

## MITIGATION MEASURES PROPOSED

Rebuilt of breakwater 302 at Étang-du-Nord harbour, Magdalen Islands

Mitigation measures
<b>Air Quality</b>
Use well-maintained and properly functioning machinery and heavy equipment.
Regularly inspect machinery to ensure proper functioning and maintain it according to usage recommendations.
When possible, turn off vehicle and equipment engines when not in use.
Prohibit the burning of waste in or near the work area at all times.
Adopt work methods that minimize dust emissions and vehicle exhaust fumes.
Cover piles of fine materials or others with a tarp to prevent wind dispersion.
<b>Noise Environment</b>
Plan work during normal working hours and in compliance with municipal requirements, i.e., from 7:00 AM to 7:00 PM.
Avoid idling engines as much as possible.
Use and maintain motorized equipment in good working order (mufflers and other noise reduction systems).
<b>Surface water quality</b>
Implement effective measures to limit sediment input from the site to the aquatic environment and ensure maintenance (e.g., sediment barriers, berms, sediment traps, sedimentation basins, temporary slope stabilization, water diversion to vegetated areas).
For machinery that will come into contact with surface water, use biodegradable lubricating oil (HF type) whenever possible.
For interventions planned below the high tide line, prioritize their execution in exposed areas at low tide. Stabilize the site before the tide returns.
Avoid sudden movements of machinery during aquatic work to prevent suspended sediment clouds.
Workers should be aware not to unnecessarily suspend sediments from the waterbed during work by making sudden movements or levelling the bottom by pivoting the bucket/machinery.
If a significant turbidity cloud spreads outside the work area during dredging or excavation in water, slow down dredging activities or space out dredging periods.
Do not unnecessarily move machinery in the water.
Limit machinery movement to the minimum necessary if it must pass below the high tide water line when the area is exposed.
Use clean, contaminant-free materials for riprap.
Place stones and/or materials on the seabed or as close to the bottom as possible to limit additional encroachments and sediment suspension.
If interventions are planned below the high tide line, perform them when the work area is exposed and stabilize the site before the tide returns.

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Machinery should not be stored within 30 meters of the shore or a watercourse, nor should it travel on waterbeds.
Vehicle maintenance, refueling, and storage of fuel or other hazardous materials should be done, as much as possible, at least 30 meters from the shore. If this distance cannot be maintained, containment measures should be applied.
Ensure machinery is clean and free of leaks.
Do not discharge any debris or hazardous materials (oils and wastewater, etc.) into the aquatic environment. Any accidentally introduced materials should be removed as soon as possible.
Sediment and Soil Quality
Select storage locations for materials, if applicable, based on the characteristics of the surrounding environment (accessibility, site size, distance from sensitive areas, etc.).
When possible, place the storage area at least 30 meters from ecologically vulnerable areas and watercourses and at least 3 meters from drainage ditches. Choose flat terrain or a slope of less than 10%.
If applicable, manage dredging and excavation spoils based on analysis results and in accordance with the Guide to Intervention - Soil Protection and Rehabilitation of Contaminated Sites by MELCCFP.
Faune aviaire
Do not approach seabird and waterbird colonies during the breeding and nesting period, stay at least 300 meters away from colonies, and avoid disturbing migratory birds during the breeding period to minimize disturbance and incidental take.
When possible, perform work outside the nesting period, which runs from May 1 to August 15.
If work cannot be done outside this period (May 1 to August 15), develop a management plan that includes appropriate measures to reduce the risk of impact on migratory birds and incidental take. These measures may include but are not limited to:  <ol style="list-style-type: none"><li>1. Starting activities before the birds arrive in spring.</li><li>2. Checking for active migratory bird nests before starting work.</li><li>3. Using deterrent techniques.</li><li>4. Any other method to achieve this goal.</li></ol>
Aquatic Flora
Do not perform excavation work inside the harbor during unfavorable weather events (e.g., strong winds, heavy agitation in the harbor, etc.).
If a significant cloud of suspended particles is observed inside the harbor, take appropriate measures to limit its spread (e.g., stop work, reduce pace, turbidity curtain, etc.).

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<b>Benthic and Fish Fauna</b>
Perform water interventions between August 1 and March 31, or from July 1 to July 31 only during the day, outside the sensitive period for American eel and rainbow smelt, and limit the duration of aquatic work as much as possible.
Use clean stone for riprap.
Place spoil materials at a safe distance above the high tide line to prevent sediment input into the aquatic environment. If necessary, confine or stabilize these materials (e.g., waterproof tarp, sediment barrier, etc.).
For the construction and removal of temporary access roads and bridges, perform interventions planned below the high tide line when the work area is exposed (at low tide, outside high water episodes) or at falling tide, and stabilize the site before the tide returns.
Stop work when unfavorable weather conditions (e.g., strong winds, storm, etc.) are anticipated or occur to prevent sediment dispersion outside the work area.
<b>Marine Mammals</b>
If required, the contractor must comply with speed restriction measures in the Gulf of St. Lawrence for the protection of North Atlantic right whales, according to applicable dates and zones mentioned in navigation warnings (AVNAVs) and ship safety bulletins.
If an endangered cetacean (blue whale, fin whale, and right whale) or leatherback turtle is observed within 200 meters of the aquatic work area, stop work and wait for the animal to move more than 200 meters away.
If marine mammals or leatherback turtles are near barges, no means of scaring the animals should be considered.
<b>Species at Risk</b>
If an endangered cetacean (blue whale, fin whale, and right whale), great white shark, or leatherback turtle is observed within 200 meters of the aquatic work area, stop work and wait for the animal to move more than 200 meters away.
From May 1 to August 15, all work will be prohibited in the potential nesting area to avoid disturbing the bank swallow if it nests in the work area.
<b>Invasive species</b>
Ensure work equipment and machinery are clean and free of invasive species upon arrival at the site and maintain them in this condition thereafter.
For equipment cleaned and stored on land just before work, the contractor must provide, in writing, to the ministry representative: <ul style="list-style-type: none"> <li>• A list of this equipment.</li> <li>• The storage location.</li> <li>• The planned date for launching.</li> </ul>
The ministry representative must be able to verify that the equipment was clean and stored on land before work.
For equipment already in the water, the contractor must demonstrate that this floating equipment is free of invasive species before mobilizing to the work site. A written inspection report must be provided immediately before mobilization, certifying that the equipment is free of invasive species.

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The release of invasive aquatic species found on equipment, machinery, or artificial structures is prohibited.
<b>Port Activities, Commercial Fishing, and Navigation</b>
Comply with all conditions of the approval issued under the Canadian Navigable Waters Act.
Ensure user safety by marking the work area and installing adequate navigation signage.
Implement measures to allow fishermen to use the harbor safely during work, if required.
<b>Waste management</b>
Provide facilities for receiving waste and recyclables.
Separate non-recyclable and recyclable waste.
Ensure no waste is left on site.
Dispose of all waste and residual materials in accordance with current regulations and ensure no waste is burned, buried, or submerged on site.
<b>Accidents and Failures</b>
It is prohibited to discharge hydrocarbons, solvents, thinners, or any hazardous substances into watercourses, storm sewers, and sanitary sewers.
Ensure all hazardous materials intended for disposal are managed in accordance with current regulations (wood preservatives, empty containers, sawdust and wood residues, contaminated soils, etc.).
The contractor must ensure machinery is in good working order (trucks and other machinery used) and well-maintained to prevent oil, grease, and fuel leaks.
The contractor must identify the risks of toxic substance spills that will be used or stored during the work. Preventive and safety measures, as well as an emergency plan in case of spills, must be provided.
Petroleum hydrocarbons will be handled with care, stored cautiously (at least 30 meters from the shore), and disposed of according to current regulations to prevent accidental spills into water or soil.
The contractor must have an emergency spill kit on site throughout the work.
In case of equipment failure/accidental spill, appropriate emergency measures will be applied to control the situation, and the failure will be repaired immediately. The area affected and contaminated by toxic substances will be contained, cleaned, and contaminated material will be removed and sent to an authorized site via a specialized firm.
The incident must be reported immediately to Environment Canada's emergency line at 1-866-283-2333, the Coast Guard alert network at 1-800-363-4735, and the site supervisor.
Hydrocarbons must be recovered, and contaminated soils disposed of in accordance with current regulations. The numbers must be communicated to the contractor responsible for the work and posted on the site.
Accidental spills must be reported to a DFO-SCH representative as soon as possible

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If an accidental spill occurs, the contaminated soils or backfill materials must:

- Be piled on waterproof tarps and covered with waterproof tarps.
- Be sampled according to the methods recommended in the Guide to Sampling for Environmental Analysis, Notebook 5: Soil Sampling by CEHQ.
- Be subjected to laboratory chemical analyses, including petroleum hydrocarbons C10 to C50, metals, polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs).
- Be managed according to current regulations and transported to an authorized site.