# Green Marine Environmental Program

# 2026

## Performance Indicators for Ports & St. Lawrence Seaway Corporation

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## AIR EMISSIONS - GREENHOUSE GASES AND AIR POLLUTANTS

**OBJECTIVE:** Reduce greenhouse gas (GHG) and air pollutant emissions.

### LEVEL 1

Monitoring of regulations

### LEVEL 2

2.1 Implement measures that discourage idling of vehicles and other equipment powered by Internal Combustion Engines. Include, at minimum, the participant's own road, off-road, and unlicensed vehicles.

2.2 Promote sustainable transportation practices by employees (e.g., incentives for public transport and carpooling, reorganization of business travel, installation of bicycle racks and electric vehicle charging stations).

2.3 Implement measures to reduce truck congestion.

Ports only:
2.4 Implement policies and communications that inform or, when necessary, issue warnings to ships that emit excessive amounts of smoke.

### LEVEL 3

3.1 Complete an annual report on GHG emissions.
Note: Include Scope 1 at minimum, and Scope 2 is recommended, as defined by a recognized standard, such as the GHG Protocol. See Annex 1-A.

**AND fulfill one of the following two criteria:**
3.2 Within the last 5 years, complete a detailed inventory for all Port and terminal operator owned, leased, and operated fleets, such as vehicle, off-road, and locomotives.
Note: Include equipment's model year and engine's model year and/or emissions standard/tier, if available. Other data requirements may include hp and annual hours of operation.

**OR**
3.3 Implement a program to transition to lower emission equipment through cleaner fuels, engine repowers, or equipment replacements. This can be through direct incentives, rebates, or coordination of outside funding sources.

### LEVEL 4

4.1 Building on the scope from the inventory done for criterion 3.1, within the last 5 years, have completed a port-wide inventory of GHGs and air pollutants emitted from all sectors: marine vessels (ocean going and harbour craft), cargo handling equipment, rail, truck, and administrative. Inventory should include key GHGs: CO2, CH4, and N2O and criteria air pollutants, such as NOx, SOx, VOC, and PM.
Note: Participants that are in nonattainment areas or that have potential "hotspots" should place a priority on an inventory of their relevant criteria air pollutants. Criteria air pollutants refer to those reported in Environment Canada's National Pollutant Release Inventory (NPRI) or U.S. EPA's National Emissions Inventory (NEI). See Annex 1-A.

4.2 Adopt a performance plan for air emissions resulting directly from the participant's activities. In the plan, define reduction measures and establish reduction targets for both GHG and air pollutants.
Note: See Annex 1-B.

### LEVEL 5

5.1 Adopt a performance plan for port-wide air emissions that defines port-wide emission reduction measures, targets, and time frames. Demonstrate progress through projects and partnerships. Publicly disclose GHG and air pollutants reduction targets and time frame.
Note: See Annex 1-B.

5.2 Within the last 3 years, have achieved an average annual reduction in the participant's direct GHG emissions (in intensity or absolute) of ≥2.4% over at least a 3-year time frame (equivalent to a cumulative ≥ 7.2% over 3 years) based on repeated inventories done for criterion 3.1.
Note: Offsets that were purchased or generated by the company can be accounted for in the inventory and in the calculation of "net" reductions towards meeting the required reduction targets4. Offsets applied must be vetted, for instance, they meet a standard protocol, such as from the United Nations Framework Convention on Climate Change (UNFCCC), a class society, or a program regulated by the state/province or federal government.

5.3 Complete the inventory done for criterion 3.1 in accordance with a recognized standard, such as the GHG Protocol or ISO 14064, either by a credentialed professional to do the inventory or for every other inventory, conduct an external desktop review to check adherence to the standard.

5.4 Within the last 5 years, have achieved a ≥1% average annual reduction in GHG intensity over at least a 3-year time frame, based on sequential inventories done for criterion 4.1 or on a more comparable hindcast.

## AQUATIC ECOSYSTEMS (PORTS)

**OBJECTIVE:** Improve the condition and/or quality of aquatic ecosystems in the participant's immediate zone of influence and beyond.

**NOTES:**

- A port's immediate zone of influence refers to all aquatic ecosystems on the port property or in its vicinity that port activities and operations may directly impact.
- In this context, aquatic ecosystems include any body of water or watercourse in the participant's immediate zone of influence and beyond, including, for example, port waters, the shoreline, as well as surrounding streams, rivers, and wetlands.

| **LEVEL 1** |
|---|
| Monitoring of regulations |
| **LEVEL 2** |
| Implement **at least four of the following seven** criteria |
| 2.1 Conduct a literature review of the data available on aquatic ecosystems in the participant's immediate zone of influence and beyond (considering surrounding sensitive habitats as well as industrial, municipal, and recreational activities).<br>Note: See phase I of annex 8-A. |
| 2.2 Delineate the participant's immediate zone of influence and map known aquatic ecosystems on and around this zone.<br>Note: See phase I of annex 8-A. |
| 2.3 Identify and establish contact with potential collaborators and partners that can contribute to building knowledge of the aquatic ecosystems in the participant's immediate zone of influence and beyond. |
| 2.4 Establish and maintain contact with the relevant government authority to identify and regularly update a list of potential aquatic invasive species in the participant's immediate zone of influence and beyond. Report any new observations of an aquatic invasive species in a timely manner. |
| 2.5 Provide up-to-date guidelines for in-water cleaning of commercial ships in port waters and/or raise awareness among recreational boaters by sharing best practices to reduce the introduction and spread of aquatic invasive species via biofouling.<br>Note: See reference documents in the Members section of the Green Marine website. |
| 2.6 Ensure all applicable best practices to minimize the impacts of maintenance and capital dredging on the aquatic environment are implemented during dredging operations (e.g., environmental surveillance by competent port staff or a third party during dredging activities). |
| 2.7 Facilitate educational activities or raise awareness among employees, tenants, users, or the community relative to the need for protecting aquatic ecosystems and preventing pollution in port waters. |
| **LEVEL 3** |
| Implement **at least three of the following six** criteria |
| 3.1 Identify potential sources of pollutants associated with the participant's operations and activities in the immediate zone of influence. |
| 3.2 Carry out a characterization to benchmark the status of aquatic ecosystems in the participant's immediate zone of influence.<br>Note: See phase II of annex 8-A. |
| 3.3 Support government authorities with their response plan to eradicate or reduce the risks of introducing and spreading aquatic invasive species (e.g., facilitate access, help implement response plan measures). |
| 3.4 Organize or actively participate (provide support through financial means, human resources, and/or material and equipment) in a clean-up activity of an aquatic environment in the participant's immediate zone of influence or beyond to remove detritus, trash, and debris from the water or the shoreline. |
| 3.5 Support scientific research by facilitating access to the port territory for sampling purposes (e.g., aquatic invasive species monitoring) or by participating in an expert working group. |
| 3.6 Implement mechanisms to limit incidental discharges from ships in port waters (e.g., scrubber washwater, bilge water, greywater, blackwater). |

## LEVEL 4

Implement **at least four of the following seven** criteria

4.1 Based on the information gathered in levels 2 and 3, implement an aquatic ecosystem monitoring program in the participant's immediate zone of influence.
Note: See phase III of annex 8-A.

4.2 Based on the information gathered in levels 2 to 3 and 4.1, develop an aquatic ecosystems management plan which includes an action plan to implement environmentally sustainable solutions.
Note: see Annex 8-B.

4.3 Implement, actively participate in, or financially support a project to restore or develop a natural aquatic habitat within the last five years.
Note: A project description must be submitted to Green Marine no later than February 15. See Annex 8-C.

4.4 Collaborate with a research group, technology developer, innovation cluster, academia, or government agency on a research & development project on aquatic ecosystem protection around industrial-port zones (e.g., to monitor, measure, and foster biodiversity, reduce the risk of introducing and spreading aquatic invasive species, pollution prevention).

4.5 When contamination levels allow it, beneficially reuse dredged sediment.

4.6 Actively participate in scientific research or pilot projects aiming to understand and reduce the impact of dredging and dredged sediment management on wildlife and natural habitats.

4.7 Any other measure, practice, or project aiming to improve the condition and/or quality of aquatic ecosystems in the participant's immediate zone of influence or beyond that is accepted by Green Marine.
Note: A project description must be submitted to Green Marine no later than February 15. See Annex 8-C.

## LEVEL 5

Implement **at least three of the following seven** criteria

5.1 In collaboration with local or regional stakeholders, expand the monitoring program implemented at Level 4 and make it a long-term program.
Note: See phase IV of annex 8-A.

5.2 Implement environmentally sustainable solutions identified in the aquatic ecosystem management plan at level 4.

5.3 Within the last 10 years, protect or contribute to protecting an existing natural aquatic habitat of ecological or community value from commercial or industrial development.
Note: A project description must be submitted to Green Marine by February 15. See Annex 8-C.

5.4 Invest annually in one or more research & development or pre-commercial projects on aquatic ecosystem protection around industrial-port zones (e.g., to monitor, measure, and foster biodiversity, reduce the risk of introducing and spreading aquatic invasive species, pollution prevention).

5.5 Implement measures to reduce maintenance dredging needs (e.g., over-dredging or deflecting structures to minimize sediment deposition).

5.6 Within the last 10 years, complete a sediment clean-up project on a site under the control of the participant.

5.7 Use environmental dredging techniques for maintenance and capital dredging.

## COMMUNITY IMPACTS

**OBJECTIVE:** Reduce potential community exposure and negative impacts due to dust & other polluting air emissions, noise & vibrations, light, visual pollution, traffic, potable water usage, and odours & nuisance wildlife caused by the participant's activities and operations.

**NOTE:**

- In the context of this indicator, the community includes all people in close proximity to the participant (e.g., employees, nearby tenants, residents, Indigenous Peoples, local businesses, people using nearby recreational areas).
- Indigenous Peoples and the Nations that constitute them may be affected in specific ways (culturally, environmentally, spiritually, socially, economically, etc.), and consultations distinct from other local communities are welcomed. In acknowledgment of the unique role of local stewardship that indigenous peoples can play in environmental management, these consultations are recommended as they demonstrate the good faith and good intentions of the participants. Under Green Marine's voluntary program, depending on the context of each participant and where this may apply in implementing the Community Impacts indicator criteria, special attention should be given to impacts on Indigenous Peoples, and the measures implemented should be reasonably adapted. Where applicable, attention should also be given to developing a long-lasting collaborative relationship with Indigenous Peoples.

**LEVEL 1**

Monitoring of regulations

**LEVEL 2**

Implementation of the **majority** of applicable criteria:

**Noise & Vibrations**

2.1 Issue a notice to ships that their sirens are to be used only to ensure safe movement.

2.2 Adopt operational procedures or take measures limiting the use, or reducing the impact of warning signals, without compromising safety (e.g., use strobe light during nighttime operations, use lynx alarm, adapt the height or direction of the device, adjust the frequency of the signal).

2.3 Take measures to reduce the noise emanating from rail operations at the port (such as rail lubrication, etc.).

2.4 Limit idling of vehicles, equipment, and locomotives.

2.5 Have a documented process (e.g., purchase policy) for selecting less noisy equipment when buying new equipment.

2.6 Carry out activities and operations that generate noise and vibrations as much as possible within hours that would have the least impact on the local community.

**Dust & Other Pollutant Air Emissions**

2.7 Adopt dust control measures on the participants' operated property (e.g., watering, wet brushing, sweeping, maintenance of pavement, landscaping).

2.8 Apply measures to improve the management of bulk cargo storage (e.g., covering cargo that is stored in piles, reducing the height of such piles, moving piles to areas that are less exposed to wind, building/installing containment walls).

2.9 Implement mitigation measures (e.g., canvas, tarpaulins, curtains, or other equivalent control barriers) during spray painting and blasting operations to prevent the dispersal of dust and aerosol particles by the wind.

2.10 Collect and confine spent abrasives and debris (after blasting to dock-bottom or yard grounds) to avoid dispersion by wind and runoff (e.g., cover piles of spent abrasives and debris or store them in covered containers).

**Odours & Nuisance Wildlife**

2.11 Take measures to avoid garbage and recycling dispersion by wind and wildlife (ex. covers, fencing) and to reduce odours.

2.12 Keep wildlife that is or can become a nuisance to the local community away from operation and construction sites, outbuildings, and workboats (e.g., limit access to wildlife, use sustainable visual or audio deterrence measures).

**Traffic**

2.13 Implement measures to manage traffic (e.g., bus, truck, railway) in and out of the property to avoid local congestion (e.g., signboard, traffic coordinator or checker).

**Light Pollution**

2.14 Direct lights so they only illuminate the necessary zone.

2.15 Switch off bothersome lighting at a specific time if there are no operations underway.

**Visual Pollution**

2.16 Maintain all spaces on the property clean and free of litter, especially in areas bordering and visible from public spaces and roads (e.g., next to a residential area or a park).

**Potable Water Usage**

2.17 Adopt common potable water conservation measures (e.g., repair water leaks, run dishwasher when full, turn off the water when not in use, do not water vegetation or use water for housekeeping purposes during full sun or dry periods).

## LEVEL 3

3.1 Assess activities and operations to determine the level of impact they have on the local community (e.g., dust and other polluting air emissions, noise, vibrations, light, visual pollution, traffic, potable water usage, and odours & nuisance wildlife).

3.2 Adopt a Community Impacts Mitigation and Management Plan (CIMMP) to mitigate and manage impacts related to the participant's activities, operations, and new projects, including when contracting work to a third party, and that incorporates all applicable best practices in level 2.
Note: See Annex 3-A.

3.3 Have a procedure for evaluating environmental and social aspects of new projects, activities, or types of operations including handling of new products, if there is uncertainty around the potential for environmental and social impacts and where mitigation measures are not known to be effective and established.
Note: Not applicable to projects that are subject to an environmental assessment under existing regulation.
Note: See Annex 3-B.

**Noise**

3.4 Adopt and communicate a policy that deals with noise from vessels at anchor, and/or collaborate with the competent authorities to establish and communicate procedures for dealing with noise from vessels at anchor (e.g., operation of auxiliary or back-up engines, maintenance work).

**Visual Pollution**

3.5 Maintain buildings and facilities on the property (e.g., exterior cleaning and repainting) to limit visual pollution, especially in areas bordering and visible from public spaces and roads.

## LEVEL 4

4.1 Based on the assessment in criterion 3.1, further develop and implement the CIMMP to define objectives and an action plan.
Note: See Annex 3-A.

Implementation of the **majority** of the following applicable criteria:

4.2 Install and maintain green corridors (e.g., dune system), vegetated or recreational areas (e.g., tree alley, parks) between the operating site and residential area.

4.3 Have a procedure or system in place that optimizes truck movements to manage congestion and mitigate other associated issues.

**Noise**

4.4 Monitor noise in real-time in areas of concern, as identified in the assessment of criterion 3.1 (e.g., areas located close to residences or subject to frequent complaints) and have a data monitoring process in place.

4.5 Create and maintain noise barriers using a sustainable approach (e.g., vegetated buffer zone or noise barrier walls with limited community and environmental impacts).

4.6 Install silencer, muffler, timer, or another device to reduce noise from noisy equipment or cover with sound-insulating material.

**Dust & Other Polluting Air Emissions**

4.7 Monitor dust and other polluting air emissions (e.g., $PM_{2.5}$ $PM_{10}$, CO, $NO_2$, $O_3$, $SO_2$, $H_2S$, heavy metal vapours or particles, VOCs, PAHs, or odours) in the areas of concern, as identified in the assessment of criterion 3.1 (e.g., areas located close to residences, areas subject to frequent complaints, areas particularly exposed to wind) and have a data monitoring process in place. Choose monitoring frequencies in line with best practices specific to the emissions (e.g., near real-time to monthly measurements).

**Light Pollution**

4.8 Install fixtures that optimize lighting and reduce light pollution when replacing fixtures or during new projects.

4.9 Evaluate existing lighting plans and take effective measures to optimize lighting and reduce impacts.

**Visual Pollution**

4.10 Implement and, where applicable, maintain beautification measures such as landscaping (e.g., planting trees and shrubs, adding ornamental features), murals, improved design or engineered solutions for existing and/or new buildings and facilities, aboveground infrastructure, external furniture, fences, etc., especially in areas bordering or visible from public spaces and roads.

4.11 Implement procedures and requirements to ensure leased land and water lots within the port are maintained and in good repair.

**Potable Water Usage**

4.12 Use equipment or technologies to minimize or recycle/reuse water for the most water-intensive operations.

## LEVEL 5

5.1 Implement all applicable criteria listed in Level 4.

5.2 Demonstrate that the objectives set as part of the CIMMP for each community impact relevant to the participant are met according to the timeline of the action plan and that the measures implemented are as effective as possible.

5.3 For impacts of concern to the local community (e.g., noise pollution, dust and other pollutant air emissions like $PM_{2.5}$, $PM_{10}$, CO, $NO_2$, $O_3$, $SO_2$, $H_2S$, heavy metal vapours or particles, VOCs, PAHs), publicly disclose monitoring data collected at Level 4 (e.g., real-time noise data, near real-time $PM_{2.5}$ data, biannual reporting for metal analysis) through an online portal or website, making sure the data is digestible for the general public.

## COMMUNITY RELATIONS

**OBJECTIVE**
Maintain or improve the quality of relations with the various community stakeholders through open and transparent communications.

**Definition of 'community' in the present context**: Local stakeholders affected by the participant's activities.

**NOTES:**

- In the Constitution of Canada, issues relating to Indigenous Peoples take on a particular dimension that affects the notion of the nations that constitute them. Consequently, Indigenous Peoples are not considered as stakeholders and specific rules may apply regarding their consultation. Under Green Marine's voluntary program, and more specifically for this indicator, the Indigenous Peoples concerned are considered by the participant within the broader group in the same way as the stakeholders identified by the latter. For practical purposes, therefore, Indigenous Peoples are included in the list of examples of indicator stakeholders (criterion 2.3). However, depending on the context of each participant and where this may apply in the implementation of the criteria, participants are encouraged to consider Indigenous Peoples as distinct from other stakeholders.
- For this indicator, General Annex 7-A should be consulted to ensure the proper implementation of the criteria. This appendix contains additional information (rationales, examples of justification documents for external verification, precision of the requirements, implementation options and certain definitions) to help participants properly interpret the criteria and guide them with the implementation of these criteria.

| **LEVEL 1** |
|---|
| Monitoring of regulations |
| **LEVEL 2** |
| 2.1 Make available/post a telephone number of, or redirect calls to, the authority in charge of receiving inquiries and concerns (including complaints) related to the participant's activities.<br><br>2.2 Develop and implement a documented procedure to keep track of and respond to inquiries and concerns (including complaints). As appropriate, dedicate a person to respond and/or be dispatched to the site in a timely fashion, implement and monitor corrective measures and readjust as needed.<br><br>2.3 Identify, locate, and update the participant's network of local stakeholders (e.g. employees, tenants, residents, Indigenous Peoples, NGOs, municipalities/towns, governmental and environmental organizations, suppliers).<br><br>2.4 Regularly monitor media posts about the participant's activities.<br><br>2.5 Communicate information about the participant's activities and operations using at least two communication means. For example:<br>a) Social media (e.g., Facebook, Instagram, TikTok);<br>b) LinkedIn;<br>c) TV;<br>d) YouTube;<br>e) Radio or podcast;<br>f) Webpage with community related content;<br>g) Local newspapers;<br>h) Newsletter; or<br>i) Magazine.<br><br>2.6 Incorporate in the applicable policies or value statement of the company the commitment of senior management to maintain and improve the quality of community relations. |

## LEVEL 3

**Fulfill at least three of the following criteria:**

3.1 Describe each stakeholder or stakeholder group identified in criterion 2.3. For each of them, identify issues and concerns related to the participant's activities, as well as any ongoing and potential future collaboration opportunities.

3.2 Develop and implement a documented communication strategy or plan with a focus on responsiveness, transparency, engagement to reach out to the community, and feedback.

3.3 Publicly disclose at least one annual report or corporate plan related in part or entirely to social responsibility (e.g. sustainability action plan or annual report, corporate social responsibility report, strategic plan).

3.4 Implement at least two community outreach strategies annually (e.g. port days, open houses, info sessions, voluntary workshops, webinars, visitor or information center, site tours, school visits).

3.5 Organize or actively participate (provide support through financial means, human resources, and/or material and equipment) in social and/or environmental activities or events every year with the community and/or to the benefit of the community (e.g. tree-planting campaigns, educational activities, fundraising events, scholarships).

## LEVEL 4

**Fulfill one of the following two criteria:**

4.1 Actively participate in implementing and/or supporting a permanent committee open to local communities that meets at least biannually (e.g. citizen or liaison committee) to discuss the subject matter directly related to the participant's activities.

OR

4.2 Regularly hold meetings with one or more local community groups or members of the community (subject matter and questions coming from the groups or members directly). Overall, this should represent a minimum of two meetings a year.

**AND, fulfill three of the following four criteria:**

4.3 Actively participate in meetings with one or more local community organization or NGO to discuss subject matter that contributes to the environmental or social well-being of the community and that is not directly related to the participant's activities (e.g., be a Board member, regularly participate in committee meetings).
Note: Payment of membership is not sufficient to fulfill this criterion.

4.4 Recognize community relationships within the participant's strategic plan as part of the company-wide culture (e.g. aiming for responsiveness, transparency, engagement, and feedback).

4.5 Develop and implement a communication process to regularly inform and allow the community to ask questions and make comments before, during, and after implementing new projects with potential social and environmental impacts. Make public and easily accessible all required steps for the community to ask questions and make comments.
Note: New projects include new services, operations, activities, or handled products with potential environmental or social impacts. Note: See Annex 3-B for more detail.

4.6 Have a local community representative on the organization's board of directors (if governance rules allow it).

## LEVEL 5

5.1 Evaluate within the last three years the community's perception of the participant. Based on the results, develop and implement measures addressing the concerns raised to improve the relationship with local stakeholders.
Note: See guidelines in Annex 7-B.

5.2 Within the last five years, carry out a co-creation project or develop an initiative in collaboration with one or more local stakeholders.
Note: See guidelines in Annex 7-C.

## DRY BULK HANDLING AND STORAGE (PORTS)

**OBJECTIVE:** Reduce cargo losses and dust generated during handling, transportation, and storage of dry bulk.
**APPLICABILITY:** Only applicable to port authorities that operate a terminal conveying dry bulk commodities, as in granular or pelletized cargo that is typically stored in silos or piles, and therefore not applicable to break bulk, lumber, or other project cargo.

| LEVEL 1 |
|---|
| Monitoring of regulations |
| **LEVEL 2** |
| 2.1 Collect cargo residues on the ground as soon as possible using methods that minimize dust generation (e.g. water spraying, vacuum sweeping, etc.). |
| 2.2 Ensure that collected cargo residues are properly stored, recovered and/or disposed of. |
| 2.3 Take measures to prevent water contamination during loading and unloading operations (e.g. use canvas between ships and docks when unloading). |
| 2.4 For outdoor operations, reduce dust dispersion by using one or more of the following methods, but not limited to: spraying a light mist; using screens, air or water curtains and/or drapes; reducing conveyor belt height and speed; keeping outdoor dry bulk piles covered or protected by wind shields as much as possible when they are likely to blow away by the wind or to leach out on to the ground. |
| 2.5 Fit storm drains with screens, baskets, geo-textiles or other devices in order to filter suspended solids found in stormwater runoff and ensure that such devices are cleaned on a regular basis. |
| 2.6 Recover cargo losses under the conveyors. |
| 2.7 Regularly wash vehicles in dedicated areas to avoid dust dispersal on and off-site. |
| **LEVEL 3** |
| 3.1 Adopt a Water and Land Pollution Prevention plan that covers all sites that the participant operates on.<br>Note: See Annex 2-A. |
| 3.2 Produce an incident report and maintain records for each incident of abnormal dust or discharge accompanied by a detailed analysis of the causes and corrective measures implemented. |
| **LEVEL 4** |
| In the **majority** of the terminals operated by the port: |
| 4.1 Implement a documented Inspection and Preventive Maintenance program targeting dry cargo handling equipment and dust suppression technologies.<br>Note: See Annex 2-B. |
| 4.2 Adopt a procedure for managing loading and unloading operations in cases of abnormal dust emissions due to wind.<br>Note: The participant must have in place a procedure or a policy that defines, for each type of cargo, the adverse weather conditions that affect loading and unloading operations, and preventive measures to be taken. Procedures must also include a record of incidents and must be communicated to and systematically applied by relevant staff. |
| 4.3 Conduct a detailed analysis of the loading, unloading, and handling process to identify critical stages, situations, or areas causing dust dispersal and establish a protocol for preventative measures. |
| **LEVEL 5** |
| In **all** of the terminals operated by the port:<br>5.1 Implement a documented Preventive Maintenance program targeting dry cargo handling equipment and dust suppression technologies.<br>Note: See Annex 2-B. |
| 5.2 Adopt a procedure for managing loading and unloading operations in cases of abnormal dust emissions due to wind.<br>Note: The participant must have in place a procedure or a policy that defines, for each type of cargo, the adverse weather conditions that affect loading and unloading operations, and preventive measures to be taken. This procedure must also include a record of incidents and must be communicated to, and systematically applied by, relevant staff. |
| 5.3 Conduct a detailed analysis of the loading, unloading, and handling process to identify critical stages, situations, or areas causing dust dispersal and establish a protocol for preventative measures. |
| 5.4 Use enclosed conveyors or chutes and telescoping arm loaders, operate in a closed circuit, or use other similar equipment to limit dust generation and releases into the environment. |
| 5.5 Use dust suppression, baghouse, screw conveyors, vacuum collecting equipment, or other similar equipment in the handling of fine, granular, or powdery material. |

## ENVIRONMENTAL LEADERSHIP

**OBJECTIVE:** Recognize the significant influence of port authorities and Seaway corporations as landowners and/or managers over the environmental practices of their tenants and/or users.

| **LEVEL 1** |
|---|
| 1.1 Reach level 2 for at least one other performance indicator in the program. |
| LEVEL 2 |
| 2.1 Reach level 2 for at least **2** other performance indicators of the program.<br>**AND fulfill one of the following 3 criteria:**<br><br>2.2 At least one of the participant's eligible tenants is a Green Marine participant.<br>Note: An "eligible tenant" is a ship owner/operator, terminal operator, or shipyard located within the participant's boundaries that could potentially become or already is a Green Marine participant.<br>**OR**<br>2.3 Write and publicly communicate an environmental policy.<br>**OR**<br>2.4 Develop and update annually a section on the company's public website presenting an overview of the Green Marine program and the company's latest performance results.<br>Note: Green Marine offers assistance to participants in developing the content. |
| **LEVEL 3** |
| 3.1 Include environmental clauses in all new leases and contracts.<br>**Fulfill one of the following 3 criteria:**<br>3.2 At least 25% of the port's eligible tenants are Green Marine participants.<br>Note: The port's may also use, for reference, the tonnage handled by tenants that are participants of the Green Marine program.<br>**OR**<br>3.3 Implement a voluntary system that encourages tenants to establish environmental objectives.<br>**OR**<br>3.4 Undergo an internal or external audit at least every 5 years to verify the environmental compliance of all operations.<br>Note: Any non-compliances found should be rectified, when possible, within the following year. Otherwise, an action plan with a timeline should be developed. |

## LEVEL 4

**Fulfill at least 4 of the following criteria:**

4.1 More than 50% of the port's eligible tenants are Green Marine participants.
Note: The participant may also use, for reference, the tonnage handled by tenants that are participants of the Green Marine program.

4.2 Use 1% or more of annual operating revenues to finance environmental or social projects linked to the participant's environmental footprint.

4.3 Finance or make donations of at least 1% of annual operating revenues to environmental projects.

4.4 Use a variable fee schedule based on the environmental participation of users (e.g., a variable fee schedule based on the environmental certification obtained by ships or on the type of fuel used by ships).

4.5 Implement an environmental management system (e.g., ISO 14001 standard).
Note: At level 4, the EMS is not required to be certified if the participant can demonstrate that all the elements of an EMS are in place. An EMS certification is however mandatory to use this criterion to achieve Level 5.

4.6 Publish an annual report providing details of the participant's environmental performance.
Note: The report must follow a recognized standard, such as the Global Reporting Initiative's Reporting Guidelines.

4.7 Complete a project within the last five (5) years that provides public access to shorelines.

4.8 Implement, actively participate in, or financially support a project to restore, develop, or conserve a natural habitat within the last five years.
Note: For ports, projects must be focused on terrestrial habitats since aquatic habitats are covered under the Aquatic Ecosystems indicator.
Note: A project description must be submitted to Green Marine no later than February 15. See Annex 4-A.

4.9 Convert at least 50% of the participant's fleet of road vehicles to more environmentally friendly technologies (high-renewable-content fuels, hybrids, or electric).
Note: High-renewable-content fuels must contain more than 5% renewable content.

4.10 Introduce innovative or exemplary technologies or projects, within the last five (5) years, aimed at significantly reducing the environmental footprint of the port or seaway's activities (e.g., shore power programs, development of renewable energy).
Note: See Annex 4-A.

4.11 Any other comparable measure accepted by Green Marine.
Note: The project must have been started (e.g., installation of equipment, final investment decision, etc.) during the last three (3) years.
Note: See Annex 4-A.

4.12 Implement a sustainable infrastructure management framework, such as *Envision* or Waterfront Edge Design Guidelines (WEDG), in the development process of infrastructure projects.

4.13 Attain an average performance level of **≥ 3.0** (without rounding) with respect to the program's other performance indicators.

## LEVEL 5

5.1 Fulfill at least two additional criteria listed in level 4.
Note: Reminder that an EMS certification is mandatory to use criterion 4.5 toward achieving Level 5.

5.2 Attain an average performance level of ≥ 4.0 (without rounding) with respect to the program's other performance indicators.

## SPILL PREVENTION AND STORMWATER MANAGEMENT

**OBJECTIVE:** Prevent spills and leaks of pollutants and manage stormwater to minimize contamination into the environment (water and land).
**NOTE:** The term 'location', as mentioned in levels 4 and 5 for criteria related to stormwater management, refers to any given delimitated area on the participant's owned or leased property where stormwater can potentially be contaminated based on activities and operations and/or known data (as identified in the Water and Land Pollution Prevention Plan under criterion 3.2). A location could also be outside the participant's owned or leased property in some specific cases (e.g. in the context of regional stormwater management compensation projects).

### LEVEL 1

Monitoring of regulations

### LEVEL 2

Implementation of **at least 60%** of the applicable criteria

2.1 Perform vehicle and machinery fueling, lubrication, and maintenance in an adequately equipped designated area and/or at a minimum distance of 30 m (100 ft) from the water and at a minimum distance of 15 m (50 ft) from a tributary (e.g., catch basin, ditch, storm drains) unless the area is covered by or is part of a permitted and properly operating stormwater management system. If these requirements cannot be met, alternative pollution prevention measures must be taken (e.g., watertight lids, rubber rugs, retention pans).

2.2 In areas draining to surface water, use, inspect and ensure proper maintenance of secondary containment for stationary devices and equipment that can potentially leak or which need to be resupplied periodically (e.g., generating sets, compressors).
Use a risk-based approach to determine the adequate volume of each secondary containment to contain anticipated spills or leaks. All employees using such devices and equipment must be aware of the procedure to follow (what to do, who to contact) in case of a spill or leak (e.g., proper signage visibly posted directly on devices and equipment, internal emergency number, annual employee training).

2.3 Implement inspection and maintenance procedures for all devices and equipment (e.g., tanks, generating sets, compressors, landscaping equipment) that could potentially leak liquid contaminants into the environment (e.g., drainage system, natural receiving environment).

2.4 Regularly inspect near shore water and property to identify any illicit discharge. If such a discharge is identified, implement corrective measures as soon as possible to stop contamination from the source or inform the entity responsible or any other relevant entity If the contamination is not under the control of the participant.

2.5 Check for visible sheen on, colour and odour of water collected in secondary containments and excavation pits or extracted from monitoring wells. If there is a doubt about its quality, the water must be sampled, analyzed for contaminants of concern, and managed appropriately or treated prior to being discharged into the environment.

2.6 Always have at key locations a spill kit containing all the necessary material to adequately respond as soon as possible to accidental discharges. Ensure the relevant staff is competent to use these kits (e.g., through appropriate training, annual refresh of response procedures, various information and communication tools) and that any contaminated material is disposed of by an authorized firm.

2.7 Implement good housekeeping practices to ensure surfaces near storm drains (e.g., wharves, driveways, loading and unloading areas, paint blasting areas and other pathways to surface waters) are clear of pollutants (e.g., solid wastes, grit, dust, paint or paint residues).

2.8 Prevent the uncontrolled discharge of wash water that could contain oils, chemical products (e.g., detergents, solvents), or residues/suspended solids into the environment via treatment or containment, for example.

### LEVEL 3

3.1 Implement all applicable best practices of level 2.

3.2 Adopt a Water and Land Pollution Prevention plan that covers all sites that the participant operates on.
Note: See Annex 2-A.

3.3 Keep a record of all accidental discharges of pollutants into the environment that occur on the participant's operated property. Notify tenants of their responsibility to keep records of accidental discharges of pollutants into the environment that occur on their leasehold, and any spill that must be reported by law should also be reported to the port authority.

3.4 Keep a registry of all owned and leased fixed, portable, and mobile (e.g., forklifts, mobile cranes) hydraulic equipment operated near the shore. At least for each owned equipment, assess the technical feasibility as well as modernization and maintenance costs of switching from conventional to readily and inherently biodegradable, minimally toxic, and non-bioaccumulative lubricants (includes oils and greases).

**LEVEL 4**

4.1 Implement a documented Preventive Inspection and Maintenance program for vehicles and equipment, containers and tanks, and any associated conveyance systems (e.g., conveyor, aboveground piping, transfer hoses) used exclusively for the participant's direct activities and which might release discharges into the environment (fuel, lubricants, etc.).
Note: See Annex 2-B.

4.2 Based on the assessment at Level 3, develop and start implementing an action plan with targets and a reasonable timeframe to progressively switch from conventional to biodegradable, minimally toxic, and non-bioaccumulative lubricants (oils and greases), while respecting OEM specifications. The action plan should prioritize readily over inherently biodegradable lubricants for equipment sub-systems (e.g., hydraulic systems, engines, transmissions, gear reducers) posing the greatest spill risk (i.e., potential for hose rupture) and water and soil contamination.

**AND** fulfill one criteria option that exceeds the participant's regulatory requirements: 4.3 OR 4.4 OR 4.5-4.7

4.3 Develop and adopt a Stormwater Management plan.
Note: See Annex 2-C.

**OR**

4.4 Develop and deliver local environmental education programs relating to water quality that facilitate community and stakeholder engagement and demonstrate measurable improvements year on year. Improvements could be measured in terms of, for example, outreach (e.g., how many people are being reached with the programs, how are the programs expanding over time) and/or training (e.g., how many training sessions/year, follow-up interview feedback on outreach and usefulness of training).

**OR**

In at least **one** of the participant's locations where stormwater has a potential to be contaminated as defined in the note below the objective:

4.5 Collect and treat stormwater using an appropriate stormwater treatment system.
Note: Stormwater treatment must be adapted to the contaminants present (e.g., catch basins, bioswales, oil separators, hydrodynamic separators, or any other type of simple or complex treatment system).

4.6 Inspect and maintain stormwater treatment systems on a regular basis or according to the manufacturer's specifications to ensure good performance of the systems.

4.7 Sample and analyze treated stormwater routinely to ensure proper functioning of treatment equipment and infrastructure. Samples must be collected following a recognized/approved procedure and analyzed by an accredited laboratory.

**LEVEL 5**

5.1 Have secondary containment in place for all fixed and portable outdoor above ground storage tanks and containers (permanent and in transit) that are located within a distance of 30 m (100 ft) from the water and 15 m (50 ft) from any ditch, sewer system, underground stream, etc. This requirement applies to all hazardous products.
Note: Secondary containment includes any measure preventing a spill or a discharge from a primary storage tank or container from entering the environment. The chosen measure(s) and its/their capacity for secondary containment must be able to address a discharge resulting from the most typical failure mode. Acceptable measures include:

- Impervious dikes, berms, or retaining walls;
- Curbing;
- Drainage system;
- Weirs, booms, floating barriers;
- Spill diversion or retention ponds;
- Drip pans or retention pans;
- Sumps or collection systems;
- Double-walled tanks;
- Any other equipment, material, and/or resources to contain the spill or discharge.

5.2 Perform a spill response exercise on a regular basis (at least annually in case of a tabletop exercise, at least every two years for a simulated site-specific drill, including the post-mortem of a spill incident).

5.3 Demonstrate that the targets set in the action plan developed in 4.2 relative to the use of biodegradable, minimally toxic, and non-bioaccumulative lubricants (oils and greases) are met according to the set timeframe.

Fulfill the following 3 criteria in the **majority** of the participant's locations where stormwater has a potential to be contaminated as defined in the note below the objective:

5.4 Collect and treat stormwater via an appropriate stormwater treatment system.
Note: Stormwater treatment must be adapted to the contaminants present (e.g., catch basins, bioswales, oil separators, hydrodynamic separators, or any other type of simple to complex treatment system).

5.5 Inspect and maintain stormwater treatment systems on a regular basis and/or according to the manufacturer's specifications to ensure good performance of the systems.

5.6 Sample and analyze treated stormwater routinely to ensure proper functioning of treatment equipment and infrastructure. Samples must be collected following a recognized/approved procedure and analyzed by an accredited laboratory.

**AND** fulfill one criterion that exceeds the participant's regulatory requirements: 5.7 OR 5.8

5.7 Develop and adopt a Storm Water Management plan.
Note: See Annex 2-C.

**OR**
5.8 Carry out or participate in a research and development project or demonstration for a spill management or stormwater treatment technology within the last three years.

## UNDERWATER NOISE (PORTS)

**OBJECTIVE**
Manage and mitigate underwater noise (UN) sources from ships coming in and out of the port and from regular port activities and operations, maintenance, development, and construction work to reduce impacts on marine species, particularly marine mammals.

**APPLICABILITY:** Applicable only for ports located in marine (saltwater) environments, including brackish waters such as estuaries.

**NOTE:**

- Growing evidence shows that UN can adversely impact a broad range of aquatic species like fish, benthic invertebrates, reptiles like sea turtles, etc. Based on its level and frequency, UN can have direct or indirect as well as physiological, auditory, and behavioral effects on exposed species depending on their sensitivity to noise. Given the current level of knowledge and extent of existing practical approaches to reducing UN impacts on marine mammals, ports can focus their efforts on protecting these species by applying the criteria of this performance indicator. However, they are also encouraged to consider other marine species impacted by UN. Future development may expand the scope of the indicator to include freshwater species and ports in freshwater environments.
- This indicator references the document listed below that can be found on the Members' Section of Green Marine's website.
  - International Maritime Organization (IMO) Revised guidelines for the reduction of underwater radiated noise from shipping to address adverse impacts on marine life (MEPC.1/Circ.906) (criteria 2.1, 4.3 – See Annex 1 for examples of class notations).

| **LEVEL1** |
|---|
| Monitoring of regulations |
| **LEVEL 2** |
| **Fulfill 3 of the 4 following criteria:**<br>2.1 Promote and raise awareness of tenants and ship operators calling at the port about the issue of UN and approaches to managing it by distributing the International Maritime Organization (IMO) revised guidelines along with any other pertinent information on the effects of UN on marine species and sensitive areas.<br>2.2 Promote the provision of marine mammal sightings data from a stewardship program with a publicly available database (in Canadian and US waters) through a logbook program or a recognized application (e.g., Whale Alert, Whale Report, and Vigie marine) to port users, pilots' associations, and ship operators calling at the port.<br>2.3 Summarize current knowledge on sensitive habitats and marine species potentially impacted by UN in the area (e.g., using the World Shipping Council Whale Chart) to better understand the extent of the port's zone of influence on the local soundscape (e.g., operations/ maintenance/construction/development zones, shipping traffic routes, anchorage sites), which may inform vessel traffic management (e.g., slowdown zones, alternative vessel routing).<br>2.4 Contract a trained and experienced marine mammal or protected species observer (MMO or PSO, respectively) during port-related in-water or on-land construction work (below high-water mark) that is known to increase significantly the level of noise in the soundscape and prioritize daylight periods for noisier work.<br>Note: Applicable for ports or port tenants engaged in construction or development work. The decision to require the services of a MMO or PSO should be based on the presence of endangered species and sensitive areas. |

## LEVEL 3

3.1 Implement all applicable criteria listed at Level 2.

3.2 Develop and adopt an Underwater Noise Mitigation and Management Plan (UNMMP), which incorporates a range of noise mitigation options, best practices, and operating procedures for both acute and chronic noise-generating activities including port maintenance, construction, and development, shipping traffic, and/or anchorage sites.
Note: See Annex 6-A

**AND fulfill one of the following 3 criteria:**

3.3 As part of the UNMMP, establish an ambient UN monitoring program and, to understand local soundscape conditions, analyze and archive the UN data.
Note: The program must be developed in collaboration with a bioacoustician or a specialized firm and specify the objectives, methodology, location of hydrophones, and data collection frequency. If the port is planning time-limited construction, development, or operational changes, additional noise measurements should be taken using the same protocol to see how those activities change the soundscape conditions.

**OR**

3.4 Offer a recognition program to ship owners who introduced vessel quieting technologies on their ships and/or for vessel noise reduction best practices like hull and propeller maintenance.

**OR**

3.5 Participate in a regional stakeholder group with industry members (e.g., port tenants, other ports in the region, ship owners, shipyards) or an expert working group to advise and facilitate research and development, projects, or programs.

## LEVEL 4

4.1 Implement all criteria listed at Level 3.

4.2 Develop and incorporate UN reduction targets into the UNMMP in the port's jurisdiction and/or surrounding waters based on data obtained from the ambient UN monitoring program in criterion 3.3.
Note: This strategy must include a methodology to measure progress achieved in reducing UN generated at the port and to set realistic noise reduction targets.

**AND fulfill one of the following 4 criteria:**

4.3 Administer an incentive program for ship owners implementing vessel noise mitigation measures (e.g., offer a discount/berthing fee reduction for ships with a class notation for UN).

**OR**

4.4 Establish an *in-situ* acoustic monitoring system with a detailed protocol to collect data on the relative source level of individual ships or on the noise level as contributed by vessel type and share this data with ship owners.
Note: This criterion is linked with criterion 4.2 from the Underwater Noise indicator for ship owners.

**OR**

4.5 Within the last 5 years, support/collaborate on scientific research that includes the measurement of UN from ships and/or other port-related activities.

**OR**

4.6 Lead or co-lead a permanent regional stakeholder group with industry members (e.g., port tenants, other ports in the region, ship owners, shipyards) as well as research and environmental groups and governmental agencies aiming to share UN-related information, raise awareness, and identify mitigation and management measures relevant at the regional level along shipping routes and in port areas. The group must meet minimally twice a year.

## LEVEL 5

5.1 Implement 4 of the 6 criteria listed at Level 4.

5.2 Demonstrate that the UN reduction targets set in criterion 4.2 are met through direct measurements.
Note: If a significant correlation is demonstrated between a proxy variable (e.g., participation rate in a vessel slowdown) and UN reduction, and if approved by Green Marine, the proxy measurement may be used in alternation with direct measurements to demonstrate that targets are on track.

5.3 Demonstrate continual improvement in implementing the UNMMP through the use of noise reduction solutions and technologies that reduce UN.

## WASTE MANAGEMENT

**OBJECTIVE:** Increase waste reduction at source and diversion of waste generated and encourage the integration of circularity principles.

**Note:** Circularity is a systemic approach to material management that focuses on retaining and/or recovering value from materials through reuse, repair, refurbishment, remanufacturing, repurposing, and/or recycling. It aims to reduce material use at the source, redesign products to be less resource-intensive, and transform waste into valuable inputs, keeping materials in continuous circulation and minimizing environmental impact.

| **LEVEL 1** |
|---|
| Monitoring of regulations |
| **LEVEL 2** |
| Implementation of the **majority** of applicable criteria:<br><br>2.1 Equip offices, workspaces, and facilities with strategically located and labeled recycling bins for niche waste streams such as used batteries and ink cartridges, and with co-located and labeled bins for garbage and recycling.<br><br>2.2 Install clear signage for waste disposal on port or terminal property.<br><br>2.3 Provide training and/or educate staff on established waste management procedures and hierarchy (Reduce, Reuse, Recycle, Recover, – Dispose), including on procedures for handling and disposing of hazardous waste.<br><br>2.4 Encourage the use of reusable supplies (e.g. reusable dishes) with recyclable or compostable supplies encouraged where reuse is not feasible.<br><br>2.5 Encourage staff to adopt sustainable paper use practices (e.g. reduce overall printing and copy paper consumption, double-sided printing, use post-consumer recycled paper, reuse and recycle paper, etc.).<br><br>2.6 Promote and encourage tenants, users, contractors, and/or clients to minimize waste and to recycle.<br><br>2.7 Gather information from the local service provider/waste hauler in order to have a better understanding of the relative costs and the environmental benefits related to the disposal of waste, recycling, and organics.<br><br>2.8 Eliminate or limit the use of plastic straws, plastic bottles, single-use coffee cups, and any other similar items in the administrative office.<br><br>2.9 Place marked garbage and recycling containers at convenient locations on site (e.g., for employees and visitors).<br><br>Operating ports only:<br>2.10 Reuse and/or recycle as much as possible dunnage, lining, and packaging material, where compliant with federal and/or state wood packaging import regulations.<br><br>Ports operating dry bulk terminals (2.11, 2.12, 2.13):<br>2.11 Adopt procedures to minimize the amount of cargo residues left on board the ships.<br><br>2.12 Facilitate the discharge of solid bulk cargo residues ashore, including hold sweepings.<br><br>2.13 Recover as much as possible off-specification products (i.e., products captured in stormwater sumps and effluent treatment works) or reintroduce them into the handling process.<br>Note: Not applicable to terminals that handle multiple dry bulk products because of cross-contamination risks. |

## LEVEL 3

3.1 Implement all applicable best practices listed at level 2.

3.2 Make available to ship owners, operators, and agents, a directory and description of local service providers for the collection and/or management of shipboard and/or terminal generated waste.

3.3 (Optional in 2026) Maintain a list of leading microplastic sources in use within the participant's direct activities and operations.

**Fulfill one of the following 2 criteria:**

3.4 Produce an annual inventory of all waste being generated during the participant's direct activities (administrative and/or site operations).
Note: The inventory does not include waste generated from demolition or construction projects.
Note: See Annex 5-A.

**OR**

3.5 Conduct a waste audit every five (5) years to identify the types and amount of waste being generated during the participant's direct activities (administrative and/or site operations).
Note: The audit does not include waste generated from demolition or construction projects.
Note: See Annex 5-A.

## LEVEL 4

4.1 Adopt an environmentally preferable purchasing policy that encourages sustainable purchasing practices (e.g., products using less packaging, reusable/recyclable/compostable products, products with post-consumer recycled content, circular economy products).

4.2 Conduct a waste audit every five years to identify the types and amount of waste being generated during the participant's direct activities (administrative and/or site operations).
Note: The waste audit does not include waste generated from demolition or construction projects.
Note: See Annex 5-A.

4.3 Based on the results from the waste audit (and inventory if available), adopt and implement a Waste Management and Reduction plan that describes the participant's waste management practices and procedures, including all applicable best practices of levels 2 and 3. The plan must also define measurable waste reduction, recycling, and/or diversion targets and identify practices and strategies to achieve them.
Note: Each participant defines its own "normalizer" to take into account fluctuations in port activities (e.g. per capita, per ton, per vessel, etc.).
Note: See Annex 5-B.

4.4 Adopt and implement formal procedures for reducing, reusing, recycling, recovering and/or properly disposing waste generated during construction, excavation, and demolition work (e.g., cement, concrete, bricks, gypsum, wool, asphalt, wood, steel, and other metals, etc.). These procedures must be included in all construction, demolition, and excavation projects.

## LEVEL 5

5.1 Demonstrate continual achievement in waste diversion and reduction at source in line with the objectives and targets established in the Waste Management and Reduction plan.