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**FISHERIES AND OCEANS CANADA-
SMALL CRAFT HARBOURS (DFO-SCH) AND TRANSPORT CANADA
NEWFOUNDLAND REGION**

PWGSC NO. R.032146.002

**ENVIRONMENTAL SCREENING
HARBOUR IMPROVEMENTS
ST. LUNAIRE, NEWFOUNDLAND AND LABRADOR**

**Prepared for DFO-SCH by
Public Works and Government Services Canada (PWGSC)
Environmental Services
Corner Brook, NL
September 2010**



Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

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PART A DESCRIPTION OF THE PROPOSED PROJECT

A-1 Project Identification

Date:	December 14, 2009	PATH Number:	
PWGSC Number:	R.032146.002	CEAR Number:	09-01-52123
TC - NWP File No.:	8200-02-1410		
TC NEATS File No.:	20166		
Harbour Code / Name:	St. Lunaire		
Location:	Latitude : 51° 29' 58" N	Longitude: 55° 28' 21" W	
County/Province:	Newfoundland and Labrador		
Region:	Newfoundland		
Screening Title:	Harbour Improvements		
Proposal Description:	<p>The proposed project can be considered in four (4) components:</p> <ul style="list-style-type: none"> - Component 1 involves dredging approximately 7100 m³ of primarily Class 'A' material from the approach of the existing facility and southeast of the finger pier wharf; - Component 2 involves the extension of an existing marginal wharf, approximately 6.1 m wide by 36.6 m long ; - Component 3 involves the extension of an existing breakwater wharf, approximately 7.6 m wide by 42.6 m long; - Component 4 involves the expansion of an existing service area southeast of the proposed project site. 		
Primary Undertaking:	<input checked="" type="checkbox"/>	Physical Activity:	<input type="checkbox"/>
Assessor(s):	Mark McNeil, Environmental Officer, PWGSC-ES, Corner Brook, NL		
DFO Spokesperson:	Sharon Branton, Area Manager, DFO SCH, Corner Brook, NL		
Assessment Contact:	Mark McNeil, Environmental Officer, PWGSC-ES, Corner Brook, NL		
Public Registry Contact:	DFO-CEA Registry Office - Newfoundland and Labrador Region		
Lead RA:	Fisheries and Oceans Canada <ul style="list-style-type: none"> • Small Craft Harbours Branch, Western Area, Newfoundland 		
Other RA's:	Transport Canada		
DFO Trigger:	Project proponent: <input checked="" type="checkbox"/>	Financial assistance:	<input type="checkbox"/>
	Interest in land: <input type="checkbox"/>	Law List or Issuing a Permit:	<input type="checkbox"/>
TC Trigger:	Project proponent: <input type="checkbox"/>	Financial assistance:	<input type="checkbox"/>
	Interest in land: <input type="checkbox"/>	Law List (NWPA 5(2)):	<input checked="" type="checkbox"/>
Type of Assessment:	Screening: <input checked="" type="checkbox"/>	Class Screening:	<input type="checkbox"/>

A-2 Project Justification

Purpose of the Project

The existing harbour is congested and poses a potential safety risk for both larger and smaller vessels. The proposed improvements will increase protected berthage and reduce the congestion at the existing facilities, and allow for safer harbour operations.

Alternative Sites and Options

The project represents an expansion of the existing DFO SCH facility. Several options were considered during the development of the current project, including extending the finger pier to the southeast instead of the currently proposed northwest. However, shallow water depths in this location would have required the removal of a significantly larger quantity of benthic environment in order to provide adequate depth. The currently proposed configuration reduced the costs and decreased the impact on the benthic environment.

A-3 Description of the Proposed Project

Location

The proposed project area is located in St. Lunaire, NL a seasonal fishing site located on the eastern tip of the Northern Peninsula. The harbour is accessible via provincial route 436. The approximate NAD83 coordinates of the project site are Latitude 51° 29' 58" N and Longitude 55° 28' 21" W.

A-4 Related Issues

The currently proposed project represents a further expansion of the existing DFO SCH site. In 2002, the existing finger pier wharf was extended by 76 m and approximately 3500 m³ of primarily Class A material was dredged from within the boat basin and deposited along the shoreline, southeast of the project site, to create a service area. The 2002 project was evaluated under the Canadian Environmental Assessment Act through a screening level assessment. The currently proposed project will further extend the breakwater wharf and expand the previously created service area. Any potential future projects in this area will be assessed on a case-by-case basis.

A-5 Components of the Project

Construction Phase:

The proposed project may be considered in four (4) components:

Component 1 involves dredging the approach to the existing facility to ensure adequate draft and berthage for vessels utilizing the site. Additional dredging will be undertaken southeast of the finger pier wharf. The required dredging will be to a depth of approximately - 4.5 m LNT. In total, approximately 7100 m³ of primarily Class 'A' (bedrock and boulder) material will be dredged from the entire site. To reach the target dredge area, drilling and/or blasting from a barge will likely be required.

Component 2 involves the extension of an existing marginal wharf to accommodate demand for additional berthing. The proposed extension will measure approximately 6.1 m wide by 36.6 m long and will be constructed of treated timber step-crib. The structure will be seated on the hard bottom. If suitable, dredged Class 'A' material from component 1 may be utilized as ballast for the new cribwork. If the material is deemed unsuitable, ballast material will be obtained from a provincially approved quarry and trucked to the site for placement. Infilling on the shoreward side

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of the new structure will be required to provide a level, upland approach (refer to attached site plan and photographs).

Component 3 involves the extension of an existing breakwater wharf to accommodate demand for additional berthing. The proposed extension will measure approximately 7.6 m wide by 42.6 m long and will be constructed of treated timber cribwork. The structure will be seated on a rock mattress. If suitable, dredged Class 'A' material from component 1 may be utilized as ballast for the new cribwork and as part of the rock mattress. If the material is deemed unsuitable, ballast and rock mattress material will be obtained from a provincially approved quarry and trucked to the site for placement.

Component 4 involves the placement of Class 'A' dredge material from component 1 of the project along the shoreline southeast of the proposed project site (refer to attached site plan and photographs). Subject to regulatory approval, the material will be placed in the tidal and sub-tidal zone and will extend an existing infilled area that was created as part of wharf extension and dredging project completed in 2002. There is existing scour protection protecting this rock fill. This scour protection will be removed and reinstalled once the infill is completed to further prevent any scour. The material will be placed by an excavator working in the dry with some assistance from dump trucks, if required. Note that the 2002 project was assessed under the Canadian Environmental Assessment Act; no negative impacts were predicted or reported as a result of that process.

Operation Phase:

The Environmental Management System (EMS) with an integrated Environmental Management Plan (EMP) for the Harbour Authority of Abrams Village covers operational aspects of environmental management and is the mitigation measure for the environmentally responsible aspects of harbour operation (fuelling, waste disposal, activities on the property and water).

Decommissioning/Abandonment:

There are currently no plans to decommission this site. At the time of de-commissioning, Small Craft Harbours will develop a site-specific re-use or reclamation plan that is appropriate for the applicable environmental legislation and Fisheries and Oceans Canada policies.

A-6 Time frame

Commencement of this project is tentatively scheduled for the Summer of 2011 with completion during the Spring of 2012; subject to DFO SCH operational priorities and funding.

Description of the Surrounding Environment

A-7 Description of the Natural Area

St. Lunaire forms part of the Town of St. Lunaire – Griquet and is located approximately 16 km northeast of the community of St. Anthony. It is accessible by provincial route 436. According to the 2006 census, the town has a population of 666. Sales and service occupations and trades, transport, and equipment operators and related occupations form the largest sectors of the local economy respectively.

The project site is a developed area consisting of an 'L' shaped breakwater wharf, boat launch, service area and related buildings. The shoreline is characterized by exposed bedrock with intermittent areas of pebble-cobble material.

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The immediate upland is gently sloped and sparsely vegetated with grass, although tree vegetation is present further inland. The proposed infill area is backed by a rock cliff.

According to Fisheries and Oceans' Traditional Ecological Maps of the area, Atlantic Cod, seals, whales, and Arctic Char may be found within or very near the project area. Rare and endangered species of calciphillic plants are numerous through the rock barrens of the general upland area (Government of Newfoundland and Labrador, 2009). However, none are known to exist near the immediate project site. The project site also falls within the Strait of Belle Isle ecoregion. This ecoregion lies along the Atlantic migratory flyway, and provides winter range for caribou as well as habitat for arctic hare, rock ptarmigan, Atlantic puffin, and geese (Government of Canada, 2009). However, the immediate area around the project site and nearby areas is not likely to provide critical or limiting habitat for any of these species.

There are no scheduled salmon rivers within 200 m of the project site. The project site is within the distribution range of the Blue Whale (Atlantic population), North Atlantic Right Whale, and Red Crossbill (*perca* subspecies); placed on Schedule 1 of the Species at Risk Act by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). It is not expected that the project site provides critical or limiting habitat for any of the abovenoted species at risk.

According the provincial Department of Fisheries and Aquaculture, there are two (2) aquaculture sites within approximately 3 km of the proposed project site and a third site approximately 10 km to the north. Potential impacts will be considered as part of the environmental assessment process.

A-8 Description of the Human Environment

St. Lunaire is a Class "B" fishing harbour with an established local Harbour Authority. According to DFO's 2007 statistics, St. Lunaire serves seventy one (71) enterprises operating from twelve (12) vessels with total vessel length of eighty seven (87) metres. Homeport vessels reported landing a total of 3,030,394 kgs with a total landed value of \$4,602,396. Current facilities at this harbour include: a treated timber finger pier wharf, treated timber marginal wharf, several slipways, a community stage, electrical shed, and a storage building.

PART B ENVIRONMENTAL ASSESSMENT OF THE PROJECT

(POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION / COMPENSATION MEASURES)

Boundaries:

A boundary is a function of the extent and duration of potential interaction, physical and chemical, between the proposed undertaking and the Valued Environmental Component (VEC). Generally, these boundaries are defined by the temporal and spatial characteristics encompassing those periods and areas, during and within which, the VECs are likely to interact with, or be influenced by, the project.

Project Boundaries:

Project boundaries refer to the spatial and temporal extent of project activities, and are dictated primarily by project specific characteristics indicated in the information for each construction site. Temporal project boundaries include operation and decommissioning. Spatial project boundaries are defined as the specific site area that includes the areas of construction and the zones of influence around the construction site (biological and physical), specifically the construction area footprint and adjacent lands.

Ecological Boundaries:

Ecological boundaries refer to the temporal and spatial scales over which environmental components or populations function. Temporal ecological boundaries take into consideration the variety of relevant characteristics of environmental components or populations including: 1) Magnitude, frequency and trends in the natural variation of a population or ecological component. 2) Time required for a biological, physical and/or chemical response to an effect to become evident. 3) Time required for a population or ecological system to recover from an effect and return to its pre-impact state.

Temporal ecological boundaries for impact assessment need to consider biologically meaningful intervals with respect to the life cycle of the species being examined. The degree of a potential impact on a particular species or environmental component is also influenced by other temporal characteristics including: 1) the portion of the year that the species or component remains in the proposed project area. 2) The timing of sensitive life history periods (such as larval life phase or bird nesting periods) in relation to the schedule of proposed activities. 3) Whether the project activity cycle includes a period of dormancy.

The distribution, patterns of movement, and potential zones of interaction between a VEC and the project determine spatial ecological boundaries. Direct project-environment interactions are unlikely to occur beyond the spatial extent of the project boundary, however migratory species/stock ranges are considered in the assessment.

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Socioeconomic Boundaries:

Socioeconomic boundaries refer to the temporal and spatial scales for economic systems and socioeconomic aspects of the environment, which include: 1) The time required for a response to a change in the socioeconomic environment to become evident. 2) The time necessary for a response to a project-related effect to become evident. 3) The time required for the socioeconomic environment to recover from an effect and return to its original state.

Only socioeconomic effects resulting from the direct impacts of a project on existing environmental conditions are considered. Spatial boundaries are established on the basis of the spatial characteristics of the socio-cultural and economic environment. These take into consideration resource harvesting activities, some of which are specific to particular places (e.g. fisheries resources) and times (e.g. fishing seasons).

Definition and Evaluation of Significance of Effects:

Significance is established based on the extent, duration and magnitude of the potential impact, as well as the environmental component's sensitivity to, and ability to recover from, the potential impact.

For **ecosystem** VECs that are population based, the definitions of significance are defined as follows:

Likely to have a significant effect - affects a population or portion thereof in such a way as to cause a decline or change in abundance or distribution of the population over one or more generations; natural recruitment may not re-establish the population to its original level; or

Not likely to have a significant effect - affects a population or a specific group of individuals in a localized area over a short period of time in a manner similar to natural variation and has no measurable effect on the integrity of the population as a whole.

For **socioeconomic** VECs, the definition of significance is as follows:

Likely to have a significant adverse effect - has an adverse effect on a community as a whole in a localized area and has a duration sufficient to adversely affect a change in the economic, physical or psychological well-being or in the long established activity patterns of the community in question; or

Not likely to have a significant adverse effect - has a negligible effect on communities, is of very short duration, is extremely localized and/or affects communities in a manner similar to small random changes due to natural socioeconomic fluctuations.

This environmental assessment considers the full range of project/environmental interactions and the environmental factors that could be affected by the project as defined above. Potential interactions between the project and the environment were reviewed and are outlined in Table 2. Potential Project/Environment Interactions Matrix.

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Table 1: Potential Project / Environment Interactions Matrix

Harbour Improvements, St. Lunaire, Newfoundland

P = Potential Effect of Project on Environment; ? = Not enough Information; ' - ' = No Interaction

Project Phase / Physical Work/Activity	Soil (Surface and Subsurface)	Groundwater Quality	Rivers/Lakes/Streams (and associated drainage) Quality	Marine/Estuary/Saltmarsh Water Quality	Wetlands (Bens, Fogs, Swamps)	Fish / Fish Habitat	Birds / Bird Habitat	Rare / Endangered Species / Species at Risk Act (SARA)	Aboriginal Interests	Socio-economic Environment	Agriculture/Aquaculture	Land Use	Archaeology / Palaeontology / Heritage	Air Quality / Noise	Health / Safety
Specific Work Activity															
Dredging/blasting	P	-	-	P	-	P	P	-	-	-	P	P	-	P	-
Marginal/finger pier wharf extension	P	-	-	P	-	P	P	-	-	-	-	P	-	P	-
Infilling/scour protection	P	-	-	P	-	P	P	-	-	-	-	P	-	P	-
Operation/Maintenance/ Decommissioning															
Operation/Maintenance	-	-	-	P	-	P	-	-	-	-	-	-	-	-	-
Decommissioning	P	-	-	P	-	P	-	-	-	-	P	P	-	P	-
Accidents/Malfunctions, and Unplanned Events	P	-	-	P	-	P	-	-	-	-	-	-	-	P	-

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The selected VECs are addressed in Tables 3.1 – 3.7 in its entirety below. The residual effects of the project on the environment are defined. Similarly, the physical works / activities and required mitigation are detailed, and the significance of residual (post mitigation) effects are estimated.

The following ratings are based on information provided by the proponent:

- **A review of project related activities;**
- **An appraisal of the environmental setting, and identification of resources at risk;**
- **The identification of potential impacts within the temporal and spatial bounds; and**
- **Own personal knowledge and professional judgement.**

The significance of project related impacts were determined in consideration of their frequency, the duration and geographical extent of the effects, and magnitude relative to natural or background levels, and whether the effects are reversible or are positive or negative in nature. These criteria are indicated in Tables 3.1 – 3.7.

Table 2: Assessment Criteria for Determination of Significance.

Magnitude	Magnitude, in general terms, may vary among Issues, but is a factor that accounts for size, intensity, concentration, importance, volume and social or monetary value. It is rated as compared with background conditions, protective standards or normal variability.	
	Small	Relative to natural or background levels
	Moderate	Relative to natural or background levels
	Large	Relative to natural or background levels
Reversibility	Reversible	Effect can be reversed
	Irreversible	Effects are permanent
Geographic Extent	Immediate	Confined to project site
	Local	Effects beyond immediate project site but not regional in scale
	Regional	Effects on a wide scale
Duration	Short Term	Between 0 and 6 months in duration
	Medium Term	Between 6 months and 2 years
	Long Term	Beyond 2 years
Frequency	Once	Occurs only once
	Intermittent	Occurs occasionally at irregular intervals
	Continuous	Occurs on a regular basis and regular intervals

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Table 3.1 – 3.7: Potential Project / Valued Ecosystem Interactions and Mitigation (S.16(1))

Table 3.1 Valued Ecosystem Component – Soil (Surface and Subsurface)				
Potential Effect: Erosion and contamination of upland				
Potential Interaction		Mitigation		
Excess erosion of soil during infilling activities.				
Contamination if shoreline due to deposition of dredge material.		Standard Mitigation Practices		
Contamination of soil due to hazardous material spill or construction debris.		<p>Work should be scheduled to avoid periods of heavy precipitation.</p> <p>Erosion control structures (temporary matting, geotextile filter fabric) are to be used, as appropriate, to prevent erosion and release of sediment and/or sediment laden water during the construction phase.</p> <p>Exposed soil areas should be minimized by limiting the area exposed at any one time and by limiting the amount of time that any area is exposed.</p> <p>All wastes must be recycled where possible or otherwise disposed of appropriately.</p> <p>Refer to Table 5 – Accidents and Malfunctions for more information.</p>		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency Significance
Small	Reversible	Immediate	Short-term	Once
Residual Effects:		Insignificant		
Monitoring / Follow-up:		None required.		
Comments: The implementation of effective mitigation practices can reduce such effects to insignificant levels.				

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Table 3.2 Valued Ecosystem Component – Marine/Estuary Water Quality				
Potential Effect: Sedimentation and contamination of marine environment				
Potential Interaction		Mitigation		
Sedimentation as a result of construction phase activities may decrease marine water quality.		<p align="center">Standard Mitigation Practices</p> <p>Project activities should only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site.</p> <p>The proponent is advised to discuss any site sensitivities with local facility users before implementation of the project.</p> <p>All drainage and wash water from concrete production should be properly contained and should not drain into receiving waters.</p> <p>The proponent is advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits.</p> <p>The proponent should be aware of the CCME “Canadian Environmental Quality Guidelines (1999)” that recommend that for the protection of marine waters, human activities should not cause suspended solids levels to increase by more than 10% of the natural conditions expected at the time. The guidelines also recommend that no solid debris, including floating or drifting materials or settleable matter, be introduced into marine waters.</p> <p>Deployment of a floating boom around the construction site should contain any wooden material that might otherwise escape the site and present a threat to navigation or nearby fishing gear. The proponent is advised to consult with the Navigable Waters Protection Program – Transport Canada before implementing a floating boom near the proposed project site. Any material entering a water body should be quickly removed and properly disposed of.</p> <p>Refer to Table 5 – Accidents and Malfunctions for more information.</p>		
Accidental discharge of machinery fuel and/or fluids may decrease marine water quality.				
The project is expected to generate solid waste associated with construction that may be deposited in the marine environment.				
Drainage and washwater from concrete production and aggregate are very alkaline and can degrade water quality.				
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Once
Residual Effects:		Insignificant		
Monitoring / Follow-up:		None required.		
Comments: The implementation of effective mitigation practices can reduce such effects to insignificant levels.				

Table 3.3 Valued Ecosystem Component - Fish / Fish Habitat				
Potential Effect: Harmful alteration, destruction or disruption of fish/fish habitat.				
Potential Interaction		Mitigation		
Sedimentation as a result of construction activities may negatively affect any aquatic flora/fauna near or within the project area.		The proponent has obtained the approval of the DFO Area Habitat Biologist prior to carrying out the project. The mitigations stipulated in the DFO Letter of Advice are designed to protect fish and fish habitat and must be adhered to.		
Increase in project footprint may result in the loss of potential benthic habitat.		Ammonium nitrate based explosives must not be used in or near water due to the production of toxic by-products.		
Blasting and dredging will result in the deaths of any flora/fauna present within the dredge limits.		If marine mammals are observed within 500 m of dredging activities, blasting should be halted until the mammals have left the area.		
Project activities may result in the temporary avoidance of the area by local fish fauna and marine mammals.		The proponent is required to develop a project specific blasting plan prior to the commencement of any dredging activities which involve the use of explosives. The plan must comply with the guidelines described in <i>Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters – Appendix E</i> and requirements stipulated in the DFO Habitat Letter of Advice.		
Standard Mitigation Practices				
Construction activities should only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site.				
The proponent is advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits. Excessive disturbance to any large areas of aquatic vegetation should be minimized, wherever possible.				
The proponent should be aware of the CCME “Canadian Environmental Quality Guidelines (1999)” that recommend that for the protection of marine waters, human activities should not cause suspended solids levels to increase by more than 10% of the natural conditions expected at the time. The guidelines also recommend that no solid debris, including floating or drifting materials or settleable matter, be introduced into marine waters.				
Refer to Table 5 – Accidents and Malfunctions for more information.				
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Moderate	Reversible	Immediate	Short-term	Intermittent
Residual Effects:		Insignificant		
Monitoring / Follow-up:		None required.		
Comments: The implementation of effective mitigation measures can reduce potential impacts to insignificant levels.				

Table 3.4 Valued Ecosystem Component – Birds / Bird Habitat				
Potential Effect: Disturbance to nesting or feeding migratory birds.				
Potential Interaction		Mitigation		
Deposition of dredge material on shoreline may destroy potential bird habitat.		The proponent should be aware that under the <i>Migratory Birds Regulations</i> , “no person shall deposit or permit to deposited oil, oil wastes, or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.”		
Accidental discharge of machinery fuel and/or fluids may negatively impact birds.		The proponent is advised to be aware of any nesting or rearing chicks in the immediate project area, particularly the service area expansion site. If any birds are found to be nesting or rearing chicks in the vicinity of the dredge disposal area, construction activities should be immediately halted and the Canadian Wildlife Service should be contacted for further instructions at (709) 772-2194.		
Construction related wastes left on beaches or other coastal habitats can artificially enhance the populations of avian and mammalian predators of eggs and chicks.		Standard Mitigation Practices		
Noise from machinery may disrupt birds near the project site.		The proponent should ensure that any construction related refuse, including food wastes, are removed from the costal areas where birds might be present.		
		Contractors should have well muffled machinery.		
		Refer to Table 5 – Accidents and Malfunctions for more information.		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Once
Residual Effects:		Insignificant		
Monitoring / Follow-up:		None required.		
Comments: Project activities should not have any impacts on birds or bird habitat. Any disruption will likely be minimal and insignificant.				

Table 3.5 Valued Ecosystem Component – Agriculture/Aquaculture				
Potential Effect:				
Potential Interaction		Mitigation		
Sediment plumes and blasting activities may negatively impact mussel aquaculture operations.				
		Standard Mitigation Practices		
		<p>The proponent has consulted with the area aquaculture development officer and an aquaculture veterinarian. The distance between the location of the blasting and the nearest aquaculture site should be sufficient to dampen any shock waves or vibrations which could potential impact the mussel farm operation.</p> <p>Wind, wave and tidal activity should dissipate any sediment plumes produced as a result of the project. However, the proponent and contractor are advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits</p>		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Intermittent
Residual Effects:		Insignificant		
Monitoring / Follow-up:		None required.		
Comments: The implementation of effective mitigation measures can reduce potential impacts to insignificant levels.				

Table 3.6 Valued Ecosystem Component – Land Use				
Potential Effect: Negative impacts to non-leased land				
Potential Interaction		Mitigation		
The proponent does not currently hold a valid lease for areas into which the proposed improvements will expand		The Crown Land required for this project is currently under application for transfer. No activity or land clearing is to take place until the Lands Branch has issued the Crown Land Title pursuant to the <i>Lands Act</i> . Further information on the Crown Land Application is available from Mr. Calvin Payne, Manager of the Western Region Lands Office, at (709) 637-2392 or cpayne@gov.nl.ca		
		Standard Mitigation Practices		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Once
Residual Effects:	Insignificant			
Monitoring / Follow-up:	None required.			
Comments: None				

Table 3.7 Valued Ecosystem Component – Air Quality/Noise				
Potential Effect: Increases in noise, pollution, and dust.				
Potential Interaction		Mitigation		
An increase in noise levels may result in the temporary avoidance of the project area by fish, marine mammals and birds.				
Some minor disruptions and annoyance to facility users and residents who live in close proximity to the project site can be anticipated from blasting activities and the use of heavy equipment..		Standard Mitigation Practices		
		Construction should be carried out during the daylight hours to avoid disturbances to local users.		
		Machinery should be well muffled.		
		Local municipality construction by-laws must be adhered to.		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Once
Residual Effects:	Insignificant			
Monitoring / Follow-up:	None required.			
Comments: Disruptions related to noise are expected to be minimal and insignificant.				

Table 4. Decommissioning and Abandonment				
Potential Effect: Potential negative impacts on selected VEC's previously-listed				
Potential Interaction		Mitigation		
The spatial boundaries for decommissioning are expected to be similar to the construction phase boundaries.		The dredging component of the proposed harbor development is considered to be permanent. The estimated life-span of the wharf components is approximately 30-years. However, a time line for removal has not been assigned. Routine maintenance and repair projects, including repairs or replacement of damaged or deteriorated timbers and concrete, will be carried out on an as-required basis over the life of each structure. At the time of decommissioning, Small Craft Harbours will develop a site-specific re-use or reclamation plan that is appropriate for the applicable environmental legislation and Fisheries and Oceans Canada policies.		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Once
Residual Effects:	Insignificant			
Monitoring / Follow-up:	None required.			

Table 5. Accidents and Malfunctions				
Potential Effect: Potential negative impacts on selected VEC's previously-listed				
Potential Interaction		Mitigation		
Accidents and/or malfunctions of heavy equipment fuel, engine oil, and hydraulic fluids may negatively impact: Soils Marine Water Quality Fish/Fish Habitat Birds/Bird Habitat Aquaculture Land Use Air Quality/Noise		Servicing should be carried out off-site on level terrain and 30 m from any water bodies. The contractor should be equipped with Emergency Response Spill Kits to respond to any accidental spills of deleterious substances in a quick and effective manner. Response equipment, such as absorbents and open-ended barrels for collection of cleanup debris, should be stored in an accessible location on-site. Personnel working on the project should be knowledgeable about response procedures. The proponent should consider developing a contingency plan specific to the proposed undertaking to enable a quick and effective response to a spill event. All spills or leaks should be promptly contained, cleaned up, and reported to the 24-hour environmental emergencies report system (1-800-563-9089).		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Once
Residual Effects:		Insignificant		
Monitoring / Follow-up:		None required.		

Table 6. Potential Effect of the Environment on the Project				
Potential Effect: The climate (i.e. wind, ice, flood, etc.) could damage or cause loss of equipment/materials, which could have an immediate negative impact on the project.				
Potential Interaction		Mitigation		
Permanent damage and/or loss of equipment. Damage to, or reduction of, intended use of infrastructure.		Weather conditions should be assessed on a daily basis to determine the potential risk on construction and dredging activities. The Contractor is encouraged to consult Environment Canada's local forecast at http://www.weatheroffice.ec.gc.ca/ so that the construction work can be scheduled at an appropriate time.		
Magnitude	Reversibility	Geographic Extent	Duration	Frequency
Small	Reversible	Immediate	Short-term	Once
Residual Effects:	Insignificant			
Monitoring / Follow-up:	None required.			

Table 7. Cumulative Effects		
Potential Effect: Past, present and likely future project activities resulting in cumulative effects.		
Other Projects / Activities	Potential Cumulative Interaction	Mitigation
<p>Past, present, and likely future projects and activities at this site have been considered in cumulative effects assessment, including:</p> <ul style="list-style-type: none"> • 2002 wharf extension • 2002 infilling and service area construction 	<p>Cumulative effects are not expected as a result of any past, present, and likely future activities.</p>	<p>Proper safety procedures must be followed for the duration of the project as per applicable municipal, provincial and federal regulations.</p> <p>Mitigation for potential effects in Tables 3.1 - 7 in its entirety constitutes sufficient mitigation to deal with any potential cumulative effects.</p> <p>Refer to Part D: Mitigation/Standard Mitigation Practices for more information.</p>
Monitoring / Follow-up:	None required.	
Significance of Cumulative Effects: Insignificant		
<p>Comments: The construction project under assessment is not projected to have a cumulative effect considering the past and potential future projects. There are no other predicted effects that may result from the proposed construction activities. With appropriate planning and implementation of effective mitigation measures, such negative impacts can be avoided.</p>		

PART C PUBLIC CONCERNS

Public Opinion

- C-1:** No problems or concerns have been registered as a result of similar activities in the past. The proposed project will increase available berthage and provide facility users with additional space from which to operate.

Public Information

- C-2:** A public notice of commencement of the environmental assessment of this project was posted on the Canadian Environmental Assessment Registry (CEAR) on December 22, 2009. Please refer to **Appendix B** and **Appendix C** for the *notice of commencement* posting and a record of the public participation process, respectively.

Local Planning

- C3:** The project complies with the DFO mandate to provide safe harbour facilities for the small boat fishing fleet and is required to maintain the site as a viable fishery location into the future. The proposed project has been agreed upon as a result of consultations between the local harbour authority, DFO SCH, and PWGSC.

Mitigation and Compensation Measures

- C-4:** The project is covered under Fisheries and Oceans Habitat Letter of Advice, a Navigable Waters Protection Act subsection 5(2) approval, and NL Department of Environment and Conservation Permit to Alter a Body of Water Permit ALT#5010. All mitigation measures that are stipulated by the regulatory approvals (**Appendix D**) must be adhered to and should be sufficient to mitigate any potential negative impacts. There are no other anticipated environmental impacts that must be mitigated or compensated for. Additional mitigations and best management practices may be found in the attached Fisheries and Oceans Canada, Habitat Protection Division Factsheets for the Effects of silt on Fish and Fish Habitat and Blasting – Fish and Fish Habitat Protection.

Aboriginal Concerns

- C-5:** There are no known sites of historical significance such as heritage buildings, archaeological sites, traditional hunting and fishing grounds or any important natural heritage areas at the project site. Should the project result in the discovery of any items or artefacts that might be of historical importance, work must be immediately suspended and the discovery reported to the NL Historic Resources archaeologist at 709-729-2462 for further assessment.

PART D SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES - FOLLOW-UP PROGRAM

Residual Impacts

Impacts of the project and mitigation measures/standard mitigation practices

D-1: The project is not predicted to have a negative environmental effect with the following mitigation/Standard Mitigation Practices measures:

Soil (Surface and subsurface)

Mitigation:

Nil

Standard Mitigation Practices:

Work should be scheduled to avoid periods of heavy precipitation.

Erosion control structures (temporary matting, geotextile filter fabric) are to be used, as appropriate, to prevent erosion and release of sediment and/or sediment laden water during the construction phase.

Exposed soil areas should be minimized by limiting the area exposed at any one time and by limiting the amount of time that any area is exposed.

All wastes must be recycled where possible or otherwise disposed of appropriately.

Marine/Estuary Water Quality

Mitigation:

Nil

Standard Mitigation Practices:

Project activities should only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site.

The proponent is advised to discuss any site sensitivities with local facility users before implementation of the project.

All drainage and wash water from concrete production should be properly contained and should not drain into receiving waters.

The proponent is advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits.

The proponent should be aware of the CCME “Canadian Environmental Quality Guidelines (1999)” that recommend that for the protection of marine waters, human activities should not cause suspended solids levels to increase by more than 10% of the natural conditions expected at the time. The guidelines also recommend that no solid debris, including floating or drifting materials or settleable matter, be introduced into marine waters.

Deployment of a floating boom around the construction site should contain any wooden material that might otherwise escape the site and present a threat to navigation or nearby fishing gear. The proponent is advised to consult with the Navigable Waters Protection Program – Transport Canada

before implementing a floating boom near the proposed project site. Any material entering a water body should be quickly removed and properly disposed of.

Fish and Fish Habitat

Mitigation:

The proponent has obtained the approval of the DFO Area Habitat Biologist prior to carrying out the project. The mitigations stipulated in the DFO Letter of Advice are designed to protect fish and fish habitat and must be adhered to.

Ammonium nitrate based explosives must not be used in or near water due to the production of toxic by-products.

If marine mammals are observed within 500 m of dredging activities, blasting should be halted until the mammals have left the area.

The proponent is required to develop a project specific blasting plan prior to the commencement of any dredging activities which involve the use of explosives. The plan must comply with the guidelines described in *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters* – **Appendix E** and requirements stipulated in the DFO Habitat Letter of Advice.

Standard Mitigation Practices:

Construction activities should only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site.

The proponent is advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits.

Excessive disturbance to any large areas of aquatic vegetation should be minimized, wherever possible.

The proponent should be aware of the CCME “Canadian Environmental Quality Guidelines (1999)” that recommend that for the protection of marine waters, human activities should not cause suspended solids levels to increase by more than 10% of the natural conditions expected at the time. The guidelines also recommend that no solid debris, including floating or drifting materials or settleable matter, be introduced into marine waters.

Birds/Bird Habitat

Mitigation:

The proponent should be aware that under the *Migratory Birds Regulations*, “no person shall deposit or permit to be deposited oil, oil wastes, or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.”

The proponent is advised to be aware of any nesting or rearing chicks in the immediate project area, particularly the service area expansion site. If any birds are found to be nesting or rearing chicks in the vicinity of the dredge disposal area, construction activities should be immediately halted and the Canadian Wildlife Service should be contacted for further instructions at (709) 772-2194.

Standard Mitigation Practices:

The proponent should ensure that any construction related refuse, including food wastes, are removed from the coastal areas where birds might be present.

Contractors should have well muffled machinery.

Agriculture/Aquaculture

Mitigation:

Nil

Standard Mitigation Practices:

The proponent has consulted with the area Aquaculture Development Officer and an Aquaculture Veterinarian. The distance between the location of the blasting and the nearest aquaculture site should be sufficient to dampen any shock waves or vibrations which could potential impact the mussel farm operation.

Wind, wave and tidal activity should dissipate any sediment plumes produced as a result of the project. However, the proponent and contractor are advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits

Land Use

Mitigation:

The Crown Land required for this project is currently under application for transfer. No activity or land clearing is to take place until the Lands Branch has issued the Crown Land Title pursuant to the *Lands Act*. Further information on the Crown Land Application is available from Mr. Calvin Payne, Manager of the Western Region Lands Office, at (709) 637-2392 or cpayne@gov.nl.ca

Standard Mitigation Practices:

Nil

Air Quality/Noise

Mitigation:

Nil

Standard Mitigation Practices:

Construction should be carried out during the daylight hours to avoid disturbances to local users.

Machinery should be well muffled.

Local municipality construction by-laws must be adhered to.

Accidents and Malfunctions

Mitigation:

Nil

Standard Mitigation Practices:

Servicing should be carried out off-site on level terrain and 30 m from any water bodies.

The contractor should be equipped with Emergency Response Spill Kits to respond to any accidental spills of deleterious substances in a quick and effective manner.

Response equipment, such as absorbents and open-ended barrels for collection of cleanup debris, should be stored in an accessible location on-site.

Personnel working on the project should be knowledgeable about response procedures.

The proponent should consider developing a contingency plan specific to the proposed undertaking to enable a quick and effective response to a spill event.

All spills or leaks should be promptly contained, cleaned up, and reported to the 24-hour environmental emergencies report system (1-800-563-9089).

Potential Effect of the Environment on the Project

Mitigation:

Nil

Standard Mitigation Practices:

Weather conditions should be assessed on a daily basis to determine the potential risk on construction and dredging activities.

The Contractor is encouraged to consult Environment Canada's local forecast at <http://www.weatheroffice.ec.gc.ca/> so that the construction work can be scheduled at an appropriate time.

Other

Mitigation:

The project is covered under Fisheries and Oceans Habitat Letter of Advice, a Navigable Waters Protection Act subsection 5(2) approval, and NL Department of Environment and Conservation Permit to Alter a Body of Water Permit ALT#5010. All mitigation measures that are stipulated by the regulatory approvals (**Appendix D**) must be adhered to and should be sufficient to mitigate any potential negative impacts. There are no other anticipated environmental impacts that must be mitigated or compensated for. Additional mitigations and best management practices may be found in the attached Fisheries and Oceans Canada, Habitat Protection Division Factsheets for the Effects of Silt on Fish and Fish Habitat and Blasting – Fish and Fish Habitat Protection.

Residual Impacts

D-2: There are no projected residual environmental effects. This assessment considered the potential negative environmental effects resulting from the proposed project. The potential effects were considered in context of project, ecological and socio-economic boundaries and for ecosystem and socio-economic significance that are appropriate for this project.

Specific mitigation measures for each Valued Environmental Component (VEC) are addressed in Tables 3.1 – 3.7 in its entirety included in **Part B**.

Cumulative Impacts

D-3: No significant cumulative effects (i.e., past (re-dredging and construction activities), present, and likely future projects) are predicted to affect the water characteristics, fish habitat, and fishing activities in the long-term as a result of this project. There are no other predicted effects that may result from the proposed project activities.

Specific mitigation measures for each Valued Environmental Component (VEC) are addressed in Tables 3.1 – 3.7 in its entirety included in **Part B**.

Monitoring Program

D-4: A site inspector will monitor this project during the project activities. DFO-SCH and Transport Canada representatives may also carry out a site inspection after the project has been completed.

Section 38 of the *Canadian Environmental Assessment Act (CEAA)* requires the RA to consider whether a follow-up program for the project is appropriate in the circumstances and, if so, shall design a follow-up program and ensure its implementation. A follow-up program would determine the accuracy of the conclusions of the environmental assessment and the effectiveness of the mitigation measures.

Follow-up program is not likely required for this project. However, site monitoring may be conducted to verify whether required mitigation measures were implemented. The proponent must provide site access to Responsible Authority officials and/or its agents upon request. Specific mitigation measures for each Valued Environmental Component (VEC) are addressed in Tables 3.1 – 3.7 in its entirety, included in **Part B**.

PART E SIGNATURES, CONTACTS, AND RECOMMENDATIONS

E-1: References - persons contacted and reports referred to during the screening process.

Persons Contacted:

Alma Taylor	DFO-SCH Program Officer, Western Area
Frank Breen	NWP Officer, Transport Canada
Darrin Sooley	Area Habitat Biologist, Fisheries and Oceans Canada
Peter Madden	Program Coordinator, NL Dept Environment and Conservation
Len House	Aquaculture Development Officer, NL Dept. Fisheries and Aquaculture
Dr. Whalen	Aquaculture Veterinarian, NL Dept. Fisheries and Aquaculture
Clyde Mclean	Manager, Water Resources, NL Dept Environment and Conservation

Reports References:

Environment Canada. 2009. Species at Risk Registry. Accessed March 26, 2010 at <http://www.sararegistry.gc.ca>

Fisheries and Oceans Canada. 2008. Traditional Ecological Knowledge Maps – Newfoundland and Labrador. Accessed December 19, 2009 at <http://geoportal.gc.ca/en/services.html>

Public Works and Government Services Canada. 2002. DFO SCH St. Lunaire Wharf Extension and Dredging. Canadian Environmental Assessment Act Screening Report.

Wright, D.G. and Hopky, G.E. 1998. Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters. *Canadian Technical Report of Fisheries and Aquatic Sciences 2107*.

E-2: Permits / Authorizations / Approvals

SUMMARY TABLE OF ENVIRONMENTAL PERMITTING

St. Lunaire, Harbour Improvements – September 2010

REQUIRED PERMITS	ISSUING DEPARTMENT	PERSON TO OBTAIN PERMIT
Navigable Waters Protection Act subsection 5(2) approval	Transport Canada – Navigable Waters Protection Program	PWGSC – Environmental Services will obtain this approval on behalf of the proponent, DFO-SCH
Fish Habitat Letter of Advice	Fisheries and Oceans Canada, Habitat Protection Division	PWGSC – Environmental Services has obtained this permit on behalf of the proponent, DFO-SCH
Minor Works Permit ALT#5010	Newfoundland and Labrador Department of Environment and Conservation, Waters Resources Division	PWGSC – Environmental Services has obtained this permit on behalf of the proponent, DFO-SCH
Provincial Environmental Protection Act Registration (Reg#1467 – File# 2.2313.0229)	Newfoundland and Labrador Department of Environment and Conservation, Environmental Assessment Division	PWGSC – Environmental Services has completed the NL EPA Registration Process on behalf of the proponent, DFO-SCH. The project was successfully released from this process on March 10, 2010

The Navigable Waters Protection Act 5(2) approval requires that a statutory declaration indicating that the project was constructed as per the approved plans be submitted to the Navigable Waters Protection Program upon completion of project activities.

The Minor Works Permit ALT#5010 requires that a completion report be submitted to the issuing body, as described on the permit (**Appendix D**), following completion of project activities.

The DFO Fish Habitat Letter of Advice requires that a notification report be submitted to the issuing body, as described on the permit (**Appendix D**), a minimum of 10 working days prior to the commencement of project activities.

It is the proponents' responsibility to ensure that the notification/completion reports are properly submitted. Failure to properly submit the reports could result in permit revocation and the delay of future projects.

Recommendations

This screening form:

Was completed by: _____ Recommended rating: _____
 Print name: Mark McNeil
 Position/role: PWGSC Environmental Officer
 Comments:
 Date:

Was reviewed by: _____ Recommended rating: _____
 Print name: Noel Hogan
 Position/role: PWGSC Project Manager
 Comments:
 Date:

Was reviewed by: _____ Recommended rating: _____
 Print name: Sharon Branton
 Position/role: DFO-Small Craft Harbours, Area Manager, Western NL
 Comments:
 Date:

RATING DESCRIPTIONS:

- Significant adverse environmental effects unlikely, taking into account mitigation measures; project may proceed, ensure implementation of measures 1
- Significant adverse environmental effects likely and not justified in the circumstances; project as presented cannot proceed 2
- Uncertain adverse environmental effects, taking into account mitigation measures; refer the project to the Minister of the Environment for a referral to a mediator or review panel 3
- Significant adverse environmental effects, but that can be justified in the circumstances; refer the project to the Minister of the Environment for a referral to a mediator or a panel review 4
- Public concerns warrant a reference to the Minister of the Environment for a referral to a mediator or a panel review 5

PART F FINAL DECISION FOR HARBOUR IMPROVEMENTS, ST. LUNAIRE, NL

Final Recommendation

The SMALL CRAFT HARBOURS REGIONAL DIRECTOR, the REGIONAL ENGINEER, or the SMALL CRAFT HARBOURS REPRESENTATIVE WITH SIGNING AUTHORITY for the specific project under assessment must complete this section.

Decision rating: _____ (see previous page for rating descriptions)

SCH REPRESENTATIVE, PLEASE CHECK (✓) ONLY ONE:

_____ Project as presented can proceed:

- adverse environmental effects are unlikely or mitigable

_____ Project as presented must be abandoned:

- adverse environmental effects are likely and cannot be justified in the circumstances

_____ Project must be referred to the Minister of the Environment for referral to a mediator or a panel review:

- adverse environmental effects are uncertain
- adverse environmental effects are likely but justified in the circumstances
- public concerns warrant a reference to a mediator or a panel review

Approved by: _____ Date : ____/____/____.

Title: _____

Transport Canada Recommendation:

This section must be completed by Transport Canada:

Environmental effects of the project on navigation are taken into consideration as part of the environmental assessment when the effects are indirect, that is when the effect is the result of a change in the environment. Direct effects on navigation are not considered in the environmental assessment, but any measures necessary to mitigate direct effects will be included as conditions of the *Navigable Waters Protection Act* approval.

- For this environmental assessment only direct effects were identified; therefore, the effects of the project on navigation are not addressed in the environmental assessment.

- For this environmental assessment indirect effects were identified and have been addressed in the environmental assessment.

Recommended by: _____ Date: _____
Virginia Drew Environmental Assessment Officer – Environmental Affairs, Atlantic Region - Transport Canada

Approved by: _____ Date: _____
Randy Decker, Senior Environmental Assessment Officer – Environmental Affairs, Atlantic Region - Transport Canada

Table 7. PATH CEAR Environmental Interaction Summary

Environmental Management	
Alteration of Flora, Fauna or Soil	X
Dredging, Filling, Salvaging Dredge Spoil Disposal	
Hazardous Waste (excluding nuclear)	
Remediation of Contaminated Land	
Solid Waste	
Water Management	
Infrastructure	
Airport and Airfields	
Bridges and Culverts	
Building and Property Development	
Communications and Radar	
Dams, Weirs and Reservoirs	
Highways and Roads	
Industrial	
Other municipal infrastructure	
Ports and Harbours	X
Railways	
Recreation and Tourism	
Natural Resources	
Agriculture	
Alternative Energy	
Aquaculture	
Forestry	
Fossil Fuel Energy	
Hydroelectric Energy	
Mines and Minerals	
Nuclear Energy	
Seismic activities	

Table 8. PATH CEAR Mitigation and Follow-up Summary

Mitigation	PATH-CEAR Intranet Page	Mitigation (select one or more) Mitigation measures for this project addressed the following environmental components (select as many as may apply)
		Biological
		Amphibians and/or their habitat
	X	Birds and/or their habitat
		Fauna at risk (as defined under the Species at Risk Act)
	X	Fish and/or their habitat
		Flora at risk (as defined under the Species at Risk Act)
		Invertebrates and/or their habitat
	X	Mammals and/or their habitat
		Reptiles and/or their habitat
		Human (effect of any change in the environment on ...)
		Current use of land and resources for traditional purposes by aboriginal persons
		Human health and safety
		Physical and/or Cultural Heritage
		Socio-economic Impacts
		Structure, Site or Thing of Historic, Archaeological, Paleontological or Architectural Significance
		Physical
	X	Air Quality
		Climate change
	X	Noise Levels
	X	Sedimentation
	X	Soil Quality
	X	Surface and Bedrock Features
		Vegetation
	X	Water Quality
		Water Quantity
Follow up Program	PATH CEAR Intranet Page	Yes: _____ No: ____ X ____