Green Marine: a model of collaboration
Québec, June 27 2012

Great Lakes and St. Lawrence Cities Initiative
Alliance des villes des Grands Lacs et du Saint-Laurent
Environmental benefits

**Fuel Efficiency**
Distance (km) for 1 metric ton of cargo on 1 litre of fuel

- **312**

**Greenhouse Gas Emissions**
Grammes of CO₂ per metric ton of cargo transported one km

- **10**
- **17**
- **33**
Impacts

- NOx, SOx, CO2, Particulate Matter
- CFC’s
- Noise
- Dust
- Halon
- Toxic Metals
- Speed
- VOC Paint
- Garbage
- Light
- Cargo Hold Residues
- Ship Recycling
- Particles and oily water
- Sewage
- Antifouling paint
- Ballast Water
Impacts

- Community impacts: dust, noise, odors, light
- Waste
- Water runoff

- Air emissions
- Cargo residues
- Dredging and sediments
What is Green Marine?

- **Voluntary** and binational industry program to strengthen environmental performance

- Designed for shipowners, ports, terminals & shipyards, who implement concrete actions, practices and technologies **beyond regulatory compliance**

- Results are measured, independently verified and publicly reported

- **Engages industry stakeholders** on environmental issues and strategies
Green Marine Participants across North America
PARTICIPANTS 2012
### Reporting

<table>
<thead>
<tr>
<th>LEVELS</th>
<th>CRITERIA</th>
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<tbody>
<tr>
<td>1</td>
<td>Regulatory compliance</td>
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<tr>
<td>2</td>
<td>Systematic use of best practices</td>
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<tr>
<td>3</td>
<td>Integrated management system &amp; quantification of environmental impacts</td>
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<tr>
<td>4</td>
<td>Introduction of new technologies</td>
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<td>5</td>
<td>Excellence and leadership</td>
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Reporting

- CEO sign-off on performance self-assessments
- Independent verification of results
- Public disclosure of individual company results
## Reporting

<table>
<thead>
<tr>
<th>SHIPOWNERS</th>
<th>Aquatic Invasive Species</th>
<th>Air Emissions (SOx)</th>
<th>Air Emissions (NOx)</th>
<th>Greenhouse Gases</th>
<th>Cargo Residues</th>
<th>Oily Water</th>
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Progression

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<th>Year</th>
<th>Number of Participants</th>
<th>Overall Results</th>
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<td>2008</td>
<td>37</td>
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<td>2009</td>
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<td>2011</td>
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Program recognition

WINNER
GREEN SHIPPING INITIATIVE OF THE YEAR
Sustainable Shipping Awards 2011

Prix Environnement 2012
Supporters

Great Lakes and St. Lawrence Cities Initiative
Alliance des villes des Grands Lacs et du Saint-Laurent

WWF®

Transport Canada

Ducks Unlimited Canada
Conserving Canada's Wetlands
Collaboration

**BOARD OF DIRECTORS:**
- 9 CEOs

**GREEN MARINE MANAGEMENT CORPORATION:**
- Not-for-profit organization
- 3 full-time staff

**ENVIRONMENT COMMITTEES:**
- Regional
- Advisory role
- 50% participants (environmental managers)
- 50% stakeholders

**WORKING GROUPS:**
- Technical expertise
- Participants (technical level)
Great Lakes Committee

- **Industry:**
  - 3 shipowners;
  - 1 port authority
  - 1 terminal operator
  - Seaway
  - 2 associations

- **NGOs:**
  - Great Lakes United
  - World Wildlife Fund

- **Governments:**
  - Environment Canada
  - DFO/TC
  - Ontario ministry of Transportation;
  - US Coast Guard

- **Research:**
  - Great Lakes Maritime Research Institute
  - Minnesota Sea Grant
### Broadening scope of issues addressed

**Shipping Companies**
- Adapting program to new regulations and new technologies available
- Added: **PM emissions**
- Added: **Waste management (2012)**

**Ports, Terminals, Seaway, Shipyards**
- Added: **Environmental leadership**
- Added: **Water & land pollution prevention**

Being developed:
- **Waste management**
- **Shipyard-specific requirements**
Supporters / Municipalities

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