REPORT ON THE PROGRESS MADE BY PARTICIPANTS OF THE GREEN MARINE ENVIRONMENTAL PROGRAM 2008-2009
A MESSAGE FROM GREEN MARINE’S CO-CHAIRS

As the co-chairs of Green Marine, it is with great pleasure that we present this overview of Green Marine’s first year of operations, as well as the first global results of the companies that are participants of the Environmental Program of the St. Lawrence and Great Lakes Maritime Industry.

Since its launch in October 2007, Green Marine has worked very hard to attain the many objectives that it established during its first year of existence. Today, we are pleased to report that Green Marine has met the challenges that it set for itself.

In just over a year’s time, we have succeeded in mobilizing more than fifty percent of the St. Lawrence / Great Lakes maritime industry. At last count, Green Marine’s membership numbered 45 participants, 19 partners and 23 supporters. In February 2008, we held the first Green Tech conference on environmental technologies for marine transportation, which proved to be a resounding success. We also distributed copies of the Environmental Program and the accompanying self-evaluation guide to shipowners, ports and terminals, and provided participants with assistance in completing their first self-evaluations (which had to be returned to the Green Marine Secretariat by April 1, 2009).

During the second edition of the Green Tech conference, we presented the first cohort of the Environmental Program’s participants with their official certifications, and shared the first global results of their environmental performance with the public. A commitment to transparency has been a hallmark of the Green Marine initiative since its earliest days, and we intend to maintain this commitment by publicly sharing our results and processes on an ongoing basis. Towards that end, the information presented in this report includes the global averages that participants have attained for each of the issues targeted by the Environmental Program.

This first evaluation process clearly shows that the St. Lawrence – Great Lakes maritime goes beyond regulatory compliance when it comes to environmental matters and is ready to pursue objectives that are even more demanding than the stringent regulations that already govern the industry. The results generated from these evaluations will serve an excellent starting point for measuring Green Marine’s success over the coming years, by quantifying the industry’s environmental performance with respect to the priority issues it faces.

The environment has been at the heart of the marine industry’s preoccupations for a number of years. Although it is now a well-known fact that marine is the most environmentally friendly of all the transportation modes, we cannot afford to simply rest on our laurels in this respect. If we are to remain a leader on environmental matters, particularly in the current economic context, we must intensify our efforts to remain competitive and to continue forging this path towards the sustainable development of the marine industry.

We encourage you to read this Annual Report in its entirety. Among the information that you will find within its pages is a presentation of Green Marine and its Environmental Program, a summary of Green Marine’s past and future actions, and a list of Green Marine participants, partners and supporters.

Before concluding, we take this opportunity to remind you of the importance of the Green Marine initiative. Much more than a statement of principles, Green Marine represents a significant and
ambitious step forward for our industry – a step characterized by a voluntary commitment to strengthening our environmental performance by moving beyond regulatory compliance and towards excellence and leadership.

We trust that you will find this report interesting and invite you to follow Green Marine’s evolution via its website at www.Green-Marine.org.

Green Marine’s Co-Chairs

**Gerry Carter**  
The CSL Group

**Terry Johnson**  
Saint Lawrence Seaway Development Corporation

**Laurence Pathy**  
Fednav Limited
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For the first time in North America, the different players who make up the St. Lawrence – Great Lakes maritime industry have come together voluntarily under the aegis of Green Marine, with a view to strengthening their environmental performance throughout a major maritime corridor in both Canada and the U.S.

Green Marine is the St. Lawrence-Great Lakes maritime industry’s partner for a sustainable future in both Canada and the U.S. Its primary objective is to strengthen the industry’s environmental performance through a process of continuous improvement.

The cornerstone of the Green Marine initiative is the Environmental Program of the St. Lawrence and Great Lakes Maritime Industry. Companies participating in this program evaluate their performance with respect to the six priority environmental issues listed below, on a scale that ranges from regulatory compliance to excellence in their practices.

**PRIORITY ENVIRONMENTAL ISSUES**

1. **AQUATIC INVASIVE SPECIES**
   Reduce the risk of introducing and propagating aquatic organisms and dangerous pathogens via ships’ ballast water.

2. **AIR EMISSIONS**
   Reduce emissions of sulphur oxide (SOx) and of nitrogen oxide (NOx).

3. **GREENHOUSE GASES**
   Reduce emissions of greenhouse gases (GHGs).

4. **CARGO RESIDUES**
   Reduce discharges of cargo residues.

5. **OILY WATERS**
   Reduce the risk of discharging oily waters.

6. **CONFLICTS OF USE FOR PORT AND TERMINALS**
   Reduce the levels of noise, dust, odours and light to which individuals residing close to port installations are exposed.

Other issues will be added in the coming years, with a view to reducing the industry’s environmental footprint even further.
EVALUATION AND CERTIFICATION PROCESS

Every year, participants use a self-evaluation guide to assess their environmental performance with respect to these issues, and provide a summary of their results to the Green Marine Coordinator. As of their second year in the program, participants must have their evaluations audited by a third party, with the results published in Green Marine’s Annual Report. As part of its commitment to transparency, Green Marine’s objective over the coming years is to publish the global results of the environmental performance of each of its members.

During the first year, participants of the Environmental Program receive a logo indicating that their certification is “in progress.” This will be replaced with a “certified” logo during the second year. These logos are important tools for enabling participants to publicize their involvement in the Green Marine initiative.

In addition, all Green Marine participants receive an annual certificate attesting to their participation in the Environmental Program. The certificates are presented during the annual Green Tech conference on green technologies for the maritime industry.

ACTION PLANS

Each of the priority environmental issues covered by the Environmental Program is subject to an action plan that comprises both collective and corporate actions.

COLLECTIVE ACTIONS

These are orientations and positions that impact the industry as a whole and generally require government participation. Such actions are carried out by the associations that represent the St. Lawrence and Great Lakes maritime industry.

CORPORATE ACTIONS

Green Marine requires participants to adopt practices and technologies that will have a direct impact on the ground. Participants’ progress is evaluated with the help of performance indicators, each of which is defined on a scale ranging from one to five, as per the criteria below:

PERFORMANCE INDICATOR

<table>
<thead>
<tr>
<th>LEVELS</th>
<th>PRIORITY ENVIRONMENTAL CRITERIAS</th>
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<tbody>
<tr>
<td>1</td>
<td>Compliance with applicable regulations and adherence to Green Marine’s guiding principles</td>
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<tr>
<td>2</td>
<td>Systematic use of a specific number of best practices</td>
</tr>
<tr>
<td>3</td>
<td>Integration of best practices into an adopted management plan and specific understanding of the issue’s impact</td>
</tr>
<tr>
<td>4</td>
<td>Introduction of new technologies</td>
</tr>
<tr>
<td>5</td>
<td>Excellence and leadership</td>
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</tbody>
</table>
Only one level can be chosen for each indicator. In addition, a given level cannot be attained unless all of the criteria associated with the preceding level has have been attained. Although Green Marine recognizes the potential for a certain amount of subjectivity in how participants evaluate their environmental performance during their first year, (given that they are not yet subject to an external audit process), this will cease to be an issue as of their second year of participation when their self-evaluations will have to undergo external verification.

The Environmental Program is designed to encourage participants to go further than regulatory compliance (which is level 1 of the performance indicators) and to strive for level 5, which represents excellence and leadership. Indeed, the program is designed to instill a process of continuous improvement, with the majority of participants attaining level 3 (integration of best practices into an adopted management plan and quantifiable understanding of environmental impact) two years after joining the program.

**TRAINING, R&D AND ENVIRONMENTAL MANAGEMENT SYSTEMS**

As part of the Environmental Program’s philosophy of continuous improvement, participants commit to implementing an internal training process and to actively supporting research and technological innovation with respect to environmental matters. Green Marine also encourages and supports the adoption of environmental management systems by participants.

Each year, Green Marine organizes an environmental conference on green technologies for marine transportation (Green Tech for Shipping), which focuses in particular on environmental management, training and R&D. Given that these subjects are key elements of the Environmental Program, Green Marine encourages its members to actively participate in the conference and offers them a preferential registration fee towards that end.
Implementation of the Green Marine Environmental Program involves shipowners, ports, terminals, stevedoring companies, marine agents, shippers, suppliers, governments, cities and environmental groups, all with a common goal of ensuring the sustainable development of marine transportation.

**PARTICIPANTS**
Participants of the Environmental Program are companies working within the St. Lawrence and Great Lakes maritime industry in both Canada and the U.S. They include:

- Domestic and international shipowners
- Ports and terminals
- Stevedoring companies
- St. Lawrence Seaway

**THE CURRENT LIST OF PARTICIPANTS IS AS FOLLOWS:**

| 1. Algoma Central Corporation | 24. Porlier Express |
| 2. Bunge Canada | 25. Port of Milwaukee |
| 3. Canfornav | 26. Québec Port Authority |
| 4. Cleveland-Cuyahoga County Port Authority | 27. Reformar |
| 5. Cogema | 28. Rigel Shipping Canada |
| 6. CTMA Group | 29. Rio Tinto Alcan |
| 7. Duluth Seaway Port Authority | 30. Saguenay Port Authority |
| 8. Empire Stevedoring Company Limited | 31. Saint Lawrence Seaway Development Corporation |
| 10. Fednav Limited | 33. Sept-Iles Port Authority |
| 11. Groupe Desgagnés | 34. Société des Traversiers du Québec |
| 12. Hamilton Port Authority | 35. Société du parc industriel et portuaire de Bécancour |
| 13. Illinois International Port District | 36. Société du port de Valleyfield |
| 14. IMTT-Québec | 37. The CSL Group |
| 15. Les Élévateurs de Trois-Rivières | 38. The St. Lawrence Seaway Management Corporation |
| 16. Logistec Corporation | 39. Thunder Bay Port Authority |
| 17. Lower Lakes Towing Limited | 40. Toledo-Lucas County Port Authority |
| 18. McKeil Marine | 41. Toronto Port Authority |
| 19. Montreal Gateway Terminals Partnership | 42. Trois-Rivières Port Authority |
| 20. Montréal Port Authority | 43. Ultramar |
| 21. Ocean Group | 44. Upper Lakes Group |
| 22. Oceanex | 45. Windsor Port Authority |
| 23. Oshawa Harbour Commission |
PARTNERS
Partners of the Environmental Program are companies or associations with a link to the marine sector which are not eligible to be participants, but which nevertheless wish to promote the Green Marine initiative.

THE CURRENT LIST OF PARTNERS IS AS FOLLOWS:

1. Answer North America
2. Bell Marine & Mill Supply
3. Corporation des pilotes du Saint-Laurent Central
4. Dessau-Soprin inc.
5. EcologiQ
6. Georgian College’s Great Lakes International Marine Training Centre
7. Germanisher Lloyd
8. Human Resources Sectorial Committee of the Maritime Industry
9. Innovation maritime
10. Langlois Kronström Desjardins
11. L.D. Technologies Inc
12. Lloyd’s Register North America
13. Marine and Offshore Canada
14. Marine Clean Ltd.
15. McAsphalt Industries Limited
17. Star Brite inc.
18. Wärtsilä Canada

SUPPORTERS
Supporters are organizations which support the Green Marine either symbolically or through their services (examples include governments, municipalities and environmental groups).

THE CURRENT LIST OF SUPPORTERS IS AS FOLLOWS:

Governments
1. Ministère des Ressources naturelles et de la Faune du Québec
2. Ministère des Transports du Québec
3. Ministère du Dév. durable, de l’Environnement et des Parcs du Québec
4. Transport Canada
5. Environment Canada
6. Ville de Matane
7. Ville de Port-Cartier
8. Ville de Québec
9. Ville de Sept-Îles
10. Milwaukee City

Environmental organizations
1. Comité ZIP Les Deux Rives
2. Comité ZIP du Lac Saint-Pierre
3. Comité ZIP Saguenay
4. Comité ZIP Ville-Marie
5. Great Lakes United
6. Les Amis de la vallée du St-Laurent
7. Nature Québec

Municipalities
1. Board of Harbor Commissioners de la ville de Milwaukee
2. Communauté métropolitaine de Québec
3. Promotion Saguenay
4. Société de promotion économique de Rimouski
5. Ville de Bécancour

Green Marine’s guiding principles reflect the marine industry’s commitment to going beyond regulatory compliance and doing even more for the environment.

The Green Marine initiative is aimed at achieving a concrete and measurable improvement in the environmental performance of the St. Lawrence – Great Lakes maritime industry. Towards that end, Green Marine has adopted the following set of guiding principles which all participants have committed themselves to pursuing:

- Demonstrate corporate leadership in the development and identification of best environmental practices (from a sustainable development perspective);
- Engage in responsible activities designed to minimize environmental impacts;
- Continuously improve environmental performance;
- Develop and promote voluntary protection measures;
- Integrate sustainable development practices that are technically and financially achievable;
- Collaborate with governments and citizens’ groups in implementing the Environmental Program;
- Actively participate in an integrated management approach for the St. Lawrence-Great Lakes maritime corridor, allowing for consultation with local, regional, national and international stakeholders.
GREEN MARINE MANAGEMENT CORPORATION
The Green Marine initiative is managed by the Green Marine Management Corporation (GMMC) comprises eight Canadian and U.S. associations which together represent close to 500 companies working in the maritime sector:

- American Great Lakes Ports Association
- Canadian Shipowners Association
- Chamber of Maritime Commerce
- Ontario Marine Forum
- Saint Lawrence Ship Operators
- Shipping Federation of Canada
- St. Lawrence Economic Development Council (SODES)
- United States Great Lakes Shipping Association

The Green Marine Management Association has appointed the St. Lawrence Economic Development Council (SODES) as the manager of Green’s Marine’s day to day operations. SODES’ specific tasks in this respect include implementing the Environmental Program, providing support to Green Marine members, coordinating Green Marine’s environmental and technical committees, engaging in communications activities, and managing Green Marine’s finances.

GOVERNANCE BOARD
Corporate leadership is one of Green Marine’s fundamental key element in its success. As such, Green Marine is headed by a Governance Board made up of the Presidents of companies which are participants of the Environmental Program. The Board includes Presidents of both Canadian and U.S. companies, thereby highlighting the bi-national nature of the Green Marine partnership. The Governance Board meets formally once every year, and its members have an opportunity to be actively involved in developing the Green Marine initiative, implementing the Environmental Program, and determining its strategic direction.

EXECUTIVE COMMITTEE
The Governance Board includes an Executive Committee composed of Green Marine’s three co-Chairs, as well as the heads of several companies that have been active in the Green Marine initiative since its inception.

ENVIRONMENT COMMITTEES
Green Marine was founded when the St. Lawrence and Great Lakes Environment Committees joined forces. These committees were created in 2005 with a view to identifying the marine industry’s priority environmental issues for the St. Lawrence and Great Lakes regions, and developing tools to enable the industry to improve its global environmental performance.
A diagram illustrating the structure of Green Marine can be found below.
Since its launch, Green Marine has become an authority on sustainable development for the St. Lawrence – Great Lakes maritime industry.

Green Marine has enjoyed a considerable amount of success in a relatively short period of time, including the successful recruitment of 45 participants, 19 partners and 23 partners. Following is a summary of some of Green Marine’s major activities and accomplishment over the last year and a half:

**OCTOBER 2007 – LAUNCH OF ENVIRONMENTAL PROGRAM**
The public launch of the Green Marine Environmental Program took place in Quebec City during the 2007 edition of Quebec Marine Day. The event was attended by more than 80 individuals, including numerous media representatives, many of the program’s participants and supporters, the three Green Marine co-chairs, and representatives from Transport Quebec and Environment Canada. The day also included a press conference to officially introduce the program – and its first cohort of participants and supporters – to the public.

**JANUARY 2008 – INCORPORATION OF GREEN MARINE**
Green Marine was formally incorporated under the name of the Green Marine Management Corporation, which comprises the seven associations that are responsible for managing the Green Marine initiative.

**JANVIER 2008 – MAY 2009 - COLLECTIVE ACTIONS**
Each issue targeted by the Environmental Program is accompanied by a series of actions to be carried out by the associations that make up the Green Marine Management Corporation (GMMC). These actions, which total 27, consist of orientations or positions that are of interest to the industry as a whole and may require governmental participation. Most of these actions are either non-quantifiable or continuous (e.g. promoting the implementation of specific programs or the ratification of international conventions). The GMMC associations undertook a variety of such actions throughout 2008, with a view to working towards the achievement of Green Marine’s objectives in concert with the concrete measures being implemented by the companies, ports and terminals that are participants of the Environmental Program.

**FEBRUARY 2008 – THE FIRST GREEN TECH FOR SHIPPING**
Green Marine’s first environmental conference on green technologies for marine transportation, entitled Green Tech for Shipping 2008, was a resounding success. Close to 120 participants attended the various sessions, and a survey conducted at the end of the conference indicated a high level of interest in making Green Tech an annual event. As a result, the second edition of Green Tech will be held in Toronto in May 2009.

**JUNE 2008 – SELF-EVALUATION GUIDE**
Green Marine developed two guides – one for shipowners and another for ports and terminals – to help participants of the Environmental Program complete their first self-evaluations. These guides, which were distributed last June, are designed to help participants identify the level that their company has attained with respect to each of the environmental issues with which they are involved.
JUNE 2008 – ONTARIO MARINE TRANSPORTATION FORUM
The Green Marine Management Corporation welcomed the Ontario Marine Transportation Forum as a member of its Board of Directors (thereby ensuring that the Green Marine initiative would be more widely publicized in Ontario).

SEPTEMBER 2008 – GREEN MARINE PARTNERS CATEGORY
Green Marine added a new “partners” category to its membership, comprising:

1. For profit organizations which do not operate ships, ports or terminals, but which have business links with the marine industry;

2. Not-for-profit organizations which have business relations with the marine industry or activities that are linked to sector.

Both types of partners engage to promote Green Marine to their clients and pay an annual membership fee that allows them to use Green Marine “partner” logo.

SEPTEMBER 2008 TO MARCH 2009 – INFORMATION SESSIONS
Green Marine organized several information sessions to help participants complete their self-evaluations. Five such meetings were held for ports and terminals (three in the Great Lakes and two in the St. Lawrence) and three for shipowners. Green Marine also held three follow-up meetings to answer questions arising from the self-evaluation process. A summary of all these meetings was subsequently sent to the program’s participants.

Information sessions for ports and terminals:
- September 10 (Great Lakes)
- September 24 (Great Lakes)
- October 8 (Great Lakes)
- December 5 (St. Lawrence)
- December 12 (St. Lawrence)

Information sessions for shipowners:
- November 19
- December 1
- December 15

Follow-up sessions:
- March 3-4-5 (information sessions for participants following their self-evaluations)

OCTOBER 2008 – QUEBEC MARINE DAY
Green Marine was once again a topic of discussion during the meetings with parliamentarians that took place during the 2008 edition of Quebec Marine Day. Those meetings served as a forum for providing elected officials with information on the benefits of marine transportation, and on the principles of Green Marine and its Environmental Program.
NOVEMBER 2008 – CONFERENCE IN MARSEILLE, FRANCE
Green Marine participated in an international conference on the ecological management of waste produced at sea, which was held in Marseille, France last November. The conference provided an opportunity to present the Green Marine Environmental Program, with particular focus on those aspects of the program that are linked to the management of on-board wastes such as oily water and cargo residues. The event also served as a vehicle for promoting Green Marine within the international marine community and establishing ties with other environmental initiatives and partnerships.

NOVEMBER 2008 – INTERNATIONAL MARITIME SYMPOSIUM
Another opportunity to present the Green Marine Environmental Program occurred at the International Maritime Symposium held in Halifax this past November. The symposium was organized by Transport Canada as part of the first Canadian edition of the International Maritime Organization’s World Maritime Day.

DECEMBER 2008 – GREAT LAKES INFORMATION NETWORK’S WEBSITE OF THE MONTH
In December 2008, Green Marine was selected as the website of the month by the Great Lakes Information Network (GLIN), which links hundreds of organizations serving the St. Lawrence - Great Lakes region. Every month, GLIN shines a spotlight on the website of one of its partner organizations, and establishes a web-based link that promotes a steady and reciprocal flow of information among stakeholders within the GLIN network. By virtue of being named December’s site of the month, the Green Marine website has benefitted from more hits and more recognition across the web.

JANUARY TO MAY 2009 – PROVIDING SUPPORT TO PARTICIPANTS
The Green Marine Secretariat provided participants with an extensive support in completing their first self-evaluations. This support took a variety of forms, including e-mail exchanges, telephone conversations and individual visits.

MARCH 2009 – PILOT PROJECT TO TEST EXTERNAL AUDIT PROCESS
Several Green Marine participants (namely, the Montreal Port Authority, the Hamilton Port Authority, Federal Marine Terminals, Fednav, and CSL Group) agreed to take part in a pilot project (which got underway on March 23, 2009), whereby they submitted their self-evaluations to a third party (Lloyd’s Register Quality Assurance) in order to verify their compliance with the standards required by Green Marine. This pilot project is designed to ensure the efficiency of the external audit process that all participants will have to follow as of the Environmental Program’s second year.

APRIL 2009 – AQUATIC INVASIVE SPECIES WORKSHOP
Green Marine was a presenter at the 60th International Conference on Aquatic Invasive Species (held in Montreal from April 20 to 23, 2009), where it discussed the Environmental Program as well as the performance indicator relating to aquatic invasive species.
APRIL 2009 – DEADLINE FOR FIRST SELF-EVALUATIONS
Participants of the Green Marine Environmental Program had until April 1, 2009 to provide the Green Marine coordinator with summaries of their self-evaluations of their environmental performance. Green Marine is pleased to announce that all participants have submitted their first self-evaluation reports.

MAY 2008 – PRESENTATION OF FIRST OFFICIAL CERTIFICATIONS
The first cohort of the Environmental Program’s participants received their official certifications during the second Green Tech conference in Toronto on May 20. Green Marine also profited from this occasion to publicly announce the first global results of the marine industry’s environmental performance with respect to the six environmental issues targeted by the program.
Regulation of the maritime industry has become increasingly stringent throughout the world, with new environmental standards coming into effect on a yearly basis. In order to remain a leader on environmental matters, the maritime industry is strengthening its environmental performance by going beyond regulatory compliance and embracing the continuous improvement principles of the Green Marine Environmental Program.

OBJECTIVES
Green Marine established a number of concrete objectives when it launched the Environmental Program in October 2007:

- Obtaining participation from the majority of relevant industry stakeholders;
- Validating the program’s performance indicators and identifying any necessary corrections;
- Obtaining an average global result equivalent to level 2.

Each of these objectives has been met. Since the program’s launch, the number of Green Marine participants has increased from 25 to 45. In addition, all participants have returned their self-evaluation reports.

ANALYSIS OF THE EVALUATION PROCESS
Given the level of specificity and detail found in the Green Marine Environmental Program, the program’s first year of implementation provided a valuable opportunity to evaluate the practicality and concrete applicability of the various measures contained therein. Thus, the first self-evaluation process served as both a means of validating the program’s quality and of identifying any necessary adjustments to its performance indicators. The latter is particularly important because it is essential that the performance indicators set forth a series of concrete, realistic and progressive measures that participants can implement in order to improve their environmental performance.

Now that the first self-evaluation period is over, we can report that participants found the vast majority of criteria related to the performance indicators to be relevant and easy to understand. Nevertheless (and not unexpectedly) some problematic criteria were identified, and these will be corrected and modified over the coming months. We have summarized below the specific problems encountered with respect to each of the program’s performance indicators.

ANALYSIS OF GLOBAL RESULTS - 2008
The tables below indicate the average global results attained by the first cohort of participants of the Green Marine Environmental Program. These results are based on the self-evaluations that all participants completed with respect to their environmental performance for 2008. Green Marine’s objective in the medium term is
for a majority of participants to reach level 3 two years after having joined the program. As announced when the program was launched, participants’ individual results will not be made public during the first implementation year, but the results that Green Marine publishes will become more detailed as time goes on.

As far as the program’s first year of implementation is concerned, participants obtained an average global result corresponding to level 2 for all issues combined. Although these results are encouraging (especially with respect to the objectives established at the program’s outset), they also create a great deal of possibility for improvement, which fits perfectly with the program’s overall objective of mapping an ambitious and demanding route for participants to follow.

When these results are broken down, they reveal a significant difference in the average attained by shipowners (2.4) vs that attained by ports and terminals (1.8). This is due to two main factors. First, shipowners have been subjected to environmental requirements for a longer time than ports and terminals, due to the many national and international regulations and prevention programs that have been developed over the years. Second, the majority of ports that are participants of the Green Marine Environmental Program are small organizations with less than ten employees, which can only devote a limited number of resources to implementing the program’s requirements. The initial evaluation process proved to be very useful for many such participants, by identifying the measures they need to implement in order to reach level 2 during the next evaluation process.
The two diagrams below show the average levels attained by shipowners and by ports and terminals for the specific environmental issues targeted by the Green Marine Environmental Program.

### AVERAGE LEVELS ATTAINED BY SHIPOWNERS

**PARTICIPATING IN THE GREEN MARINE ENVIRONMENTAL PROGRAM FOR 2008**

![Diagram showing average levels for shipowners.]

- **AIS**: Aquatic invasive species
- **SOX**: Pollutant air emissions: sulphur oxide
- **NOX**: Pollutant air emissions: nitrogen oxide
- **GHG**: Greenhouse gases
- **CR**: Cargo residues
- **OW**: Oily water
- **CU**: Conflicts of use in ports and terminals

### AVERAGE OF LEVELS ATTAINED BY PORTS AND TERMINALS

**PARTICIPATING IN THE GREEN MARINE ENVIRONMENTAL PROGRAM FOR 2008**

![Diagram showing average levels for ports and terminals.]

- **GHG**: Greenhouse gases
- **CR**: Cargo residues
- **OW**: Oily water
- **CU**: Conflicts of use in ports and terminals

**Légend:**

AIS : Aquatic invasive species

Sox : Pollutant air emissions: sulphur oxide

Nox : Pollutant air emissions: nitrogen oxide

GHG : Greenhouse gases

CR : Cargo residues

OW : Oily water

CU: Conflicts of use in ports and terminals
AQUATIC INVASIVE SPECIES
The risk of introducing and propagating aquatic invasive species by means of ships’ ballast water has been identified as the maritime industry’s top priority issue, which is why the Environmental Program establishes a number of stringent measures in this respect. The performance indicator for this issue encourages all shipowners, whether domestic or international, to implement safer practices and introduce new technologies that will ultimately enable them to comply with (or even exceed) future requirements under the International Convention for the Control and Management of Ships’ Ballast Water and Sediments.

The average level that shipowners attained for this issue is 2.6, which indicates that the majority of participants have already implemented practices that go beyond regulatory compliance.

These results could have been even higher had it not been for a number of problems related to the performance indicator. Indeed, the self-evaluation process revealed that one of the level 3 criteria as well as the level 4 criteria for domestic shipowners should have been more precise, if not completely re-formulated. For example, domestic shipowners are required to analyze samples of ballast water sediments in order to attain level 4. However, developing a standardized methodology for conducting such an analysis has proven to be extremely problematic. A technical committee will now examine this issue with a view to developing and implementing a solution for 2009.

The recent coming into force of new ballast water management regulations in certain U.S. states also presents a challenge to Green Marine, given that the performance indicator is based on the requirements of the IMO Ballast Water Convention. In view of the fact that a total of ten states and provinces from two different countries border the St. Lawrence – Great Lakes region, Green Marine will have to be very cautious in deciding whether to modify its criteria on the basis of new regulations in any of these jurisdictions. Indeed, Green Marine plans to await the outcomes of the various judicial challenges that are currently underway before re-evaluating its performance indicator for aquatic invasive species.
POLLUTANT AIR EMISSIONS
The Environmental Program contains two distinct performance indicators to address the two main air pollutants emitted by ships; namely, sulphur oxides (SOx) and nitrogen oxides (NOx). Other pollutants such as particulate matter and volatile organic compounds, which are not covered by the Marpol Convention and for which the development of reduction technologies is still at an early stage, will be integrated into the program at a later stage.

Sulphur oxide emissions are directly linked to the level of sulphur in the fuel used. Aside from measures aimed at reducing fuel consumption, the performance indicator linked to this issue encourages the use of higher quality fuel or the implementation of technologies that would allow for an equivalent reduction in emissions. This is the issue for which participants attained the highest average result - of 3. This means that a significant number of shipowners have not only surpassed regulatory compliance and implemented level 2 measures on their ships (which includes documenting fuel consumption, optimizing vessel loading, and respecting voluntary speed reduction measures), they have also carried out an annual inventory of their SOx emissions. This issue’s high result is also due to the fact that some companies use marine diesel (a low sulphur fuel) on an exclusive basis.

Nitrogen oxide emissions depend more on engine design than on fuel quality. The criteria proposed in the NOx performance indicator surpass the standards that are already in place, as well as those that under discussion at the IMO. However, participants who wish to reduce their NOx emissions have difficult choices to make, given that the majority of current NOx reduction technologies also have the effect of increasing both fuel consumption and greenhouse gas emissions. The average level that shipowners attained for this issue is 2.1, which is significantly lower than the level attained for SOx emissions. This disparity is due to the fact that the two criteria associated with level 3 – completion of a NOx emissions inventory and implementation of a periodical measurement system, have turned out to be more difficult to achieve than anticipated. Not only has it proven to be impossible to find meaningful coefficients for evaluating the emissions produced by various engine types (despite intensive research efforts), we have also found the instruments for measuring NOx emissions to be both scarce and costly. This issue will therefore be re-evaluated by a technical committee which may recommend modifications for 2009.
GREENHOUSE GASES

The effect of greenhouse gases is the most pressing environmental problem facing our planet. Although the amount of GHGs emitted by the marine mode is lower than that produced by other modes (on a tonne-kilometre basis), the Green Marine Environmental Program encourages participants to reduce their GHG emissions even further.

The performance indicator linked to this issue targets lower fuel consumption as the primary means of reducing GHGs. Towards that end, participants must implement an energy performance plan and complete a GHG emissions inventory in order to attain level 3, after which they must significantly improve their energy efficiency in order to attain levels 4 and 5.

The average level that shipowners attained for this issue is 2.5. This means that a majority of shipowners have implemented measures to reduce fuel consumption on all their ships (level 2) and that several have also completed an inventory of their GHG emissions (level 3). Participants appear to have understood this particular performance indicator very well, and to have appreciated the methodological tools provided in the self-evaluation guide.

The average level that ports and terminals attained for this issue is 1.7, which indicates that the majority are still in the process of implementing the best practices that are required for level 2 (e.g. limiting engine idling in vehicles, promoting sustainable transportation among employees, and reducing congestion and waiting times during heavy traffic). Among those ports that did reach level 2, a number were unable to move to level 3 due to the logistical challenges of carrying out a GHG emissions inventory. This is due to the fact that the majority of port administrations have more of a property management role than an operational role, meaning that the tenants to whom they lease their property (and who actually operate the cargo handling equipment), are better positioned to reduce emissions than the ports themselves. In view of the foregoing, Green Marine will work to develop a common methodology for conducting an emissions inventory that could be applied to all port territory as a whole.

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**GREENHOUSE GASES - SHIPOWNERS AND PORTS AND TERMINALS**

![Graph showing performance levels for shipowners and ports and terminals on greenhouse gases](image-url)
CARGO RESIDUES

Given that there exists very little data on the environmental impact and quantitative effect of cargo residue discharges in the St. Lawrence and Great Lakes, the acquisition of such data is a priority item in the Environmental Program’s action. Towards that end, the performance indicator for this issue first requires participants to carry out inventories and adopt best practices, as per level 2. This is followed by the level 3 performance indicator, which encourages maximum collaboration between shipowners and terminal operators in reducing the production and discharge of cargo residues during loading and unloading operations. Meanwhile, levels 4 and 5 focus on technological solutions and the adoption of corporate policies targeted towards the elimination of cargo residue discharges altogether.

The average level that shipowners attained for this issue is 2.1. This indicates that a majority of owners have not only surpassed regulatory compliance, but have also implemented best practices on all their ships. Examples of such practices include sweeping cargo residues onto the ship’s bridge for disposal at the dock, completely rinsing ships’ holds only when necessary, reducing the potential for cargo loss by reducing unloading rates, etc. No shipowner was able to go beyond level 3 because the level 4 criteria (which require companies to adopt a “zero discharge” policy with respect to all cargo residues with a potentially harmful impact on the aquatic environment) proved to be impossible to implement as envisioned. The problem with this criteria lies with the fact that there appears to be no definitive (or sufficiently rigorous and unanimous) list of “potentially harmful” substances that could be used as the basis for such a policy. As a result, a potential replacement for this criteria will be submitted to a technical committee, with a view to being implemented for 2009.

The average level that ports and terminals attained for this issue is 2.6. This indicates that the majority of these participants have not only moved beyond regulatory compliance (level 1), but have also completed an inventory of the equipment and practices linked to the production of cargo residues (level 2), and are now in the process of adopting a cargo residue management plan (level 3). It is worth noting that although this performance indicator was initially meant to apply to both port administrations and terminal operators, it quickly became clear that ports had little or no ability to directly influence operational practices related to cargo residues. A notice was therefore sent to participants indicating that the indicator would not apply to port administrations unless they are directly involved in operating (bulk) cargo loading and unloading equipment. In addition, a new issue – run-off waters – will be added in 2010 with a view to giving port administrations a more active role in this respect.
OILY WATER
The equipment on board ships (engines, pumps, piping, etc.) uses or carries different types of fluids (fuel, oil, water). In certain areas of the ship, and in the engine room in particular, oil can mix with water during normal operations or when routine maintenance of machinery is taking place, making it necessary to treat the contaminated water before it can be discharged from the ship. Thus, ensuring the proper functioning of the equipment that is used for the treatment of oily water is crucial to avoiding the risk of pollution, however minimal it may be.

The performance indicator for this issue is based on the implementation of a high number of best practices and on improvements to the technologies used in ships’ engine rooms. For example, the implementation of an integrated oily water treatment system, as required for levels 4 and 5, ensures a more efficient separation of fluids at their source, which is the most effective method of reducing the risk of accidental discharges.

The average level that shipowners attained for this issue is 2.1. This means that a majority of participants have implemented between 6 and 9 of the best practices associated with level 2 on board their ships. These practices consist of increasing and enhancing measures for controlling, verifying and ensuring the proper functioning of equipment that is used to treat oily water. Although participants did not question the relevance of the criteria associated with this performance indicator, they did request a number of editorial clarifications in order to limit possible ambiguities in interpretation. These clarifications will be done in 2009.
CONFLICTS OF USE IN PORTS AND TERMINALS

The extensive economic and industrial activity that takes place at ports makes them susceptible to generating dust, noise, light and odours, all of which may be perceived as irritants by individuals who live near port installations. The performance indicator for this issue aims to reduce existing and potential irritants through a series of concrete measures. The performance indicator also includes a number of criteria related to communications, which are designed to establish a collaborative relationship between port users and the public.

The average level that ports and terminals attained for this issue is 1.8, which means that the majority are well on the road to implementing the measures recommended in level 2.

It is worth noting that some participants expressed concern over the level 3 criteria that require them to obtain dust and noise samples. Participants noted that this would be difficult to do and requested additional technical details about this measure. Participants also suggested that criteria related to this particular issue be expressed in more quantitative terms whenever possible. These amendments will be carried out in 2009.
The future of the maritime industry depends on its commitment to always going further in environmental matters and continuously strengthening its environmental performance.

Green Marine’s coming year will be just as full of activity as the previous year. The following is a summary of the main activities that Green Marine has planned for the future, all of which are designed to continue strengthening the environmental performance of the St. Lawrence – Great Lakes maritime industry and ensuring that the Green Marine Environmental Program obtains as much exposure as possible.

EXTERNAL AUDIT PROCESS
This is a pivotal moment in the evolution of the Green Marine initiative, because it is at the end of the Environmental Program’s second year that participants will have to submit to a third party audit of their environmental performance. The results of those audits will be unveiled in 2010, which will be another important step in ensuring the program’s credibility.

The process for conducting these external audits will be developed and refined throughout 2009. The results of the pilot projects that several participants took part in earlier this year will be extremely helpful in this respect, as they will help identify the key elements of the verification process and the steps that companies should undertake when preparing for an auditor’s visit. The pilot projects also provided participants with an opportunity to better understand the Environmental Program’s requirements and identified a number of elements in the performance indicators that require correction.

The external audit process is an essential step in the implementation of the Green Marine Environmental Program. It will encourage participants to better define and quantify their environmental objectives and to support them with documentary and other evidence. Indeed, participants who took part in the pilot projects indicated that the expectation of (and consequent need to prepare for) a third party audit was extremely useful in terms of helping them plan their long-term environmental objectives and integrate those objectives into their environmental management systems.

PERFORMANCE INDICATORS
The Environmental Program’s performance indicators were developed by the St. Lawrence Environment Committee in the initiative’s early days. Given the foregoing, the indicators will undergo a number of modifications based on the results of the first self-evaluation process. Details regarding such modifications can be found on page 17 of this report, in the section entitled Analysis of Results by Environmental Issue – 2008.

EQUIVALENCE PROGRAM
Throughout 2008, Green Marine has been developing an equivalence program for international shipowners, which identifies links between the requirements of the Green Marine program and those of other international Environmental Programs and standards, such as Clean Cargo Working Group, Green Award, ISO 14001 and
the ISM Code. The equivalence program, which should be completed in 2009, will help in the recruitment of international shipowners.

NEW PRIORITY ENVIRONMENTAL ISSUES
The Great Lakes Environment Committee met several times in 2008 to develop a list of environmental issues for potential integration into the Green Marine Environmental Program. The Governance Board subsequently chose two of those issues – run-off from port operations and the risk of oil and chemical spills - for inclusion in the program in 2009. A U.S. researcher from Indiana’s Purdue University has been working with Green Marine for the past year in order to identify the best practices that are already associated with these issues and develop new performance indicators. Green Marine will also work to extend the scope of some of the issues that are currently targeted by the Environmental Program, such as the identification of air emissions other than GHGs in ports and terminals and of other types of air emissions for shipowners (particulates, COV), as well as stern tube oil pollution.

CANADIAN SAILINGS – SPECIAL EDITION
Beginning in the fall of 2009, Green Marine will collaborate with Canadian Sailings in an effort to extend Green Marine’s reach within the St. Lawrence-Great Lakes maritime industry. Two special issues will be produced every year – one in the fall and another in the spring - with a view to providing even more information to the maritime industry. Green Marine will also use these publications to publicize its annual Green Tech conference on environmental technologies for the shipping industry and to promote the Environmental Program in general. More than 7400 copies of these special editions will be distributed to various stakeholders in Canada, the U.S. and Europe.

GREEN TECH FOR SHIPPING 2010
Green Marine will hold its third environmental conference on green technologies for marine transportation in spring 2010 in Montreal (Green Tech for Shipping). Based on the success of previous years, the conference will provide another opportunity to present new technologies and to bring Green Marine members together.

RECRUITMENT OF NEW MEMBERS
Green Marine will continue to expand its membership by working to recruit new maritime industry members in the St. Lawrence – Great Lakes in both Canada and the U.S.
INTERESTING FACTS AND FIGURES
Marine is one most efficient and environmentally-friendly modes of transporting goods on the plant. Here are a few examples to illustrate:

- **Greenhouse gas emissions from ship** represent one-tenth of those generated by trucks, and one-half of those produced by trains.

- Using a single litre of fuel, a ship can transport goods for a distance of 241 kilometres, as compared to 95 kilometres for a train and 28 kilometres for a truck.

- **Ships** consume only 20 to 30 percent of the fuel that a truck would need to transport the same amount of merchandise.

- The marine mode produce less noise pollution than the road and rail modes.

- Shortsea shipping (SSS) is recognized as being efficient, safe and environmentally friendly. SSS is the ideal solution to problems linked to road congestion, highway safety, conservation of the highway network and environmental problems such as greenhouse gas emissions.

- A ship can transit the same amount of cargo as 870 trucks combined.
In environmental matters, one must lead by example.

You will find below a series of good news stories about environmental initiatives undertaken by Green Marine participants, supporters and partners. If you are part of such an initiative and wish to share it with others, please write us at mireille.gagne@AllianceVerte.org.

NEW ENVIRONMENTAL TRAINING FOR PORTS
The Human Resources Sectorial Committee of the Maritime Industry (CSMOIM) is developing an environmental training course for St. Lawrence ports. The two-day course, which is being developed by the firm of Genivar, will enable ports, terminals, stevedores and other companies involved in managing and operating port equipment and infrastructure to improve their environmental knowledge and develop better operational and management tools. This initiative is an ideal fit for the Green Marine Environmental Program, as it will focus on evaluating environmental footprints, implementing best practices and improving performance. If there is sufficient interest, the course could be translated into English and offered to ports in the Great Lakes.

ALGOMA CERTIFIED ISO 14001
Algoma Tankers Ltd. has announced that its integrated management system not only meets the requirements of ISO 9001, but has also been certified ISO 14001 since June 30, 2008. The system was verified by Lloyd's Register Quality Assurance over the course of three days spent at Algoma’s office and another day spent on board the Algostar and the Algosea. This system will enable Algoma to better control and monitor its environmental impacts. In addition, the environmental performance targets established by the Green Marine Environmental Program will support the continuous improvement process required by ISO 14001. Indeed, by combining these two systems, Algoma is going one step further in environmental matters and doing even more to reduce its environmental footprint.

THE GREAT SHIPS INITIATIVE – STRENGTHENING THE HEALTH OF THE SYSTEM
La Great Ships Initiative (GSI) est un effort collectif destiné à résoudre le problème des espèces envahissantes introduites par les navires dans le système Saint-Laurent–Grands Lacs par le biais de la recherche et de l’expérimentation indépendante de technologies environnementales, d’incitatifs financiers et d’une surveillance portuaire continue dans l’ensemble du bassin. Plusieurs participants et supporteurs de l’Alliance verte participent à cette initiative. La GSI supportera l’implantation rapide de systèmes de traitement d’eau de ballast à bord des navires étrangers qui utilisent la Voie maritime du Saint-Laurent et des Grands Lacs à l’aide d’incitatifs financiers lors de leur installation et d’assistance technique pour assurer leur bon fonctionnement.
ÉNERGIA AWARDS : A DOUBLE COUP FOR ALUMINERIE ALOUETTE

Aluminerie Alouette was honoured at the 19th annual Énergia Awards in Montreal on November 15th, winning two trophies in the Integrated Management and Transport categories. The company transported 220,000 tonnes of aluminum ingots on the Alouette Spirit in 2007 (a barge which it launched in 2005), thereby alleviating congestion along route 138 and reducing greenhouse gas (GHG) emissions. This project was the result of a partnership between McKeil Marine and Logistec Stevedoring, both of whom, along with Aluminerie Alouette, are Green Marine participants. Aluminerie Alouette also won SODES’ St. Lawrence Award in 2006, not only for putting the Alouette Spirit into service, but also for its overall leadership in the project.

FEDNAV AND CSL TAKE AN ADDITIONAL STEP FOR THE ENVIRONMENT

Two Green Marine participants, Fednav and CSL Group, again showed their leadership in environmental matters during the course of 2008. For its part, Fednav decided to communicate its environmental policy to the public, with a view to demonstrating its formal commitment to sustainable development. Meanwhile, CSL Group public communications its environmental policy and its first annual report on the environment, thereby allowing the general public to see how its performance on environmental matters has evolved. These two initiatives are a first and clearly show that the environment remains a priority issue for the St. Lawrence – Great Lakes maritime sector.

THE PORT OF MONTREAL OPENS ITS DOORS TO THE PUBLIC

The Montreal Port Authority held a very successful open house on August 31st. Entitled “Port in Your City”, the event provided the general public with an opportunity to discover the port’s facilities, visit port areas that are not normally accessible to the public, and better understand the strategic and economic importance of the port’s activities. More than 100,000 people participated in the event. It is also worth noting that this initiative fulfilled one of the criteria of the Green Marine Environmental Program, which is to further sensitize neighbouring populations to port and terminal operations.
CSL ROLLS UP ITS SLEEVES FOR THE ENVIRONMENT!

To mark the occasion of World Oceans Week, some thirty employees from CSL Group joined forces to clean the shores of Île Charron, thereby demonstrating an exceptional commitment to both the environment and their community. The group cleaned approximately 2.2 kilometres of shoreline and collected more than 1,000 pounds of garbage. The trash, which was put into 42 garbage bags and 15 recycling bags, included bottles, corks, cans, cigarette butts, fishing lines and construction materials.

BUNGE OF CANADA’S ENVIRONMENTAL MONITORING SYSTEM

Since 2007, Bunge has been using a new environmental monitoring system, which is essentially a database that allows the company to concretely identify and track all of its environmental tasks - from renewing permits, to obtaining maintenance records for its anti-dust equipment, to determining which dust-prone sectors need to be cleaned. The system also maintains an archive of such data, and this has proven to be a very useful tool for environmental audits and for providing a historical overview. Moreover, the system requires each of thirty environmental issues to be annotated on a regular basis, which helps to ensure monthly follow-up of such issues. In 2008, as part of its sustainable development efforts, the terminal also implemented a training program for its employees on the environment, health, and controlling infestations.

THE ST. LAWRENCE SEAWAY: STANDARDS THAT ARE AMONG THE HIGHEST IN THE WORLD

On May 5th and 6th, the Canadian Seaway, the U.S Seaway and Fednav (all three of which are Green Marine participants) organized a demonstration of a ballast water inspection at the St. Lawrence Seaway’s St. Lambert Lock. This media event drew particular attention to the fact that the regulatory regime for ballast water management that is currently in place in the Great Lakes is among the most rigorous in the world. The event also showed that ballast water inspections are only one of the measures that Transport Canada, the Canadian Coast Guard and the two Seaway corporations have implemented in order to control aquatic invasive species. Other measures revolve around ballast water exchange procedures, and include such requirements as the need to maintain detailed documentation regarding ballast operations, and the need ensure that ballast water exchange takes place in very deep waters.

AN ENVIRONMENTAL POLICY FOR THE PORT OF TROIS-RIVIERES

In August 2008, the Trois Rivieres Port Authority implemented an environmental policy. The policy involves the entire port community and is accompanied by an implementation guide to help users identify priorities, establish appropriate targets and formulate action plans to achieve such targets. The policy is based on a collaborative approach between the Trois-Rivières Port Authority and its users, and aims to reduce the environmental impact of the port’s operations by progressively improving its practices and facilities.
AN EVEN GREENER INITIATIVE FOR THE PORT OF HAMILTON

In the summer of 2007, the Hamilton port Authority invested in paving jetty number 15 and installing a grease and grit interceptor at the site. As a result of this effort, a formerly dusty gravel lot populated with old warehouses has now been fully paved and graded, and fitted with a grease and grit interceptor through which storm water can flow. Given the size of the site, the unit has a diameter of eight feet and a depth of over 12 feet! An annual maintenance program will ensure that the unit functions properly for many years to come. Both the paving and the interceptor unit will improve water protection at Hamilton Harbour and reduce the amount of dust created by truck traffic at the port.
Annex A
Green Marine Management Corporation

AMERICAN GREAT LAKES PORTS ASSOCIATION
WWW.GREATLAKESPORTS.ORG
Steve Fisher
Executive Director
700–700 12th Street, NW
Washington, DC, 20013
Telephone: 202 625-2102
fisher@greatlakesports.org

CANADIAN SHIPOWNERS ASSOCIATION
WWW.SHIPOWNERS.CA
Bruce Bowie
President
705-350 Sparks Street
Ottawa, Ontario, K1R 7S8
Telephone: 613 232-3539
bowie@shipowners.ca

CHAMBER OF MARINE COMMERCE
WWW.CMC-CCM.COM
Raymond Johnston
President
700–350 Sparks Street
Ottawa, Ontario, K1R 7S8
Telephone: 613 233-8779
rjohnston@cmc-ccm.com

SHIPPING FEDERATION OF CANADA
WWW.SHPFED.CA
Mike Broad
President
326–300, rue du Saint-Sacrement
Montréal, Québec, H2Y 1X4
Telephone: 514 849-2325
mhbroad@shipfed.ca

SODES
WWW.ST-LAURENT.ORG
Robert Masson
Executive Director
271, rue de l’Estuaire
C.P. 2268
Québec, Québec, G1K 7P7
Telephone: 418 648-4572
robert.masson@st-laurent.org

ST. LAWRENCE SHIPOPERATORS
WWW.ARMATEURS-DU-ST-LAURENT.ORG
Nicole Trépanier
Executive Director
271, rue de l’Estuaire
C.P. 2268
Québec, Québec, G1K 7P7
Telephone: 418 648-4378
nicole.trepanier@armateurs-du-st-laurent.org

UNITED STATES GREAT LAKES
SHIPPING ASSOCIATION
WWW.USGLSA.ORG
Stuart H. Theis
Executive Director
7714 Woodstar Lane
Concord Township, Ohio, 44077-8993
Telephone: 440 357-9104
theismarine@adelphia.net
## Annex B

### Green Marine Governance Board

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Greg WIGHT</td>
<td>Algoma Central Corporation</td>
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<tr>
<td>Steve CANTIN</td>
<td>Bunge of Canada</td>
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<tr>
<td>Michael HAGN</td>
<td>Canfornav</td>
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<tr>
<td>Adam WASSEMAN</td>
<td>Cleveland-Cuyahoga County Port Authority</td>
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<tr>
<td>André LANDRY</td>
<td>Cogema</td>
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<td>Gérard LEBLANC</td>
<td>CTMA Group</td>
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<tr>
<td>Adolph OJARD</td>
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<tr>
<td>Theodore CHODOS</td>
<td>Empire Stevedoring Company</td>
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<td>Laurence G. PATHY</td>
<td>Fednav Limited</td>
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<td>Louis-Marie BEAULIEU</td>
<td>Groupe Desgagnés</td>
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<td>Bruce WOOD</td>
<td>Hamilton Port Authority</td>
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<tr>
<td>Anthony G. IANELLO</td>
<td>Illinois International Port District</td>
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<tr>
<td>Marc DULUDE</td>
<td>IMTT-Québec</td>
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<tr>
<td>Michel DALLAIRE</td>
<td>Les Élévateurs des Trois-Rivières</td>
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<td>Madeleine PAQUIN</td>
<td>Logistec Corporation</td>
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<td>Scott BRAVENER</td>
<td>Lower Lakes Towing</td>
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<tr>
<td>Blair MCKEIL</td>
<td>Mckeil Marine</td>
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<td>Kevin DOHERTY</td>
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<td>Sylvie VACHON</td>
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<td>Gordon BAIN</td>
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<td>Sid HYNES</td>
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<td>Donna TAYLOR</td>
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<td>Guy LEBLANC</td>
<td>Parc Industriel et Portuaire de Bécancour</td>
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<td>Yves-Denis GAGNON</td>
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<td>Eric REINEILT</td>
<td>Port of Milwaukee</td>
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<td>Ross GAUDREAULT</td>
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<td>Martial SAVARD</td>
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<td>Brian RITCHIE</td>
<td>Rigel Shipping Canada</td>
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<td>Marie-Louise CHARBONNEAU</td>
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<tr>
<td>Alain BOUCHARD</td>
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<tr>
<td>Collister JOHNSON</td>
<td>Saint Lawrence Seaway Development Corporation</td>
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<td>Allister PATERSON</td>
<td>Seaway Marine Transport</td>
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<tr>
<td>Pierre GAGNON</td>
<td>Sept-Îles Port Authority</td>
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<tr>
<td>Georges FARRAH</td>
<td>Société des Traversiers du Québec</td>
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<tr>
<td>Michel GADOUA</td>
<td>Société du port de Valleyfield</td>
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<tr>
<td>Richard J. CORFE</td>
<td>St. Lawrence Seaway Management Corporation</td>
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<tr>
<td>Gerry CARTER</td>
<td>The CSL Group</td>
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<tr>
<td>Tim HENEY</td>
<td>Thunder Bay Port Authority</td>
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<tr>
<td>Michael J. STOLARCZYK</td>
<td>Toledo-Lucas County Port Authority</td>
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<tr>
<td>Alan PAUL</td>
<td>Toronto Port Authority</td>
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<tr>
<td>Gaétan BOIVIN</td>
<td>Trois-Rivières Port Authority</td>
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<tr>
<td>Louis FORGET</td>
<td>Ultramar</td>
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<tr>
<td>Pat LODUCA</td>
<td>Upper Lakes Group</td>
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<tr>
<td>David CREE</td>
<td>Windsor Port Authority</td>
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Annex C
Committee Members

GREEN MARINE EXECUTIVE MEMBERS

CO-CHAIRS:
- Laurence PATHY: Fednav Limited
- Gerry CARTER: The CSL Group
- Terry JOHNSON: Saint Lawrence Seaway Development Corporation

MEMBERS:
- Adam WASSERMAN: Cleveland-Cuyahoga County Port Authority
- Adolph OJARD: Duluth Seaway Port Authority
- Louis-Marie BEAULIEU: Groupe Desgagnés
- Bruce WOOD: Hamilton Port Authority
- Madeleine PAQUIN: Logistec Corporation
- Allister PATERSON: Seaway Marine Transport
- Richard CORFE: St. Lawrence Seaway Management Corporation

ST. LAURENCE ENVIRONMENT COMMITTEE

PRESIDENT:
- Lyne MARTIN: Montréal Port Authority

SECRETARY:
- David BOLDUC: Green Marine

MEMBERS:
- Martin DAIGNEAULT: Bunge of Canada
- Pierre DARCY: Canadian Coast Guard
- Marie-Josée COUTURE: Environnement Canada
- Philippe RODERBOURG: Fednav Limited
- Marc GAGNON: Fednav Limited
- Marc DESGAGNÉS: Groupe Desgagnés
- Anne AUCLAIR: Groupe Desgagnés
- Claude MAILLOUX: Human Resources Sectorial Committee of the Maritime Industry
- Nicolas PARENT: Innovation Maritime
- Ingrid STEFANIC: Logistec
- Guy DESMARAIS: Ministère du Dév. Durable, de l’Env. et des Parcs
- Manon D’AUTÉUIL: Sept-Îles Port Authority
- Anne LEGARS: Shipping Federation of Canada
- Caroline GRAVEL: Shipping Federation of Canada
- Pierre-Paul DESGAGNÉS: Société des traversiers du Québec
- Pierre PESANT: St. Lawrence Seaways Management Corporation
- Nicole TRÉPANIÈRE: St. Lawrence Shipoperators
- Nicolas AUDET: Stratégies Saint-Laurent
- Maria DANILENKO: The CSL Group
- Caroline DENIS: The CSL Group
- Janin HUARD: Transport Canada
- Rachid RAFFA: Transport Québec
- Pierre BROCHU: Transport Québec
- Claude COMTOIS: Université of Montréal
Annex C
Committee Members (continued)

GREAT LAKES ENVIRONMENT COMMITTEE

**PRESIDENT:**
Marilyn Baxter
Hamilton Port Authority

**SECRETARY:**
Andrew Losos
Canadian Shipowners Association

**COORDINATOR:**
David Bolduc
Green Marine

**MEMBERS:**

- Steven Fisher
  American Great Lakes Ports Association
- Guy Jarvis
  Thunder Bay Port Authority
- Ray Johnston
  Chamber of Maritime Commerce
- Pamela Davis
  Cleveland-Cuyahoga County Port Authority
- Pierre Pesant
  St. Lawrence Seaway Management Corporation
- Sal Pisani
  St. Lawrence Seaway Management Corporation
- Mike Kirkpatrick
  Federal Marine Terminals
- Richard Stewart
  Great Lakes Maritime Research Institute
- John Gruszewski
  McKeil Marine
- Mira Hube
  Seaway Marine Transport
- Caroline Gravel
  Shipping Federation of Canada
- Stuart Theis
  U.S. Great Lakes Shipping Association