

Green Marine Environmental Program

2024



Performance
Indicators for Ports
& St. Lawrence
Seaway
Corporations

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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
<p>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.</p> <p>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).</p> <p>2.3 Implement measures to reduce truck congestion.</p> <p><u>Ports only:</u></p> <p>2.4 Implement policies and communications that inform or, when necessary, issue warnings to ships that emit excessive amounts of smoke.</p>
LEVEL 3
<p>3.1 Complete an annual report on GHG emissions. <u>Note:</u> 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.</p> <p>AND fulfill one of the following two criteria:</p> <p>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. <u>Note:</u> 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.</p> <p>OR</p> <p>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.</p>
LEVEL 4
<p>4.1 Complete 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 within the last 5 years. Inventory should include key GHGs: CO₂, CH₄, and N₂O and criteria air pollutants, such as NO_x, SO_x, VOC, and PM. <u>Note:</u> 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.</p> <p>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. <u>Note:</u> See Annex 1-B.</p>
LEVEL 5
<p>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. <u>Note:</u> See Annex 1-B.</p> <p>5.2 Demonstrate an annual average reduction of $\geq 2.4\%$ of the participant's direct GHG emissions (in intensity or absolute) over at least a 3-year time frame based on repeated inventories done for criterion 3.1 within the last 3 years.</p> <p>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.</p> <p>5.4 Achieve an annual average reduction in GHG intensity of $\geq 1\%$ over at least a 3-year time frame, based on sequential inventories done for criterion 4.1 or on a more comparable hindcast, within the last 5 years.</p>

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
<p>Implement at least four of the following seven criteria</p> <p>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). <u>Note:</u> See phase I of annex 8-A.</p> <p>2.2 Delineate the participant's immediate zone of influence and map known aquatic ecosystems on and around this zone. <u>Note:</u> See phase I of annex 8-A.</p> <p>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.</p> <p>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.</p> <p>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. <u>Note:</u> See reference documents in the Members section of the Green Marine website.</p> <p>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).</p> <p>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.</p>
LEVEL 3
<p>Implement at least three of the following six criteria</p> <p>3.1 Identify potential sources of pollutants associated with the participant's operations and activities in the immediate zone of influence.</p> <p>3.2 Carry out a characterization to benchmark the status of aquatic ecosystems in the participant's immediate zone of influence. <u>Note:</u> See phase II of annex 8-A.</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>3.6 Implement mechanisms to limit incidental discharges from ships in port waters (e.g., scrubber washwater, bilge water, greywater, blackwater).</p>

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 nuisances (e.g., noise, dust, light) 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
<p>Implementation of the majority of applicable criteria:</p> <p><u>Noise:</u></p> <p>2.1 Issue a notice to ships that their sirens are to be used only to ensure safe movement.</p> <p>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).</p> <p>2.3 Take measures to reduce the noise emanating from rail operations at the port (such as rail lubrication, etc.).</p> <p>2.4 Limit idling of vehicles, equipment, and locomotives.</p> <p>2.5 Have a documented process (e.g., purchase policy) for selecting less noisy equipment when buying new equipment.</p> <p><u>Air emissions:</u></p> <p>2.6 Adopt dust control measures on the participants' operated property (e.g., watering, wet brushing, sweeping, maintenance of pavement, landscaping).</p> <p>2.7 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).</p> <p><u>Odours & Nuisance wildlife:</u></p> <p>2.8 Take measures to avoid garbage and recycling dispersion by wind and wildlife (ex. covers, fencing) and to reduce odours.</p> <p><u>Traffic/congestion:</u></p> <p>2.9 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).</p> <p><u>Light:</u></p> <p>2.10 Direct lights so they only illuminate the necessary zone.</p> <p>2.11 Switch off bothersome lighting at a specific time if there are no operations underway.</p>

LEVEL 3

3.1 Adopt a plan for managing community issues, which formally incorporates all applicable best practices, set out in level 2.

Note: See Annex 3-A.

3.2 Have in place a procedure to verify noise levels of operations on a regular basis (at least annually).

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.

3.4 Establish and implement a nuisance mitigation plan during works and/or operations.

Note: For ports, mitigation measures must be systematically part of all service contracts and communicated to tenants.

3.5 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).

LEVEL 4

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

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

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

Noise:

4.3 Monitor noise in real-time in areas of concern (e.g., areas located close to residences or subject to frequent complaints) and have a data monitoring process in place.

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

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

Air emissions:

4.6 Monitor air emissions (e.g., PM_{2.5}, PM₁₀, CO, NO₂, O₃, SO₂, H₂S, heavy metal vapours or particles, VOCs, PAHs, or odours) in the areas of concern (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).

4.7 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.

4.8 Collect and confine spent abrasives and debris (after blasting to dock-bottom/yard grounds) to avoid dispersion by wind and stormwater (e.g., cover piles or use covered containers).

Light:

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

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

LEVEL 5

5.1 Implement all applicable criteria listed in Level 4.

5.2 For impacts of concern to the local community (e.g., noise pollution and pollutant air emissions like PM_{2.5}, PM₁₀, CO, NO₂, O₃, SO₂, H₂S, 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
<p>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.</p> <p>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.</p> <p>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).</p> <p>2.4 Regularly monitor media posts about the participant’s activities.</p> <p>2.5 Communicate information about the participant’s activities and operations using at least two communication means. For example:</p> <ol style="list-style-type: none"> a) Social media (e.g., Facebook, Instagram, TikTok); b) LinkedIn; c) TV; d) YouTube; e) Radio or podcast; f) Webpage with community related content; g) Local newspapers; h) Newsletter; or i) Magazine. <p>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.</p>

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 Participate in social and/or environmental activities or events every year with the community and/or to the benefit of the community (e.g. shoreline clean-up operations, tree-planting campaigns, educational activities, fundraising events, scholarships).
Note: The participant must provide support, whether through financial means, human resources and/or material and equipment.

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

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
<p>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.).</p> <p>2.2 Ensure that collected cargo residues are properly stored, recovered and/or disposed of.</p> <p>2.3 Take measures to prevent water contamination during loading and unloading operations (e.g. use canvas between ships and docks when unloading).</p> <p>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.</p> <p>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.</p> <p>2.6 Recover cargo losses under the conveyors.</p> <p>2.7 Regularly wash vehicles in dedicated areas to avoid dust dispersal on and off-site.</p>
LEVEL 3
<p>3.1 Adopt a Water and Land Pollution Prevention plan that covers all sites that the participant operates on. <u>Note:</u> See Annex 2-A.</p> <p>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.</p>
LEVEL 4
<p><u>In the majority of the terminals operated by the port:</u></p> <p>4.1 Implement a documented Inspection and Preventive Maintenance program targeting dry cargo handling equipment and dust suppression technologies. <u>Note:</u> See Annex 2-B.</p> <p>4.2 Adopt a procedure for managing loading and unloading operations in cases of abnormal dust emissions due to wind. <u>Note:</u> 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.</p> <p>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.</p>
LEVEL 5
<p><u>In all of the terminals operated by the port:</u></p> <p>5.1 Implement a documented Preventive Maintenance program targeting dry cargo handling equipment and dust suppression technologies. <u>Note:</u> See Annex 2-B.</p> <p>5.2 Adopt a procedure for managing loading and unloading operations in cases of abnormal dust emissions due to wind. <u>Note:</u> 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.</p> <p>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.</p> <p>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.</p> <p>5.5 Use dust suppression, baghouse, screw conveyors, vacuum collecting equipment, or other similar equipment in the handling of fine, granular, or powdery material.</p>

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.

AND fulfill one of the following 3 criteria:

2.2 At least one of the participant's eligible tenants is a Green Marine participant.

Note: An "eligible tenant" is a tenant located within the participant's boundaries that could potentially become a participant of the Green Marine Environmental Program.

OR

2.3 Write and publicly communicate an environmental policy.

OR

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.

Note: Green Marine offers assistance to participants in developing the content.

LEVEL 3

3.1 Include environmental clauses in all new leases and contracts.

Fulfill one of the following 4 criteria:

3.2 At least 25% of the participant's eligible tenants are Green Marine participants.

Note: The participant may also use, for reference, the tonnage handled by tenants that are participants to the Green Marine environmental program.

OR

3.3 Implement a voluntary system that encourages tenants to establish environmental objectives.

OR

3.4 Undergo an internal or external audit at least every 5 years to verify the environmental compliance of all operations.

Note: Any non-compliances found should be rectified, when possible, within the following year. Otherwise, an action plan with a timeline should be developed.

OR

3.5 Actively participate in social and/or environmental community activities every year (e.g. shoreline clean-up operations, tree-planting campaigns, scholarships, educational activities, open houses, port days, etc.).

Note: Active participation is defined as the provision of support by the participant, whether through financial means, human resources, and/or material/equipment.

LEVEL 4

Fulfill at least 4 of the following criteria:

4.1 More than 50% of the participant’s eligible tenants are Green Marine participants.

Note: The participant may also use, for reference, the tonnage handled by tenants that are participants to the Green Marine environmental 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 14000).

Note: At level 4, certification is not mandatory if the participant can demonstrate that all the elements of an environmental management system are in place. At level 5, certification is mandatory.

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 Complete a project within the last five (5) years that restores natural habitats (must not be linked to a mandatory compensation measure).

4.9 Convert at least 50% of the participant’s fleet of road vehicles to more environmentally friendly technologies (high-renewable-content fuels, hybrids, etc.).

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*, in the development process of infrastructure projects.

LEVEL 5

5.1 Fulfill at least two additional criteria listed in level 4.

5.2 Attain an average that is equivalent to level 4 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 delimited 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
<p><u>Implementation of at least 60% of the applicable criteria</u></p> <p>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).</p> <p>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).</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p> <p>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.</p>
LEVEL 3
<p>3.1 Implement all applicable best practices of level 2.</p> <p>3.2 Adopt a Water and Land Pollution Prevention plan that covers all sites that the participant operates on. <u>Note:</u> See Annex 2-A.</p> <p>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.</p> <p>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).</p>

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: 5.6 OR 5.7

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

OBJECTIVE

Manage underwater noise sources during ongoing activities, development/construction, and/or port maintenance activities to reduce impacts to marine mammals.

APPLICABILITY: Applicable only for ports located on salt water.

NOTE:

- Green Marine recognizes that underwater noise may potentially impact a broader range of acoustic species than just marine mammals. While the initial objective of this indicator covers marine mammals, future development may expand the scope.

LEVEL 1
Monitoring of regulations
LEVEL 2
<p>Fulfill 3 of the 4 following criteria:</p> <p>2.1 Promote and raise awareness of tenants and ship operators calling at the port about the issue of underwater noise by distributing pertinent information on the effects of underwater noise on marine mammals and sensitive areas.</p> <p>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 (like Whale Alert and Whale Report) to port users, pilots' associations, and ship operators calling at the port.</p> <p>2.3 Summarize current knowledge to understand target species, to identify sensitive habitats, and to understand the port activities' zone of impact. For example, this may inform vessel traffic management (potentially including vessel routing and/or speed).</p> <p>2.4 Require the services of a trained and experienced marine mammal observer (MMO) during port-related in-water construction or during on-land construction work (below high water) that is known to increase significantly the underwater noise soundscape. <u>Note:</u> This criterion is only applicable for ports or port tenants having ongoing construction work. The decision of requiring services of MMO should be based on seasonality, presence of endangered species, and sensitive areas.</p>
LEVEL 3
<p>3.1 Implement all applicable criteria listed at Level 2.</p> <p>3.2 Develop and adopt an Underwater Noise Mitigation and Management plan (UNMMP), which incorporates a range of noise reduction/mitigation options and best practices/operating procedures for both acute and chronic noise-generating activities including construction and shipping. <u>Note:</u> See Annex 6-A</p> <p>AND fulfill one of the following 2 criteria:</p> <p>3.3 As part of the UNMMP, establish an ambient underwater noise monitoring program, analyze and archive the data to understand local ambient underwater noise conditions. <u>Note:</u> The program, which is developed in collaboration with a bioacoustician or a specialized firm, would specify the objectives, method, location, and frequencies for monitoring. If the port is planning construction or operational changes, additional noise measurements (using the same protocols) should be done to measure trends in ambient noise.</p> <p>OR</p> <p>3.4 Offer a recognition program to ship owners for vessel noise reductions. <u>Note:</u> For example, ship owners could be recognized for hull and propeller maintenance.</p>

LEVEL 4

4.1 Implement all applicable criteria listed at Level 3.

4.2 Develop and incorporate targets for underwater noise reduction into the UNMMP in port waters and to the extent possible. These targets should be developed with the help of information obtained from the noise monitoring program.

Note: This strategy would include a methodology to measure progress achieved in order to reduce underwater noise generated by the port and set realistic targets for noise reduction.

AND fulfill one of the following 3 criteria:

4.3 Develop an incentive program for ship owners who implement vessel noise mitigation measures.

Note: For example, this program could offer a discount/berthing fee reduction to vessels that have a notation for underwater radiated noise from a recognized classification society.

OR

4.4 Establish an in-situ acoustic monitoring system to collect relative source level of individual ships. This data should be shared with ship owners.

Note: A specific protocol will have to be developed in order to collect valuable data. This criterion is linked with criterion 4.2 from the underwater noise indicator for ship owners.

OR

4.5 Support/collaborate on scientific research that includes the measurement of underwater radiated noise.

Note: Projects done within the past 5 years can be considered to fulfill this criterion.

LEVEL 5

5.1 Implement 4 of the 5 applicable criteria listed at Level 4.

5.2 Meet reduction targets on underwater noise set in criterion 4.2.

5.3 Demonstrate continual improvement in implementing the Underwater Noise Mitigation and Management plan to utilize noise reduction solutions and technologies that reduce underwater noise.

WASTE MANAGEMENT

OBJECTIVE: Increase waste diversion and reduce at source the waste arising from administrative activities and site operations.

LEVEL 1
Monitoring of regulations
LEVEL 2
<p>Implementation of the majority of applicable criteria:</p> <p>2.1 Equip offices, workspaces, and facilities with recycling bins, including for used batteries, cartridges, and fluorescent light bulbs, and make sure they are strategically located and appropriately labelled.</p> <p>2.2 Install clear signage for waste disposal on port or terminal property.</p> <p>2.3 Provide training and/or educate staff on established garbage management procedures and hierarchy (Reduce, Reuse, Recycle, Valorize – as in to add value – and Eliminate), including on procedures for handling and disposing of hazardous waste.</p> <p>2.4 Encourage the use of 1) reusable, 2) recyclable and 3) compostable supplies (e.g. reusable dishes, etc.).</p> <p>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.).</p> <p>2.6 Promote and encourage tenants, users, contractors, and/or clients to minimize waste and to recycle.</p> <p>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.</p> <p>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.</p> <p>2.9 Place marked garbage and recycling containers at convenient locations on site (e.g., for employees and visitors).</p> <p><u>Operating ports only:</u></p> <p>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.</p> <p><u>Ports operating dry bulk terminals (2.11, 2.12, 2.13):</u></p> <p>2.11 Adopt procedures to minimize the amount of cargo residues left on board the ships.</p> <p>2.12 Facilitate the discharge of solid bulk cargo residues ashore, including hold sweepings.</p> <p>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.</p> <p><u>Note:</u> Not applicable to terminals that handle multiple dry bulk products because of cross-contamination risks.</p>
LEVEL 3
<p>3.1 Implement all applicable best practices listed at level 2.</p> <p>Fulfill one of the following 2 criteria:</p> <p>3.2 Produce an annual inventory of all waste being generated during the participant's direct activities (administrative and/or site operations).</p> <p>OR</p> <p>3.3 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).</p> <p><u>Note:</u> The inventory or audit does not include waste generated from demolition or construction projects.</p> <p><u>Note:</u> See Annex 5-A.</p>

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, 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 rates and identify practices and strategies to achieve these rates.

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, and valorizing 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 established in the Waste Management and Reduction plan.