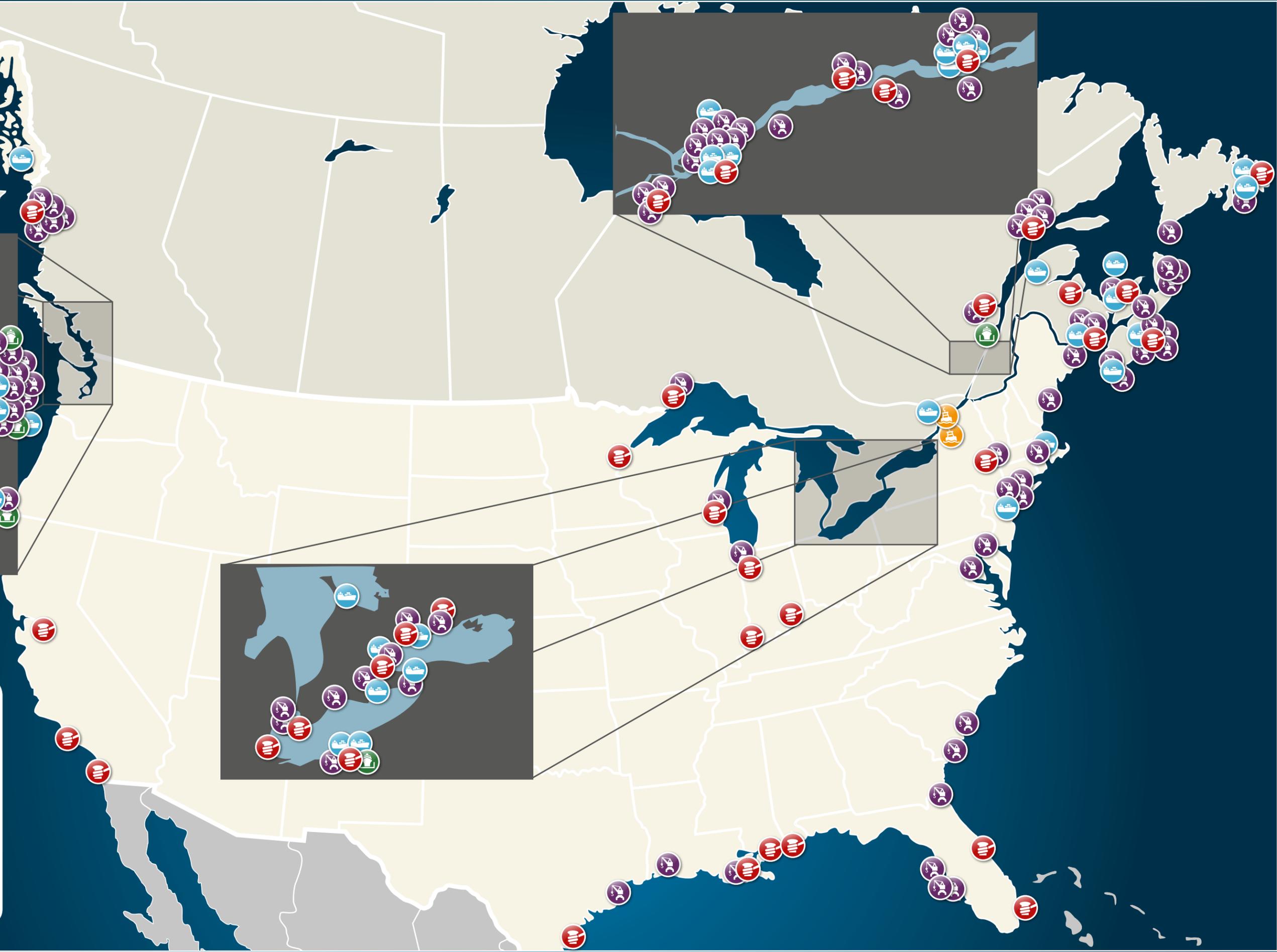
59%

More than half (59%) of all the ship owners completed the usually time-intensive process of carrying out their annual greenhouse gases (GHG) inventory to retain their Level 3 standing.



## THE PARTICIPANTS

	
SHIP OWNERS	PORTS
	
TERMINALS	SHIPYARDS
	
ST. LAWRENCE SEAWAY	

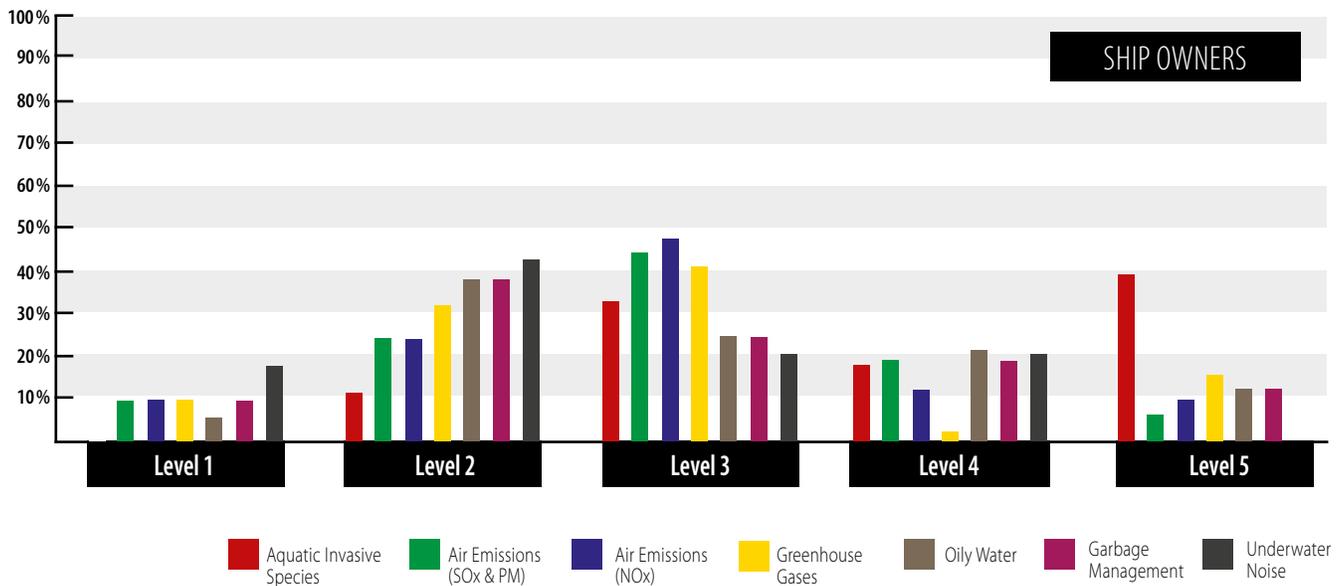
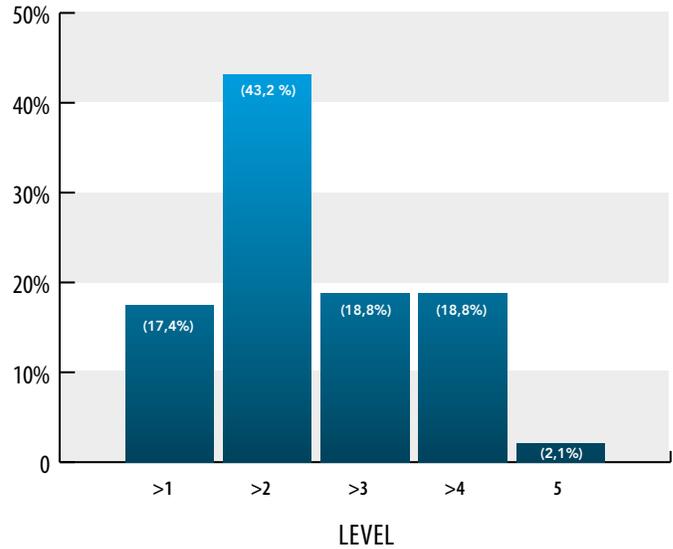


# PERFORMANCE BY LEVEL

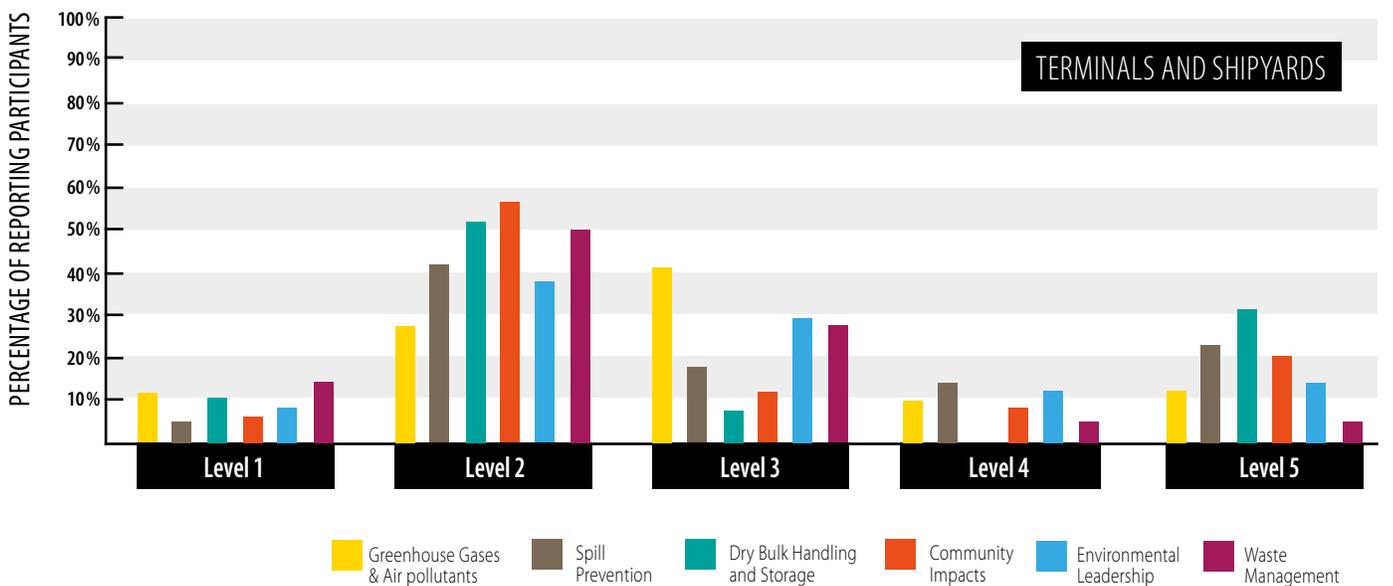
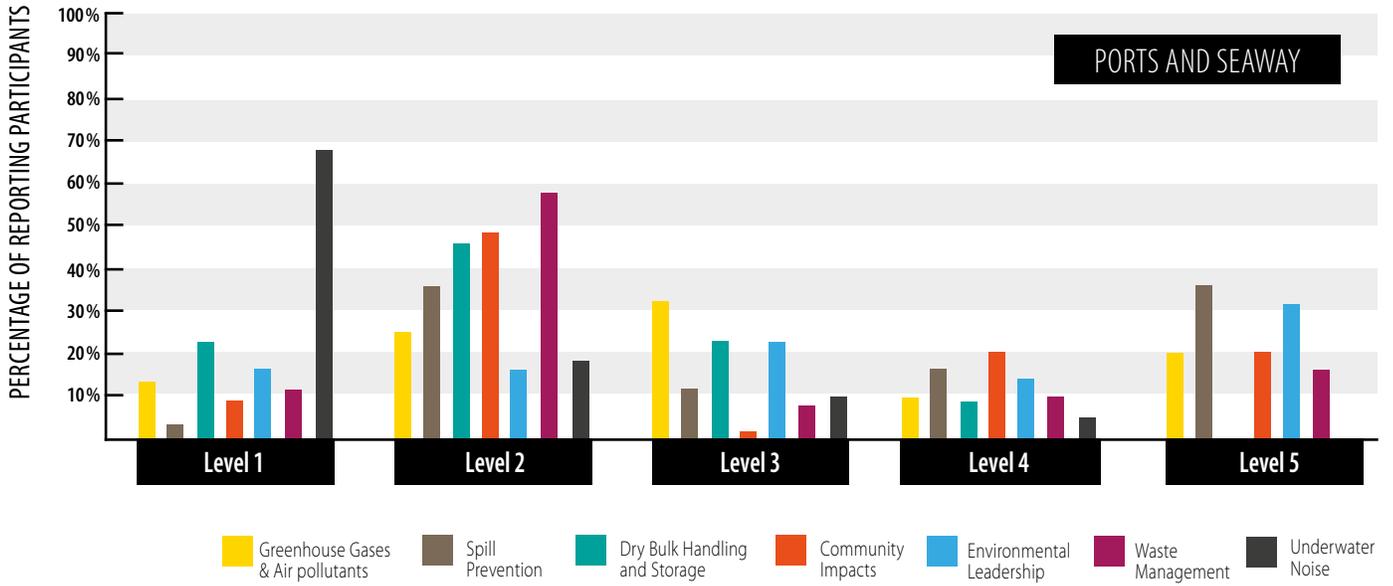
The 2018 results include the largest group of newly reporting participants since the program's 2007 inception. Even with this influx, 83% of the participating membership report an average of Level 2 or higher.

The following graphs illustrate the percentage of reporting participants at each of the program's five achievement levels for each of the 12 performance indicators based on the 2018 evaluations.

PERCENTAGE OF PARTICIPANTS WITH AN AVERAGE AT OR ABOVE LEVELS 1, 2, 3, 4 AND 5



All the graphs and statistics are based on the results submitted by participants as of May 15, 2019. Minor updates due to late verification confirmations will be made in the online version of the report after the GreenTech 2019 conference.



# 2018 RESULTS

1

Monitoring of regulations

2

Best practices

3

Integrated management systems and quantified impacts

4

New technologies and reduction targets

5

Excellence and leadership

SHIP OWNERS 	AQUATIC INVASIVE SPECIES	AIR EMISSIONS (SOX & PM)	AIR EMISSIONS (NOX)	GREENHOUSE GASES	OILY WATER	GARBAGE MANAGEMENT	UNDERWATER NOISE
Alaska Marine Highway System	n.a.	2	2	2	2	2	1
Algoma Central Corporation	4	4	4	5	5	4	4
Atlantic Towing Limited	5	3	5	5	3	4	3
Bay Ferries Limited*	n.a.	2	2	2	2	2	2
British Columbia Ferry Services Inc.	n.a.	3	3	3	3	2	3
Canada Steamship Lines	4	5	4	5	4	5	4
Canfornav Inc.	5	4	3	5	5	5	2
Croisières AML	3	3	3	3	3	2	3
CSL International	5	3	3	3	4	5	4
CTMA	2	3	3	2	2	3	3
Federal Fleet Services	3	2	2	2	2	3	1
Fednav Limited	5	4	5	3	4	4	3
Great Lakes Towing Company	n.a.	1	1	1	2	2	n.a.
Groupe Desgagnés Inc.	5	5	5	5	4	5	4
Guardian Ship Management Inc	3	3	3	3	3	3	1
Horizon Maritime	5	3	3	3	5	3	2
Interlake Steamship Company	4	2	2	2	2	2	n.a.
Laurentian Pilotage Authority	n.a.	2	2	2	2	2	2
Ledcor Resources and Transportation LP	n.a.	2	2	2	2	1	1
Lower Lakes Towing Ltd.	3	3	3	2	2	2	1
Marine Atlantic Inc.	n.a.	3	3	3	3	3	3
McAsphalt Marine Transportation Ltd.	5	3	3	3	3	3	2
McKeil Marine Limited (Cargo Carriers & Cruise Ships)	3	3	3	3	4	4	2
McKeil Marine Limited (Tugs and Ferries)	3	3	3	3	3	4	2
North Arm Transportation Ltd.	n.a.	3	3	2	4	3	2
Northumberland Ferries Limited*	n.a.	2	2	2	2	2	2
Ocean	n.a.	4	3	4	4	2	2
Oceanex Inc.	3	4	4	3	5	4	4
Owen Sound Transportation Company	n.a.	2	2	2	2	2	n.a.
Puget Sound Pilots	n.a.	1	1	1	1	1	2
Reformar	2	3	3	3	2	3	2
Saam Smit Canada	n.a.	3	3	3	2	2	2
Seaspan ULC	n.a.	4	4	3	3	4	4
Société des traversiers du Québec	n.a.	3	3	3	3	2	2
Washington State Ferries*	n.a.	1	1	1	1	1	2

n.a.: non applicable

\* New participant whose results have not yet been verified.

PORT AUTHORITIES 	GHG & AIR POLLUTANTS	SPILL PREVENTION	DRY BULK HANDLING AND STORAGE	COMMUNITY IMPACTS	ENVIRONMENTAL LEADERSHIP	WASTE MANAGEMENT	UNDERWATER NOISE
Alabama State Port Authority	3	2	2	2	2	2	n.a.
Bécancour Waterfront Industrial Park	4	2	n.a.	2	4	2	n.a.
Belledune Port Authority	1	2	1	1	1	1	1
Canaveral Port Authority	2	5	n.a.	2	2	2	2
Duluth Seaway Port Authority	3	5	4	4	5	2	n.a.
Greater Victoria Harbour Authority	3	5	n.a.	5	3	3	1
Halifax Port Authority	5	5	n.a.	4	5	5	1
Hamilton Port Authority	3	4	n.a.	4	4	3	n.a.
Montreal Port Authority	5	5	n.a.	5	5	4	n.a.
Nanaimo Port Authority	2	3	n.a.	2	3	2	1
Northwest Seaport Alliance	5	2	n.a.	2	4	2	1
Port Alberni Port Authority	2	2	n.a.	2	1	2	1
Port Charlottetown*	1	2	1	2	1	2	1
Port Everglades	5	5	n.a.	5	5	4	4
Port Milwaukee	3	2	n.a.	2	3	2	n.a.
Port of Albany	3	2	n.a.	2	3	2	n.a.
Port of Cleveland	3	5	n.a.	2	4	2	n.a.
Port of Corpus Christi	1	2	2	1	2	1	1
Port of Everett	1	3	2	2	2	2	1
Port of Gulfport	2	3	3	2	2	2	1
Port of Hueneme	3	5	n.a.	5	5	5	2
Port of Indiana - Burns Harbor	2	4	n.a.	3	2	2	n.a.
Port of Indiana - Jeffersonville	1	2	1	1	1	1	n.a.
Port of Indiana - Mount Vernon	2	2	n.a.	2	1	1	n.a.
Port of Monroe	2	2	2	2	2	2	n.a.
Port of New Orleans	2	4	n.a.	2	5	2	n.a.
Port of Olympia	1	4	2	1	1	1	1
Port of San Diego	5	5	n.a.	5	5	5	1
Port of Seattle	5	4	n.a.	4	5	5	2
Port of Stockton	2	5	3	2	1	2	n.a.
Port of Valleyfield	3	2	n.a.	2	3	2	n.a.
PortsToronto	4	2	2	2	4	2	n.a.
Prince Rupert Port Authority	4	5	n.a.	5	5	4	3
Quebec Port Authority	5	5	n.a.	5	5	5	n.a.
Saguenay Port Authority	3	5	n.a.	4	3	2	2
Saint John Port Authority, NB	3	4	n.a.	2	3	5	1
Sept-Îles Port Authority	3	3	3	4	5	2	1
St. John's Port Authority, NL	3	3	n.a.	4	3	2	1
Thunder Bay Port Authority	3	2	n.a.	2	3	2	n.a.
Trois-Rivières Port Authority	3	4	n.a.	2	4	2	n.a.
Vancouver Fraser Port Authority	5	5	n.a.	5	5	3	3
Windsor Port Authority	2	2	n.a.	4	3	2	n.a.

n.a.: non applicable

\* New participant whose results have not yet been verified.

TERMINALS AND STEVEDORING COMPANIES 	GHG AND AIR POLLUTANTS	SPILL PREVENTION	DRY BULK HANDLING AND STORAGE	COMMUNITY IMPACTS	ENVIRONMENTAL LEADERSHIP	WASTE MANAGEMENT
ABC Recycling Ltd.	2	2	n.a.	2	2	2
Bay Ferries Limited*	2	2	n.a.	2	2	2
British Columbia Ferry Services Inc.	2	3	n.a.	2	3	2
Ceres Terminals Inc.	3	5	n.a.	3	4	3
DP World Prince Rupert Inc.	4	5	n.a.	2	4	3
Empire Stevedoring Co. Ltd. (Montreal)	3	3	n.a.	4	2	2
Federal Marine Terminals Inc. (Burns Harbor, Cleveland, Hamilton, Milwaukee, Thorold, Albany, Eastport, Port Manatee, Tampa, Lake Charles)	5	4	5	4	3	3
Fraser Surrey Docks	5	4	5	4	4	2
G3 Canada Limited (Quebec)	3	2	2	2	3	2
G3 Canada Limited (Trois-Rivières)	3	4	3	2	3	2
GCT Global Container Terminals Inc. (GCT Bayonne, GCT Deltaport, GCT New York, GCT Vanterm)	5	5	n.a.	5	5	4
Glencore (Quebec)	3	5	5	5	5	3
Groupe Desgagnés Inc. (Relais Nordik, Sept-Îles)	3	3	n.a.	2	2	3
Groupe Somavrac – Porlier Express (Sept-Îles)	3	3	n.a.	2	3	2
Groupe Somavrac – Servitank inc. (Bécancour)	1	2	n.a.	2	2	2
Halterm Container Terminal Limited	4	5	n.a.	2	3	2
Iron Ore Company of Canada	3	4	5	5	5	3
Kildair Service ULC	2	2	n.a.	2	2	2
Logistec Corporation Canada (Montreal, Contrecoeur, Halifax, Saint John, Trois-Rivières, Rideau Bulk, Sept-Îles, Thunder Bay, Toronto)	3	2	3	2	2	2
Logistec USA Inc. (Balterm, Brunswick, Crossglobe, Port Manatee)	3	4	n.a.	2	1	1
Marine Atlantic Inc.	3	3	n.a.	5	4	3
McAsphalt Industries Ltd. (Eastern Passage, Valleyfield, Oshawa, Hamilton, Port Stanley)	2	4	n.a.	4	3	3
Montreal Gateway Terminals Partnership	5	4	n.a.	5	5	3
Neptune Bulk Terminals (Canada) Ltd.	5	5	5	5	5	4
New Orleans Terminal LLC	2	5	n.a.	2	3	2
Norcan Petroleum Group Inc.	3	3	n.a.	2	3	2
Northumberland Ferries Limited*	2	2	n.a.	2	2	2
Pacific Coast Terminals Co. Ltd.	3	4	5	5	5	3
Pinnacle Renewable Energy Inc.	3	3	3	3	2	2
QSL - Anse au Foulon	3	2	2	2	3	3
QSL - Baie Comeau	2	2	2	2	2	2
QSL - Bas St-Laurent (Matane, Rimouski, Cacouna)	2	2	2	2	2	2
QSL - Beauport	3	2	2	2	3	3
QSL - Bécancour	3	2	2	2	3	1
QSL - Belledune	1	2	2	2	2	2
QSL - Côte Ste-Catherine	2	2	2	2	2	1
QSL - Grande-Anse	3	2	2	2	3	2
QSL - Hamilton	1	2	2	2	2	1
QSL - Oshawa	2	2	1	2	2	2
QSL - Sept-Îles	3	2	2	2	2	2
QSL - Sorel-Tracy	2	1	2	2	2	2
Ridley Terminals Inc.	5	5	5	5	5	4
Rio Tinto (Port Alfred)	5	5	5	5	5	5
Squamish Terminals Ltd (Member of The Western Group)	4	3	n.a.	5	4	3
Sterling Fuels Limited	3	5	n.a.	3	4	3
Termont Montréal Inc.	2	2	n.a.	2	2	2
Tidal Coast Terminals Ltd.	3	2	2	3	2	2
Trans Mountain Canada (Westridge terminal)	3	3	n.a.	3	4	3
Tymac Launch Service Ltd.	3	2	n.a.	2	2	3
Valero Energy Inc. (Jean-Gaulin Refinery)	4	5	n.a.	5	5	5

n.a.: non applicable

\* New participant whose results have not yet been verified.

Terminals table continues on the next page.

TERMINALS AND STEVEDORING COMPANIES 	GHG AND AIR POLLUTANTS	SPILL PREVENTION	DRY BULK HANDLING AND STORAGE	COMMUNITY IMPACTS	ENVIRONMENTAL LEADERSHIP	WASTE MANAGEMENT
Valero Energy Inc. (Montreal East)	3	2	n.a.	2	3	3
Valleytank Inc.	3	5	n.a.	2	2	2
Valport Maritime Services	3	2	2	2	2	2
Washington State Ferries*	2	1	n.a.	1	1	1
Waterfront Petroleum Terminal Company	2	3	1	2	3	2
Waterson Terminal Services LLC	1	2	1	2	2	1
West Coast Reduction Ltd.	4	5	n.a.	3	2	2
Western Stevedoring Co. Ltd. (Lynnterm)	1	2	n.a.	2	3	2
Westshore Terminals Ltd.	3	2	2	5	2	2
Yellowline Asphalt Products Limited	2	5	n.a.	5	2	2

n.a.: non applicable

\* New participant whose results have not yet been verified.

SAINT LAWRENCE SEAWAY 	GHG AND AIR POLLUTANTS	SPILL PREVENTION	COMMUNITY IMPACTS	ENVIRONMENTAL LEADERSHIP	WASTE MANAGEMENT
Saint Lawrence Seaway Development Corporation / St. Lawrence Seaway Management Corporation †	4,1	5,0	4,1	5,0	4,1

† Each Seaway corporation filed an individual evaluation to Green Marine and had its results separately verified, but they both opted to publish their results jointly to reflect their allied efforts in achieving environmental excellence. The published results are the weighted average of the individual results based on the number of locks managed by each Seaway corporation.

SHIPYARDS 	GHG AND AIR POLLUTANTS	SPILL PREVENTION	COMMUNITY IMPACTS	ENVIRONMENTAL LEADERSHIP	WASTE MANAGEMENT
British Columbia Ferry Services Inc.	2	3	2	3	2
Great Lakes Shipyard	1	2	1	1	2
Motive Power Marine	1	2	1	1	1
Ocean Industries Inc.	3	2	2	3	2
Seaspan Shipyards and Terminals	4	4	4	4	5
Washington State Ferries*	2	1	1	1	1

\* New participant whose results have not yet been verified.

## INTERPRETATION NOTES

The term n.a. (not applicable) appears several times in the report's tables because the environmental issues addressed by the program do not necessarily apply to all participants. For example, most tugs and ferries do not discharge ballast water.

An n.a. denotation could also refer to a situation in which a participant does not have full control over the operations on its premises. For example, a port cannot apply the Green Marine criteria where a terminal operator is in charge of facilities. Most port authorities oversee the leasing of port property and do not themselves operate terminals.

The published results indicate each participant's self-reported and verified performance within the Green Marine program's indicators. While the program's self-evaluation is comprehensive, it is not an exhaustive assessment of all environmental matters related to a participant's maritime operations. Green Marine has not itself evaluated the environmental performance of the participating enterprises. Each participant is required to submit all of the documentation for the performance level claimed for each indicator to an external verifier every two years for verification.

# GREEN MARINE IS CARBON NEUTRAL!

Since 2014 Green Marine has offset carbon emissions from its annual GreenTech conference. Last year, Green Marine took this environmental initiative a big step further...

With the help of Planetair, Green Marine undertook to calculate and offset the greenhouse gas (GHG) emissions generated by land or air travel by all of its employees to get to work or during business trips in 2018, as well as the energy consumption of its premises. Green Marine purchased carbon credits equivalent to last year's footprint of 33 tonnes of CO<sub>2</sub>.

These Gold Standard carbon credits are the best available in the current marketplace and were sponsored by the David Suzuki Foundation and the World Wildlife Fund (WWF-Canada). They are used to finance urban and semi-urban reforestation projects in the Province of Quebec, as well as projects involving renewable energy, energy efficiency, residual materials management, reforestation, improved agricultural production and access to renewable energy and drinking water that are changing the lives of communities all over the planet.

Green Marine chose these credits because there currently is no standard gold project associated with the marine or ocean environment. These forestry credits stem from the first and only Gold Standard approved project in North America.

Gold Standard certification develops projects in countries that are not signatories to the Kyoto Protocol and ensures that these credits are: real, measurable, unique, verified by an independent third party, permanent and additional. The duration of projects ranges from seven to 10 years for energy efficiency or technology transfers and run 50 years for reforestation initiatives.



# A REJUVENATED WEBSITE!

Green Marine has redesigned its website to better illustrate the specific criteria for every level of each performance indicator by type of participant.

- Shipowners
- Ports and seaway
- Terminals and shipyards



AQUATIC INVASIVE SPECIES



CARGO RESIDUES



COMMUNITY IMPACTS



DRY BULK HANDLING AND STORAGE



ENVIRONMENTAL LEADERSHIP



GARBAGE AND WASTE MANAGEMENT



GREENHOUSE GAS EMISSIONS



OILY WATER



POLLUTANT AIR EMISSIONS NOX



POLLUTANT AIR EMISSIONS SOX & PM



PREVENTION OF SPILLS AND LEAKAGES



UNDERWATER NOISE

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