

**ENVIRONMENTAL PROTECTION PLAN (EPP)  
NORTH HEAD HARBOUR IMPROVEMENTS  
NORTH HEAD, CHARLOTTE COUNTY, NB  
Project No. 307952**

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## APPENDICES

Appendix A - Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters

Appendix B - Information on the Harlequin Duck

## 1.0 PURPOSE

The purpose of the Environmental Protection Plan (EPP) is to provide environmental mitigation measures that would be implemented during the construction activities associated with the proposed North Head Harbour Improvements project located in North Head, Charlotte County, New Brunswick.

The harbour improvements project involves the dredging of the harbour basin on the east side of the Fisherman's Wharf, and the installation of eight (8) floating docks to the east of the Fisherman's Wharf. The harbour basin will be dredged to a depth of approximately 2.0 m below the chart datum (i.e., Low Natural Tide (LNT)). The dredging will include the removal of the overburden (i.e., silt and sand) and excavation of rock. The rock excavation will be carried out using a rock hammer or by blasting. The dredged material (i.e., rock and overburden) will be land disposed at an approved land disposal location off-site. Seven (7) floating docks, measuring approximately 15 metres (m) x 3 m each, and one (1) floating dock measuring approximately 15 m x 5 m, will be installed to the east of the Fisherman's Wharf in the harbour basin. The floating docks are to be constructed of new material and will be placed in a "T" shape.

The components of the EPP include:

- Ensuring that the contractor's commitments to minimize the environmental impacts from the project will be met;
- Documenting environmental concerns and appropriate protection measures;
- Providing practical mitigation methods regarding procedures for protecting the environment and minimizing the environmental effects of the proposed project;
- Providing a reference document outlining specific mitigation measures to protect the environment;
- Providing a training aid during implementation efforts; and,
- Providing a reference to applicable legislative requirements.

This EPP provides the procedures and organization to ensure that project personnel understand and implement environmental protection procedures for both routine and unplanned events associated with the harbour improvements project.

The format of the EPP is intended to enhance its use by project personnel in the field and to provide an important support document between various permits and authorizations issued for specific project components and activities. This EPP comprises the following sections:

- Section 1 - outlines the purpose and organization of the EPP.

- Section 2 - outlines the potential environmental concerns and associated environmental protection procedures. Relevant permits, approvals and authorizations are provided in this section along with specific implementation notes and references to other relevant documents.
- Section 3 - outlines the specific environmental protection measures for invasive species.
- Section 4 - outlines the contingency plans including instructions for personnel to respond to accidental or unplanned events.
- Section 5 - outlines the key contacts for the project.

## 2.0 PROCEDURES

### 2.1 HAZARDOUS MATERIALS HANDLING AND DISPOSAL

A variety of potentially hazardous materials will be used or stored on-site during this project. Potentially hazardous materials, which will be routinely used, include:

- Petroleum fuels;
- Oils;
- Lubricants; and,
- Hydraulic fluids.

The procedures and requirements of the Workplace Hazardous Materials Information System (WHMIS) program will be in place to protect employees and are generally applicable to the protection of the environment.

The WHMIS procedures and requirements reinforce the proper handling, storage, and control of hazardous or toxic materials thereby reducing the potential for accidental release and consequently environmental impacts.

#### **Environmental Concerns**

The major concern regarding the use of these substances is their uncontrolled release into the environment through spills, and subsequent adverse effects on soil (both surface and subsurface), water quality (both surface and groundwater), marine environment and human health and safety.

#### **Environmental Protection Procedures**

The implementation of a WHMIS program is directly applicable to the use of these materials for the project including construction activities. The following protection procedures are intended to minimize the potential effect of hazardous materials on the environment:

- Hazardous materials will be used only by personnel who are trained and qualified in the handling of these materials and only in accordance with the manufacturer's instruction and government regulations. The WHMIS program will be implemented throughout the job site in accordance with the *New Brunswick Occupational Health and Safety Act* and regulations put forth by the Workplace Health, Safety and Compensation Commission of New Brunswick (WHSCC). All employees involved with hazardous materials must be appropriately trained.
- A complete inventory of the hazardous materials is to be maintained according to the WHMIS. This inventory is to be available to regulatory agencies upon request.

- The transportation of hazardous materials will be conducted in compliance with the Federal Transportation of Dangerous Goods Act.
- Fuel storage on the work site will be undertaken in compliance with applicable provincial and federal regulations, codes and guidelines. Where fuel storage is undertaken on federal lands, federal guidelines for aboveground storage tanks will be observed.
- All bulk storage of fuel products on site will be at least 30 m from the watercourse and in aboveground, dyked or some form of secondary containment. No hazardous materials storage will occur in a buffer zone of a watercourse or other environmentally sensitive areas.
- Transfer, fueling and lubrication of equipment on the site will occur in such a manner as to minimize the possibility of contamination to soil (both surface and subsurface) and/or water (surface and groundwater). Fueling or servicing of mobile equipment on land will not be allowed within 30 m of a water course except within a specifically designated refueling area where conditions will allow for containment of an accidental spill of fuels and lubricates.
- Material Safety Data Sheets (MSDS) will be available for all hazardous materials in use or stored on-site.
- All hazardous materials, when required, will be removed and disposed of in an acceptable manner in accordance with government regulations and requirements.
- The contractor will have appropriate emergency spill response equipment for containment and cleanup of spills. This equipment will consist of at least one 250 L (i.e. 55 gal. overpak) spill kit, containing equipment to prevent a spill from spreading and will quickly contain and clean up the spill area.
- Any equipment leaks must be prevented, by using drip pans and/or other appropriate means.

## 2.2 DREDGING AND DREDGE MATERIAL DISPOSAL

### **Environmental Concerns**

The principal concern, as with any construction in the aquatic environment, is the release of fine materials into the water column, which could have an effect on aquatic life and/or aquatic habitat (this includes both the act of dredging as well as disposal site). In addition there is also concern for accidental release of fuels and other hazardous materials.

## **Environmental Protection Procedures**

The environmental protection procedures that are considered appropriate to eliminate or minimize the potential effects as a result of the dredging and dredge disposal activities are:

- A floating silt curtain will not be required for this project, considering that the large tidal fluctuation in the Fundy Bay makes floating silt curtains ineffective;
- Trucks hauling dredged material will have watertight boxes to minimize loss of material. Trucks not meeting this criteria will be removed from the job;
- Transport vehicles will use designated routes only between the dredge-to-truck transfer location and the provincially approved disposal/landfill site;
- In case of an accidental spill/release of fuel, the contingency plan will be followed as per **Section 4.1**.

## **Additional Environmental Concerns**

There are additional environmental concerns relating to this project as the overburden material that is to be removed is contaminated with higher than normal level of Polyaromatic Hydrocarbons (PAH). With these higher levels there is a potential for deleterious substances to be re-suspended into the marine environment, which according to Environment Canada (EC) is in contravention of Section 36(b) of the *Federal Fisheries Act*.

## **Additional Environmental Protection Procedures**

The environmental protection procedures that are considered appropriate to minimize the potential effects of re-suspension of the deleterious substances as a result of the dredging and dredge disposal activities are:

- Dredging will not be conducted during periods of fish migration through the proposed dredging area;
- The operator of the excavator will be properly trained and have the appropriate licensing in order to conduct the work;
- Dredging will be conducted during dead low tide and three hours into the rising tide;
- Dredging of the over burden material will only be conducted during daylight hours;

- All permit conditions will be strictly complied with;
- Visual monitoring of the turbidity in the Bay of Fundy in the vicinity of the work will have to be undertaken. If excessive change occurs in the turbidity within 100 meters (m) of the harbour boundaries that differs from the existing conditions of the surrounding water bodies (i.e., distinct color difference) as a result of the dredging activities, the work will stop, photos will be taken and Mr. Ted Currie, DFO-HMB, will be contacted at (506) 851-3650 to determine if additional mitigation measures (i.e., working at alternative tide phases, varying production rates, or measures identified by the DFO-HMB representative on-site) are required;
- Dredging of the overburden will be undertaken by a properly trained operator and will be conducted in a manner that minimizes the re-suspension of sediments in the water column;
- Considering the amount of overburden and the fact that the material under the overburden is rock an environmental type bucket is not feasible;
- The excavator used for this project will use a normal bucket with teeth and the following procedures will be implemented to dredge and unload dredged material into trucks:
  - The bucket will descend to the bottom in a manner which reduces the potential of re-suspension of sediments as the bucket contacts the bottom;
  - To minimize the potential for washing of material from the bucket during ascent, the operator shall try to achieve full bucket capacity;
  - The bucket will ascend at a controlled rate which reduces potential winnowing of sediment, and will pause immediately above the surface of the water to allow excess water to decant out of the bucket before the material is unloaded;
  - Excavated sediments will be immediately transferred to transport trucks, in a manner which minimizes the release of fine textured material into the water column (i.e., reducing the amount of over water swings);
  - The operator shall ensure that the bucket is located directly above the truck box, and as far down as possible before releasing the material; and
  - The bucket is to be empty after material is unloaded, before continuing to dredge.
- The Contractor will be required to coordinate dredging and construction activities with the Harbour Authority of North Head Harbour within the project area for the duration of the project;



- All vehicles and equipment will be governed in accordance with the regulations set forth by Transport Canada; and
- In case of an accidental spill/release of fuel, the contingency plan will be followed as per **Section 4.1**.

### 2.3 DUST CONTROL

#### **Environmental Concerns**

Project activities could cause dust that may affect nearby residences and/or businesses.

#### **Environmental Protection Procedures**

- The construction manager shall determine locations where water is to be applied, the amount of water to be applied and the times at which it shall be applied.
- At least one mobile water application unit for applying water shall be available to the work site. Water shall be applied by means of a pressure type distributor equipped with a spray system of nozzles that will ensure a uniform application of water.
- Waste oil is not to be used for dust control under any circumstances.

### 2.4 BLASTING

#### **Environmental Concerns**

The major concern associated with blasting activities in the aquatic environment is direct mortality to aquatic species and/or habitat destruction. Resuspension of sediments in the water column may affect aquatic species due to siltation and altered water quality. In addition there is also a concern for accidental release of fuel and other hazardous materials and siltation of the aquatic environment.

#### **Environmental Protection Procedures**

The environmental protection procedures that are considered appropriate to eliminate or minimize the potential effects as a result of the blasting activities are:

- Prior to conducting blasting DFO-HMB must be contacted;

- The contractor must follow the DFO Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, refer to **Appendix A**;
- All permits must be acquired prior to conducting blasting at the site;
- All blasting will be restricted to authorized personnel who have been trained and certified in their use;
- Blasting will be undertaken during the time of low biological activities or environmental sensitivity;
- A predictive analysis of the proposed blast will be conducted to assess the zone of influence of blasting activities;
- Well Surveys will be conducted at residences/commercial buildings within 500 m of the proposed work area. If there are no buildings within 500 m of the proposed work area then the nearest buildings to the work area will be surveyed;
- A pre-blast survey will be conducted by using visual reconnaissance and hydrophones at selected locations outside the construction zone to ensure there are no aquatic mammals present within 300 m of the proposed blast;
- Shock wave padding or bubble curtains will be installed to minimize the transmission of the blast through the water;
- All temporary magazines for explosive storage will have a Temporary Magazine License;
- If explosives are to be stored on-site, explosives and blasting caps will be stored in separate magazines on-site;
- Blasting activities will be done in a manner that ensures that the number and magnitude of explosions are limited to which is absolutely necessary;
- Blasting will be scheduled to minimize disruption of vehicle traffic; and,
- In case if an accidental spill/release of fuel, the contingency plan will be followed as per **Section 4.1**.

## 2.5 CONSTRUCTION/DEMOLITION

### **Environmental Concerns**

The primary concern with marine construction/demolition activities is the release of fine materials into the water column, which could have an effect on aquatic life and/or aquatic

habitat. Noise associated with these activities and the use of heavy equipment is also a concern for wildlife, particularly seabirds and marine animals. The accidental release of fuel and other hazardous materials, the discharge of solid wastes, and vessel traffic are also concerns.

### **Environmental Protection Procedures**

The environmental protection procedures that are considered appropriate to eliminate or minimize the potential effects as a result of the construction/demolition activities are:

- Any construction or demolition debris will be disposed of in a provincially approved manner;
- All permit conditions will be strictly complied with; and,
- In the case of an accidental spill/release of fuel, the contingency plan will be followed as per **Section 4.1** of this EPP;

### 2.6 CONCRETE POURING

#### **Environmental Concerns**

The accidental release of concrete or the cleaning of concrete pouring equipment may adversely affect the terrestrial and/or marine environment.

#### **Environmental Protection Procedures**

The following protection procedures are intended to minimize the potential effect of accidental releases and the cleaning of concrete pouring equipment in the terrestrial and/or marine environment:

- Any accidental release of concrete will be removed prior to solidification;
- Concrete trucks will be clean and will not release any material during transport to the site;
- Wash water from the cleaning of concrete trucks will be discharged either at the concrete manufacturer's place of business or to a designated area off-site. All such discharges will be of minimal volume and will not occur within the buffer zone of a watercourse/wetland or other environmentally sensitive area;
- Miscellaneous concrete equipment will be washed and cleaned at an approved location off-site. All such discharges will be of minimal volume and will not occur within the buffer zone of a watercourse/wetland or other environmentally sensitive area;

- Residual concrete, including concrete resulting from cleaning of concrete pumping systems/equipment and rejected concrete batches, will be disposed of at concrete collection facilities; and,
- Concrete handling will be conducted under the WHMIS program, whereby only trained personnel handle the concrete and only in accordance with manufacturer's instructions and government regulations. All employees responsible for the handling of concrete will be appropriately trained.

## 2.7 LIGHTS AND NOISE LEVELS

During the construction activities there will be an increase in noise level.

### **Environmental Concerns**

Excessive lights and noise emissions may cause a public disturbance in the vicinity of the project area and along the transportation route, particularly during regular public off-work hours.

### **Environmental Protection Procedures**

The following environmental protection procedures are intended to minimize the potential effect of lights and noise levels on the environment:

- Lighting and working hours to be regulated by conditions of the relevant municipal permit (if applicable) and/or consultation with local authorities;
- Conduct work such that lighting and noise levels remain comparable to those currently produced in the project area;
- Project vehicles will be kept to designated project transportation routes; and,
- Where additional lighting is required to conduct work, lights will be positioned such that the direction of the lighting is opposite that of nearby residential and business areas.

## 2.8 VEHICLE TRAFFIC

Materials and equipment will be transported to the site by vehicles over the course of the construction phase. Mobilization and demobilization of the project will require trucks transporting project machinery on the public roads as well, the daily vehicle traffic of the workers.

## **Environmental Concerns**

Environmental concerns associated with the vehicle traffic are related to the overall condition and the equipment noise, which has the potential to disturb local wharf activities. Vehicle and equipment (surface and subsurface) operation has the potential to affect terrestrial, aquatic and marine habitat and species, soil, groundwater quality, human health and safety, and alter the aesthetic condition of the site.

## **Environmental Protection Procedures**

The general environmental protection procedures applicable for vehicle traffic in the North Head area are:

- Designated public routes will be used to transfer material required for the project. These designated routes must be reviewed and approved by the Project Manager;
- Hours of operation for the project will be limited to daylight hours (i.e., 7 am to 7 pm) or as per the municipal regulations (if applicable); and,
- Rock will be transported after 6 pm only if the rock is being dumped in the wharf back up area immediately east of the work area. No rock will be transported to the CDF after 7 pm in the evening;
- Trucks transporting dredge material will have water tight boxes to reduce water spilling on the roads and accesses;
- Appropriate signage is to be placed on roads and within the wharf properties where the public will be at risk from heavy equipment;
- Vehicles and equipment associated with the construction project will be in proper working condition (i.e., well maintained) and be parked in designated areas as provided in consultation with the Project Manager and Harbour Authority;

All vehicles and equipment associated with the project will be free of antifreeze, fuel, oil, and hydraulic fluid leakage. Vehicles and equipment on site will be monitored during the projection duration and if leaks are identified the equipment will be repaired or removed from the site immediately.

## 2.9 OPERATIONS OF CDF

The operation of the CDF can result in some activities or situations which have the opportunity to result in negative impacts to the environment. These include diminished water quality in adjacent sea water, odours and dust. The following will provide instructions to the owner/operator to address these issues.

### 2.9.1 COLLECTION AND TREATMENT OF RUN OFF

Surface spoils may be mobilized from within the CDF from run off from precipitation.

- The spoils will be shaped so that water will be collected at one end of the CDF.
- The water will be allowed to decant in a sedimentation pond constructed on the CDF berm at the end of the project, and water will exit through a filter fabric prior to reaching the sea water.
- This configuration will remain and be maintained until a cap material is installed.

### 2.9.2 ODOUR

Some odour is expected, but to what degree of discomfort the odour will reach is not known, nor the extent to which the community will be affected. The degree of odour from the CDF will be assessed by representatives of the community of Ingall's Head. Should odour become a problem the following action will be taken.

- Lime will be spread on the spoils when required to reduce the odour. Additional application of lime will be carried out as required to reduce the odour.

### 2.9.3 DUST

Fine spoils can be mobilized from the cell as a result of wind, and the dust can result in impacts to wharf users and residents. Should dust become a problem, the following will be carried out:

- Snow fencing will be placed perpendicular to the prevailing winds, to capture finer particles.
- Calcium chloride (flake) will be used to treat dust problems
- Water will be used, but remains the least favourable option, as this delays the decanting process of the spoils.

### 2.9.4 ALGAE BLOOMS

Stagnate waters with a CDF can be affected by Algae blooms, which can diminish water quality as well as affect air quality and aesthetics of the CDF. Treatment of algae blooms are best completed by eliminating the amount of stagnate water in the CDF.

- Modify the spoils to eliminate water ponds.
- Treat stagnate water with line to reduce algae bloom growth.

### 2.9.5 LONG TERM MONITORING AND CORRECTIVE ACTIONS

The CDF becomes a structure of the Harbour, and will be included in DFO SCH inventory of structures. The CDF will continue to be monitored into the future to insure the material inside the CDF is properly contained and the facility is not at risk of breach or failure. Monitoring will consist of engineering inspections which are carried out on a regular basis along with all other facilities at the harbour. Should any portion of the CDF appear to be at risk (armour stone is missing, slumped cell walls, etc, the Engineer will make first make sure the spoils within the CDF are stablized and then recommendations to repair.

### 2.10 AVOIDANCE OF HARLEQUIN DUCKS AND OTHER MIGRATORY BIRDS

Although the work is scheduled for the period of least fishing and low biological activity for fish species, the period of work corresponds with the period when migratory birds, mainly seabirds, are abundant around Grand Manan. During the winter months seabirds are vulnerable as result of inappropriate activities.

#### **Environmental Concerns**

All migratory birds are protected under the Migratory Birds Convention Act. This legislation provides migratory birds protection from hunting and capture during sensitive periods, and prohibits the deposit of oil, oil wastes, or other substances harmful to migratory birds or in any area frequented by birds. “Other substances” have been interpreted to include food scraps, sediment plumes, dust, and noise, activities that can disturb nesting or feeding migratory birds.

The Harlequin Duck, known to winter in Grand Manan waters at Whitehead Island and also at the Wolves during the period of construction and dredging, is listed as a “species of special concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The eastern North American population today consists of approximately 1800 individuals. Threats to this species include oil spills and other human disturbance. The threat posed by disturbances to habitat is intensified by the strong attachment of Harlequin Ducks to specific wintering sites. Because a large proportion of the eastern North American population concentrates along the Maine and Grand Manan coast during the winter potential oil spills are a major concern. One spill in this area could have a significant impact on the total population. Similarly, other human disturbances in wintering areas could affect survival. Birds cannot feed effectively if they are avoiding humans and may use much of their energy reserves necessary for survival. During the moulting period, the birds are particularly susceptible to disturbance and oil pollution because of their inability to fly. Human activity in both wintering and breeding areas may decrease the food supply for Harlequin Ducks.

## **Environmental Protection Procedures**

The following environmental protection procedures are intended to minimize the potential effect of the CDF construction and Dredging on migratory Birds, with importance placed on Harlequin Ducks due to their designation under COSEWIC.

- The Canadian Wildlife Service offers a good guide to the Harlequin Duck with the Hinterland Who's Who series, (used to prepare this section). To promote awareness and education of the contractor and employees of the potential impacts to this species, copies of brochure will be distributed to work and ships crew. The most likely area to encounter the birds will be en-route from harbour to harbour. At a distance, the bird can be easily confused with the more common scoters, but a trained eye can identify the differences.
- Based on the Hinterland Who's Who information and the contractor's proposed routes and work areas, the proponent is to consult with the CWS on whether the work will be carried out in an area where abundant numbers of seabirds feed and rest. Avoid intrusion into these spaces and if necessary advise the contractor to reroute the vessels.
- The contractor is to follow the established vessel channels to access work sites. If seabirds are encountered enroute to the disposal site, the contractor will slow transport vessels to a speed that emulates fishing vessels.
- The contractor is to prevent oil and chemical spills in all waters by following procedures in 2.1. Ensure that contaminant spills, discharge, and littering, regardless of the amount, do not occur at sea or along the transport routes.
- All migratory birds are to be included in protection measures.
- Contact person at Canadian Wildlife Service is Mr. Keith McAloney (506) 364 5013

### 2.11 CONSULTATION WITH WATERWAY USERS TO AVOID CONFLICT

It is recognized that Small Craft Harbours (SCH) are active fishing and transportation ports. In order to reduce conflict with the port users during the dredging, Public Works and Government Services Canada (PWGSC) will embark on a program of consultation, mitigation and contingency planning to reduce the potential conflict with port users. The development of this project will be conducted in conjunction with DFO, and Provincial Government Departments. They include but are not limited to the following:

- Consultation with local fishers to notify them of the timing and scope of the upcoming activities. The Harbour Authority will be responsible for coordinating activities at the wharf during the project; and,



- Forming contingency plans to deal with unpredicted occurrences, as identified from the fishers' consultation (see above).

The programs to be implemented (and modified as necessary) are to reduce conflicts with harbour users and local residents. All project activities will comply with the applicable provincial permit requirements that may be generated as a result of the project

## 2.10 PERMITS, APPROVALS AND AUTHORIZATIONS

The following permits, approvals and authorizations are required:

- A Navigable Waters Protection Act permit application has been made by Public Works and Government Services Canada (PWGSC) on behalf of the Department of Fisheries and Oceans – Small Craft Harbour Branch (DFO-SCH);
- Authorization for Habitat Alteration Disruption or Destruction (HADD) from DFO-HMB by PWGSC on behalf of DFO-SCH;
- Authorization to Operate a Land Based Disposal Facility for Dredge Material from New Brunswick Department of Environment and Local Government (NBDELG) by PWGSC on behalf of DFO-SCH;
- A Quarriable Substance Permit application will be made to the New Brunswick Department of Natural Resources (NBDNR) by PWGSC on behalf of DFO-SCH.

## 3.0 SPECIFIC ENVIRONMENTAL PROTECTION MEASURES

### 3.1 PREVENTION OF THE TRANSPORTATION/INTRODUCTION OF INVASIVE SPECIES

Non-native and invasive species may be unintentionally introduced into a marine environment via various marine construction and improvement projects. The non-native and invasive species have the potential to alter the native ecosystems and have negative impacts on the commercial fishing and aquaculture industries. Some of the potential pathways for spreading these species are, but not limited to the following:

- Species or their water borne larva travels in bilge and ballast water of various marine construction equipment (i.e. barges, scows, etc.);
- Marine sediments remaining in excavation equipment, barges or truck; and,
- Species could be attached or be carried in the bottom/hull of various boats or barges.

#### **Environmental Concerns**

Waters of Atlantic Canada are experiencing the effects of invasive aquatic plant and animal species from around the world. Once these non-native or invasive species have established themselves in a new ecosystem (absent of their natural predators) they can harm native species, possibly causing entire ecosystems to be disrupted due to habitat destruction or food chain alteration (i.e. preying on native species, transmitting disease, etc.).

The principal invasive species in the Gulf of St. Lawrence and the Canadian Atlantic coast are Tunicates (*styela clava*), Green Crab (*Carcinus maenas*) and green alga's (i.e. Oyster Thief (*Codium fragile tomentosoides*)). Up to date information on the present distribution of these species in the Bay of Fundy can be obtained by calling the Department of Fisheries and Oceans (DFO) at (902) 566-7812. Information on the Gulf of St. Lawrence can also be found at [www.glf.dfo-mpo.gc.ca](http://www.glf.dfo-mpo.gc.ca) and for the Canadian Atlantic coasts at [www.northeastANS.org](http://www.northeastANS.org).

#### **Environmental Protection Procedures**

The following protection procedures are intended to reduce the potential risk of transporting and introducing invasive marine/terrestrial species at North Head.

Land Based Equipment:

- The following practice will be considered essential when mobilizing the construction equipment from a site considered to be supporting invasive species to a site where invasive species are not present. It will be carried out on land and preferably at the site of previous work;

- Equipment that can be taken out of the water is to be washed with fresh water and/or spraying with undiluted vinegar at the take out site;
- Remove any plants, animals or sediments from the equipment. Drain any water from equipment and let equipment dry completely, if possible;
- The contractor must report any sightings of suspicious species to DFO; and,
- The contractor maybe required at any time by PWGSC to produce documentation as to when and how they had conducted the above mentioned mitigation measures.

Floating Equipment:

- Prior to mobilizing to the construction site, the contractor will provide a work log that shows the location of previous works and locations.
- If the floating equipment has been in an area, which is known to be infested with invasive species, the owner will verify that equipment is free from invasive species by diving and examining the floating equipment. Evidence of the invasive species will result in a thorough cleaning which may involve complete removal of animals and plants or dry-docking the equipment; and,
- Remove any plants, animals or sediments from the equipment's bilge's and filters.
- The contractor must report any sightings of suspicious species to DFO.

## 4.0 CONTINGENCY PLANS

Contingency plans have been developed for the following accidental and unplanned situations:

- Fuel Spills; and,
- Equipment Loss.

### 4.1 FUEL AND PETROLEUM PRODUCT SPILLS

#### **Environmental Concerns**

Accidental terrestrial and/or marine fuel spills may occur in association with construction activities. Other hazardous products associated with operations, such as hydraulic fluids, lubricating oil and solvents will be used in relatively small quantities. An accidental spill or unplanned event could occur as the result of a leak in the fuel storage units, breach of hoses/ lines on equipment or if equipment is overturned. These accidental spills or unplanned events related to hazardous materials can be damaging to both the terrestrial and/or marine environment.

#### **Environmental Protection Procedures**

All personnel, supervisors and subcontractors will conduct regular inspections of all construction equipment related to the project. This procedure would identify problems such as equipment wear and tear, and any visible leaks or damage. The result of these inspections will be recorded and any problems will be brought to the contractor's immediate attention. Fuelling of vehicles will be limited to restricted areas where sumps and/or site grading is established to direct and contain an accidental spill should an accident occur, or other alternatives could be considered such as fueling at an off-site location. Small leaks and drips will be contained by using drip pans or other appropriate means until the equipment is, properly repaired. The site supervisor will assume overall responsibility of maintaining the current contingency plan and updating the plan as applicable. In the event of an accidental spill or unplanned event, the following procedures will apply:

- The source of the spill must be identified and stopped, with any released material contained immediately;
- All spills, regardless of size, will be reported verbally to the supervisor immediately upon implementation of the above procedure;
- The site supervisor will have a copy of the EPP and halt work in the immediate area of the spill. The next site would be to initiate the commencement of spill containment and clean up with the spill kit on hand and call the **Canadian Coast Guard (CCG)** at **1-800-565-1633** (24 hour report line) with the following information provided:

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- name and phone number of person reporting the spill;
  - approximate time and duration of the spill;
  - type of product released to the environment;
  - locations and source of the spill;
  - cause of the spill;
  - present status of clean-up effort;
  - weather conditions (include marine conditions if applicable); and,
  - proximity of water bodies, and any near by facilities.
- The spill will be cleaned up according to applicable provincial regulations including the proper disposal of contaminated debris, cleaning materials and absorbents; and,
  - The Contractor will prepare a written report, which will be sent to the applicable Provincial and Federal authorities no later than 30 days after the date of the spill.

#### 4.2 EQUIPMENT LOSS

In the event of equipment roll over, equipment entering the marine environment, equipment becoming lodged in sand/snow/high-water the Contractor will have a contingency plan in place prior to the commencement of work. Any of these events has the potential to harm the environment.

## 5.0 KEY CONTACTS LIST

The following section lists key organizations and/or individuals that may be contacted during emergency situations and regarding regulatory issues. The contractor contact personnel will be identified as the project design is finalized and specific stages of work proceed.

Royal Canadian Mounted Police (RCMP): RCMP - 911  
Emergency Accident Response: 911  
Fire Departments: 911  
Hospitals: Grand Manan Hospital, New Brunswick, (506) 662-4060

PWGSC Project Manager:  
Regis Doucet - (506) 636-4633

### Regulatory Authorities

NB Department of Environment and Local Government  
Mr. Tim Leblanc (506) 444-5194  
Mr. Paul Vanderlaan (506) 444-5382

NB Department of Natural Resources  
Mr. Kevin O'Donnell (506)453-2826

Water Course Alteration  
Mr. Linton Carr (506) 444-4323

Hazardous Waste Management  
Mr. Rejean Doiron (506) 453-3796

Petroleum Storage Handling  
Mr. Benoit Ouellette (506) 444-4667

Canadian Wildlife Service  
Ms. Rachel Gautreau (506) 364-5044

**Appendix A**  
Guidelines for the Use of Explosives  
In or Near Canadian Fisheries Waters

**Appendix B**  
Information on the Harlequin Duck