APPENDIX A

Guidelines for the Preparation of an Environmental Assessment Report for the Maritime Link Transmission Project

GUIDELINES FOR THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT REPORT

FOR:

The Maritime Link Transmission Project
ENL Maritime Link Inc. (ENL)

PURSUANT TO:

The *Canadian Environmental Assessment Act*
The *Environmental Protection Act* (NL)
The Nova Scotia *Environment Act*

September 28, 2012

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DISCLAIMER

The Guidelines provide information only, and should not be used as a substitute for Newfoundland and Labrador's *Environmental Protection Act*, Nova Scotia's *Environment Act* or the *Canadian Environmental Assessment Act* or other federal legislation. In the event of a discrepancy, the named Acts and regulations prevail. Portions of the Acts have been paraphrased in the Guidelines, and should not be relied upon for legal purposes. The procedures described in these Guidelines may be deviated from, based on specific Project circumstances.

LIST OF ACRONYMS

ACCDC	Atlantic Canada Conservation Data Centre
Agency	Canadian Environmental Assessment Agency
ARD/ML	Acid Rock Drainage/Metal Leaching
CEAA	*Canadian Environmental Assessment Act*
CEAR	Canadian Environmental Assessment Registry
COSEWIC	Committee on the Status of Endangered Wildlife In Canada
Crown	Federal and Provincial Government
DFO	Fisheries and Oceans Canada
DND	Department of National Defence
EA	Environmental Assessment
EC	Environment Canada
ECBC	Enterprise Cape Breton Corporation
EMF	Electric and Magnetic Fields
EMP	Environmental Management Plan
ENL	ENL Maritime Link Inc.
EPR	Environmental Preview Report
FA	Federal Authority
FPWC	Federal Policy on Wetland Conservation
GDP	Gross Domestic Product
GHG	Greenhouse Gas
HC	Health Canada
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
KMKNO	Kwilmu'kw Maw-klusuaqn Negotiation Office
MBBA	Maritime Breeding Bird Atlas
MBCA	*Migratory Birds Convention Act*
MEKS	Mi'kmaq Ecological Knowledge Study
MPMO	Major Projects Management Office
NOC	National Occupation Classification
NRCan	Natural Resources Canada
NSDNR	Nova Scotia Department of Natural Resources
NSESA	*Nova Scotia Endangered Species Act*
NSFEC	Nova Scotia Forest Ecosystem Classification
NSOAA	Nova Scotia Office of Aboriginal Affairs
NWPA	*Navigable Waters Protection Act*
Proponent	ENL Maritime Link Inc.
PWGSC	Public Works and Government Services Canada
RA	Responsible Authority
RoW	Right-of-Way
SAR	Species at Risk
SARA	*Species at Risk Act*
SOCC	Species of Conservation Concern
TC	Transport Canada
VEC	Valued Ecosystem Component

PART 1 – BACKGROUND

1 INTRODUCTION

1.1 Purpose of the Guidelines

The purpose of this document is to identify for Maritime Link Inc. (ENL) (the proponent) the information requirements for the preparation of the Environmental Assessment (EA) Report. The EA Report will be used to meet the requirements of a federal screening report, Nova Scotia registration document, and Newfoundland and Labrador Environmental Preview Report (EPR).

The Guidelines were developed cooperatively between the Governments of Canada, Newfoundland and Labrador and Nova Scotia.

While the Guidelines provide a framework for preparing a complete EA Report, it is the responsibility of the proponent to provide sufficient data and analysis on any potential environmental effects to permit proper evaluation by governments, Aboriginal groups and the public. The Guidelines outline the minimum information requirements while providing the proponent with flexibility in selecting methods to compile data for the EA Report.

1.2 Proposed Project

The Maritime Link Transmission Project (the Project), as proposed by the proponent, involves the construction and operation of a new electrical power transmission system, including a proposed 500-megawatt (MW), +/- 200 to 250-kilovolt high voltage direct current (HVDC) and high voltage alternating current (HVAC) transmission line between the Island of Newfoundland and Cape Breton, Nova Scotia.

1.3 EA Requirements

A screening is required pursuant to section 5(1)(b), 5(1)(c) and 5(1)(d) of the *Canadian Environmental Assessment Act* (CEAA) because consideration is being given to exercising the following powers, duties or functions in respect to the Project, for the purpose of enabling the Project in whole or in part:

- Enterprise Cape Breton Corporation (ECBC) for providing federal lands;
- Natural Resources Canada (NRCan) for providing financial assistance in the form of a loan guarantee;
- Fisheries and Oceans Canada (DFO) for authorization(s) under Section 32 and subsection 35(2) of the *Fisheries Act* with respect to the

construction associated with the shore grounding facilities, towers and cables in or near aquatic environments;

- Transport Canada (TC) for approval(s) under Part 1, Section 5 of the *Navigable Waters Protection Act* (NWPA) with respect to the subsea cable, shoreline protection measures, sea electrodes, aerial transmission lines, and any temporary construction bridges;
- Public Works Government Services Canada (PWGSC) for authorization under the Federal Real Property Regulations enacted under the *Federal Real Property and Federal Immovable Act* with respect to the use of the subsea land in the Cabot Strait; and
- Environment Canada (EC) for authorization under Section 122(1)(b) and 122(1)(ii) of the *Canadian Environmental Protection Act* with respect to the Project, if construction of the shore grounding facilities and cable installation requires dredging and ocean disposal of the dredged material.

NRCan is a responsible authority (RA), and the remainder of the above federal entities are the likely RAs for the screening. Health Canada (HC) and Department of National Defence Canada (DND) have been identified as federal authorities (FAs) possessing expert information relevant to the EA.

The proposed Project has been determined to be a Class I undertaking under Nova Scotia's *Environmental Assessment Regulations* made under the *Environment Act* and has been determined to require an EPR under Newfoundland and Labrador's *Environmental Assessment Regulations,* pursuant to the *Environmental Protection Act.*

The federal scope of the Project includes the entire Project as described by the proponent. The provincial scopes of the Project are based on their respective jurisdictions. For ease of review by governments, the public and Aboriginal groups, the EA Report will include the entire Project regardless of federal and provincial jurisdictions. The EA Report will be divided geographically into three parts: Nova Scotia, the Cabot Strait and Newfoundland and Labrador.

1.4 Harmonization of the EA Processes and Conduct of the EA

The Governments of Canada, Newfoundland and Labrador and Nova Scotia, are conducting a harmonized EA process for the Project, beginning with the development of one guideline document and one EA Report prepared by the proponent to meet the requirement of all three jurisdictions.

1.5 Contacts for the EA

Information on the federal EA may be obtained from:

Joanne Weiss Reid, Project Manager
Canadian Environmental Assessment Agency
1801 Hollis Street, Suite 200
Halifax, NS B3J 3N4
Tel: 902-426-0564 Fax: 902-426-6550
Email: MaritimeLink@ceaa-acee.gc.ca

Information on the Nova Scotia EA may be obtained from:

Steve Sanford, Environmental Assessment Officer
Environmental Assessment Branch
Nova Scotia Environment
5151 Terminal Road, 5th Floor
Halifax, NS B3J 2T8
Tel: 902-424- 7630 Fax: 902-424-0501
Email: Sanforsl@gove.ns.ca

Information on the Newfoundland and Labrador EA may be obtained from:

Milton Crewe, Environmental Scientist
Environmental Assessment Division
Dept. of Environment and Conservation
P.O. Box 2006
Corner Brook, NL A2H 6J8
Tel: 709-637-2375
Email: miltoncrewe@gov.nl.ca

2 PREPARATION AND PRESENTATION OF THE EA REPORT

Pursuant to section 17 of the CEAA, the Government of Canada is delegating the preparation of the EA documentation to the proponent until such a time as RAs make their course of action decisions in relation to the Project.

2.1 Study Strategy and Methodology

The proponent is expected to observe the intent of the CEAA, Nova Scotia's *Environment Act*, Newfoundland and Labrador's *Environmental Protection Act* and respective regulations, and these Guidelines and to consider the environmental effects that are likely to arise from the Project (including situations not explicitly identified in these Guidelines), the technically and economically

feasible mitigation measures that will be applied, and the significance of any residual environmental effects.

All significant gaps in knowledge and understanding related to key conclusions presented in the EA Report shall be identified. The steps to be taken by the proponent to address these gaps shall also be identified. Where the conclusions drawn from scientific and technical knowledge are inconsistent with the conclusions drawn from traditional knowledge, the EA Report will contain a balanced presentation of the issues and a statement of the proponent's conclusions.

2.2 Presentation and Organization of the EA Report

To facilitate the identification of the documents submitted and their placement in the Canadian Environmental Assessment Registry, the title page of the EA Report and its related documents should contain the following information:

- Project name and location;
- title of the document, including the term “Environmental Assessment Report”;
- subtitle of the document;
- name of the proponent; and
- date.

The EA Report should be written in clear, precise language. A glossary defining technical words, acronyms and abbreviations shall be included. The proponent shall provide charts, diagrams, tables, maps and photographs, where appropriate, to clarify the text. Perspective drawings that clearly convey the various components of the Project shall also be provided. Wherever possible, maps shall be presented in common scales and datum to allow for comparison and overlay of mapped features.

The EA Report will present the Project and associated Valued Ecosystem Components (VECs) by geographic region, commencing with Nova Scotia, Cabot Strait, and Newfoundland.

For purposes of brevity and to avoid repetition, cross-referencing is preferred. The EA Report may make reference to the information that has already been presented in other sections of the document, rather than repeating it. Detailed studies (including all relevant and supporting data and methodologies) shall be provided in separate appendices and shall be referenced by appendix, section and page in the text of the main document of the EA Report.

The proponent shall provide copies of the EA Report and relevant technical studies for distribution, including an electronic version in an unlocked,

searchable, PDF format and MS Word format, as directed by the Canadian Environmental Assessment Agency (the Agency) and the provinces.

A Table of Concordance, which cross references the information presented in the EA Report with the information requirements identified in the Guidelines, shall be provided.

2.3 Executive Summary

The EA Report will include an executive summary that includes:

- a concise description of all key facets of the Project;
- a succinct description of the consultation conducted with Aboriginal groups, the public, and government agencies, with a summary of the issues raised and solutions found and/or suggested during these consultations for Nova Scotia, the Cabot Strait and Newfoundland;
- a general overview of the key effects of the Project and proposed technically and economically feasible mitigation measures;
- a summary of cumulative effects identified in the assessment;
- a summary of residual effects; and
- the proponent's conclusions and significance determinations from the assessment.

PART 2: CONTENT AND STRUCTURE OF THE EA REPORT

3 INTRODUCTION AND PROJECT BACKGROUND

3.1 The Proponent

The EA Report shall:

- provide contact information (e.g. name, address, phone, fax, email);
- identify itself and the name of the legal entity that would develop, manage and operate the Project;
- explain corporate and management structures, as well as insurance and liability management related to the Project;
- specify the mechanism used to ensure that corporate policies will be implemented and respected for the Project;
- summarize key elements of its environment, health and safety management system and discuss how the system will be integrated into the Project;
- identify key personnel, contractors, and/or sub-contractors responsible for preparing the EA Report; and
- provide the qualifications of biologists conducting surveys for migratory

birds, species at risk, species of conservation concern, and wetland delineations in an appendix to the EA Report.

3.2 Project Overview

The EA Report will include a summary of the Project, by presenting the Project components, associated and ancillary works, activities, scheduling details, the timing of each phase of the Project and other key features. If the Project is part of a larger sequence of Projects, the proponent shall outline the larger context and present the relevant references, if available.

The intent of this overview is to provide the key components of the Project, not a detailed description, which is outlined in Section 4 of this document.

3.3 Non-Government Participants in the EA

The EA Report shall clearly identify the main non-government participants in the EA including the Mi'kmaq of NS, other Aboriginal groups, community groups, and environmental organizations.

3.4 Regulatory Framework and the Role of Government

The EA Report shall identify, for each jurisdiction, the government bodies involved in regulatory approvals potentially required for the Project. More specifically the EA Report shall identify:

- the environmental and other specific regulatory approvals and legislation that are applicable to the Project at the federal, provincial, regional and municipal levels;
- government policies, resource management, planning or study initiatives pertinent to the Project and/or EA and discuss their implications;
- policies and guidelines of the Mi'kmaq of NS being consulted that are pertinent to the Project and/or EA and discuss their implications;
- any treaty or self-government agreements with Aboriginal groups that are pertinent to the Project and/or EA;
- any relevant Land Use Plans, Land Zoning, or Community Plans;
- major components of the Project and those being applied for and constructed within the duration of approvals under provincial and federal legislation; and
- the regional, provincial and/or national objectives, standards or guidelines that have been used by the proponent to assist in the evaluation of any predicted environmental effects.

4 PROJECT DESCRIPTION

4.1 Need for and Purpose of the Project

The 'purpose of' and 'need for' the Project[1] should be established from the perspective of the proponent. The Project will be designed to achieve specific objectives and these shall be described. If the objectives of the Project are related to or contribute to broader private or public sector policies, plans or programs, this information shall also be included.

4.2 Location

The EA Report shall provide a concise description of the geographical setting in which the Project shall take place (including UTM coordinates depicting the linear distribution of the Project). The description should also integrate the natural and human elements of the environment in order to explain the interrelationships between the physical and biological aspects and the people and their communities.

4.3 Components

The EA Report shall provide a detailed description of all Project components and ancillary works including:

- The 500 Megawatt (MW), +/- 200 to 250 kV high voltage direct current (HVDC) and a 230 kV high voltage alternating current (HVAC) transmission line system
- Subsea Cables
- Landfall Components
- Converter Stations and Adjoining Substations
- Grounding Facilities
- Access
- Temporary Infrastructure
- Maintenance Regimes

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[1] Relevant guidance material for addressing "purpose of" and "need for" the Project can be found in the document entitled: "*Addressing "Need for", "Purpose of", "Alternatives to" and "Alternative Means" under the Canadian Environmental Assessment Act*" (Agency 2007).

4.4 Activities

The EA Report shall include expanded descriptions of the construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of sites and facilities associated with the proposed Project.

This would include detailed descriptions, to the extent available, of the activities to be carried out during each phase, the location of each activity, timing of each activity, materials and equipment used, expected outputs and an indication of the activity's magnitude and scale. Activities include:

- Preparing marine substrate
- Laying subsea cable
- Construction of and installation of transmission lines, substations, grounding facilities and landfall components
- Material management

Although a complete list of Project activities is required, the emphasis should be on those with the greatest potential to have environmental effects. Sufficient information should be included to predict environmental effects and address public concerns identified. The EA Report should highlight activities that involve periods of increased environmental disturbance or the release of materials into the environment.

4.5 Schedule

The EA Report shall include a detailed schedule including time of year, frequency, and duration for all Project activities.

5 SCOPE OF THE ASSESSMENT

5.1 Factors to be Considered

The EA Report shall include a consideration of the following factors[2]:

1. The environmental effects[3] of the Project, including the environmental effects of malfunctions or accidents that may occur in connection with the

[2] Pursuant to CEAA, all screenings must consider Section 16(1)(a)-(d) factors. At their discretion, the RAs decided to include the “need for” the project under Section 16(e) and the “purpose of” and “alternative means of carrying out the project” as per Sections 16(2)(a) and (b).

[3] Pursuant to CEAA “environmental effect” means, in respect of a project, (*a*) any change that the project may cause in the environment, including any change it may cause to a

Project and any cumulative environmental effects that are likely to result from the Project in combination with other Projects or activities that have been or will be carried out;

2. The significance of the effects referenced above;
3. Comments from the public, stakeholder and Aboriginal groups received during the review;
4. Comments from Mi'kmaq of NS that are received during the EA and consultation processes;
5. Measures that are technically and economically feasible and that would accommodate any adverse impact of the Project on potential or established Aboriginal and Treaty rights;
6. Measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project;
7. The need for and purpose of the Project; and
8. Alternative means of carrying out the Project that are technically and economically feasible and the environmental effects of any such alternative means.

5.2 Scope of the Factors

The EA Report shall identify key issues related to the Project. To help focus the EA, the proponent shall identify and justify, based on a clearly defined set of criteria, those components of the biophysical and socioeconomic environment that are most valued and/or sensitive, and which have a meaningful potential to be affected by the Project (the VECs).

The following VECs to be considered in the EA Report were selected based on information gathered from the RAs, FAs, Agency and provinces along with associated written government guidance:

- Geophysical Environment

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listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*, (*b*) any effect of any change referred to in paragraph (*a*) on (i) health and socio-economic conditions, (ii) physical and cultural heritage, (iii) the current use of lands and resources for traditional purposes by aboriginal persons, or (iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or (*c*) any change to the project.

- Atmospheric Environment
- Water Resources
- Aquatic Environment (marine and freshwater)
- Vegetation
- Wetland Ecosystems
- Wildlife and Wildlife Habitat
- Protected Areas and Area of Conservation Interest
- Economy, Business, and Employment [4]
- Land and Resource Use
- Commercial and Recreational Fisheries
- Archaeological and Heritage Resources
- Current Use of Land and Resources for Traditional Purposes by Aboriginal peoples [5]

5.2.1 Spatial Boundaries

The proponent shall clearly indicate the spatial boundaries to be used in assessing the potential adverse and beneficial environmental effects of the proposed Project. The EA Report must contain a justification and rationale for all boundaries chosen. The spatial boundaries for each VEC may differ depending on the nature of the VEC. The EA Report shall identify the proposed spatial study boundaries for the VECs outlined in section 5.2.

5.2.2 Temporal Boundaries

The lifespan of the Project will be specified. The temporal boundaries of the Project should span all phases of the Project: construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of the sites affected by the Project. Temporal boundaries shall also consider seasonal and annual variations related to VECs for all phases of the Project, where appropriate.

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[4] Consideration of socio-economic impacts, unless brought about by a change in the environment as a result of the Project, are beyond the scope of the federal assessment but have been included as a provincial requirement.

[5] The evaluation of potential environmental effects of the Project on the Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons is required under *CEAA*, under the definition of “environmental effect” under Section 2(1) of *CEAA*.

If the full temporal boundaries are not used, the EA Report shall identify the boundaries used and provide a rationale for the temporal boundaries selected.

6 ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT

The EA Report must identify and describe alternative means of carrying out the Project[6] that are technically and economically feasible. The following procedural steps for addressing alternative means are recommended:

- Identify the alternative means to carry out the Project
    - Develop criteria to determine the technical and economic feasibility of the alternative means;
    - Describe each alternative means in sufficient detail (i.e., optional cables and locations of transmission line system); and
    - Identify those alternative means that are technically and economically feasible.
- Identify the environmental effects of each alternative means
    - Identify those elements of each alternative means that could produce environmental effects in sufficient detail to allow a comparison with the environmental effects of the Project.
- Identify the preferred means
    - Identify the preferred means based on the relative consideration of environmental effects; and of technical and economic feasibility;
    - Determine and apply criteria that identify alternative means as unacceptable on the basis of significant adverse environmental effects; and
    - Determine criteria to examine the environmental effects of each remaining alternative means to identify a preferred alternative.

Any potentially adverse impacts of the technically and economically feasible alternatives on asserted or established Aboriginal and Treaty rights shall also be identified.

[6] See reference in footnote 1

7 CONSULTATION

7.1 Public and Stakeholder Participation

The EA Report shall describe the ongoing and proposed consultations and information sessions with respect to the Project for any consultations undertaken with the general public and stakeholder groups, at the local, regional and provincial levels, where applicable. The EA report shall include:

- a summary of discussions;
- indicate the methods used and their relevance;
- locations;
- the persons and organizations consulted;
- the concerns raised;
- the extent to which this information was incorporated in the design of the Project as well as in the EA Report;
- the resultant changes;
- any outstanding issues and ways to address them
- a description of efforts made to distribute Project information; and
- a description of information and materials that were distributed during the consultation process

7.2 Consultation with the Mi'kmaq of Nova Scotia

The proponent is required to provide up-to-date information describing the Project to the Mi'kmaq of Nova Scotia and especially to the Mi'kmaq communities likely to be most affected by the Project. The proponent shall also involve the Mi'kmaq of Nova Scotia in determining how best to deliver that information (e.g. the types of information required, formats, and the number of community meetings required).

To assist the Governments of Canada and Nova Scotia in their consultation processes, the EA Report must describe the concerns raised by the Mi'kmaq of Nova Scotia with respect of the Project, and where applicable, how they have been or will be considered and, where appropriate, addressed. The EA Report will include a summary of discussions, the issues or concerns raised, and any asserted or established Aboriginal and treaty rights as conveyed to the proponent by the Mi'kmaq of Nova Scotia or the Crown. Where applicable, the EA Report must document any significant adverse effects of the Project on the current use of land and resources for traditional purposes by the Mi'kmaq of Nova Scotia, as well as any measures taken or recommended that would

prevent, mitigate, or otherwise accommodate such environmental effects, as applicable. This information will be then used by governments towards fulfilling any duty to consult the Mi'kmaq of Nova Scotia regarding the Project.

The proponent is encouraged to engage the Mi'kmaq of Nova Scotia as referenced in the Nova Scotia Office of Aboriginal Affairs' (NSOAA) *Proponents' Guide: The Role Of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia, 2011*.

The proponent will actively solicit concerns by the Mi'kmaq of Nova Scotia during the course of the EA. The Governments of Canada and Nova Scotia and the proponent will examine opportunities to mitigate the environmental effects of the Project on the Mi'kmaq of Nova Scotia's current use of lands and resources for traditional purposes. The Governments of Nova Scotia and Canada and the proponent will also consider the potential need to take further actions to accommodate the Mi'kmaq of Nova Scotia for adverse impacts to asserted or established Aboriginal and treaty rights caused by the proposed Government of Canada and Nova Scotia conduct in relation to the Project.

For each Mi'kmaq community in Nova Scotia contacted, the EA Report shall include:

- contact information;
- a description of the consultation process;
- a list of all factors suggested for inclusion in the EA Report, whether or not the factors were included, and the rationale for any exclusions;
- a description of the traditional territory and asserted or established Aboriginal and treaty rights that are exercised in relation to the assessment area;
- the potential adverse impacts to the Aboriginal and treaty rights resulting from the Project;
- the proposed accommodation measures to avoid or mitigate the impacts to Aboriginal and treaty rights; and
- efforts made to solicit the above information from groups if the proponent is unable to obtain all the information.

The proponent is required to provide the NSOAA with an Aboriginal Consultation Report (template will be provided to the proponent by NSOAA) every 2 months from the day the proponent receives these Guidelines. This report should be addressed to Laurent Jonart, NSOAA and copied to Twila Gaudet, Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO).

Laurent Jonart, Consultation Advisor Nova Scotia Office of Aboriginal Affairs 5251 Duke St., 5th Floor, PO Box 1617 Halifax, NS B3J 2Y3 Tel: 902-424-8088 Fax: 902-424-4225 E-mail: jonartla@gov.ns.ca	Twila Gaudet, Consultation Liaison Officer Mi'kmaq Rights Initiative Negotiation Office 851 Willow Street Truro, NS B2N 6N8 Tel: 902-843-3880 Fax: 902-843-3882 E-mail : twilagaudet@mikmaqrights.com

8 EXISTING ENVIRONMENT

The EA Report shall provide a baseline description of the environment, including the components of the existing environment and environmental processes, their interrelations and interactions as well as the variability in these components, processes and interactions over time scales appropriate to the Project. The description shall be in sufficient detail to permit the identification, assessment and determination of the significance of potentially adverse environmental effects that may be caused by the Project, to adequately identify and characterize the beneficial effects of the Project, and provide the data necessary to enable effective testing of predictions during the follow-up program. The information describing the existing environment shall be integrated into clearly defined sections within the effects assessment of each VEC.

The baseline description should include results from studies done prior to any physical disruption of the environment due to initial site preparation activities and characterization of environmental conditions resulting from historical and present activities in the local and regional study area.

9 ENVIRONMENTAL EFFECTS ASSESSMENT

9.1 Assessment Methodology

The EA Report shall explain and justify methods used to predict the effects from all components of the Project on each VEC. The EA Report shall indicate the Project's effects during construction, operation, maintenance, foreseeable modifications, and where relevant, closure, decommissioning and restoration of sites and facilities associated with the Project, and describe these effects using appropriate criteria.

To the maximum extent possible, this documentation should include, for each potential Project-related environmental effect, an indication of the nature of the effect, mechanism, magnitude, direction, duration, frequency and timing, and geographic extent. The proponent shall consider both the direct and indirect, reversible and irreversible, short- and long-term and cumulative environmental effects of the Project.

In undertaking the environmental effects assessment, the best available information and methods will be used in preparing the EA Report. All conclusions shall be substantiated. Any assumptions upon which predictions are based shall be clearly stated.

The assessment of the effects of each of the components and activities, in all phases, shall be based on a comparison of the biophysical and human environments between the predicted future conditions with the Project and the predicted future conditions without the Project.

9.2 Mitigation Measures

The EA Report shall describe the standard mitigation practices, policies and commitments that constitute technically and economically feasible mitigation measures and that will be applied as part of standard practice regardless of location. As a first step, the proponent is encouraged to use an approach based on the avoidance and reduction of the effects at the source. Such an approach may include the modification of the design of the Project or relocation of Project components.

The environmental protection plan and its environmental management system, through which it will deliver this plan shall be described. The plan shall provide an overall perspective on how potentially adverse effects would be minimized and managed over time. As well, commitments, policies and arrangements directed at promoting beneficial or mitigating adverse socioeconomic effects shall be descibed. Mechanisms used to require contractors and sub-contractors to comply with these commitments and policies and with auditing and enforcement programs shall be discussed.

The EA Report shall specify the actions, works, minimal disturbance footprint techniques, best available technology, corrective measures or additions planned during the Project's various phases (construction, operation, modification, decommissioning, abandonment or other undertaking related to the Project) to eliminate or reduce the significance of adverse effects. The EA Report shall also present an assessment of the effectiveness of the proposed technically and economically feasible mitigation measures. The reasons for determining if the mitigation measure reduces the significance of an adverse effect shall be made explicit.

9.3 Residual Effects

After having established the technically and economically feasible mitigation measures, the EA Report shall present any residual effects of the Project on the biophysical and human environments after these mitigation measures have been taken into account. The residual effects, even if very small or deemed insignificant should be described.

9.4 Determination of the Significance of Residual Effects

The EA Report shall identify the criteria used to assign significance ratings to any predicted adverse effects and contain a detailed analysis of the significance of the potential residual adverse environmental effects it predicts. It must contain clear and sufficient information to enable the reviewers to understand the proponent's judgment of the significance of effects. The EA Report shall define the terms used to describe the level of significance.

The following elements should be used in determining the significance of residual effects:

- magnitude;
- geographic extent;
- timing, duration and frequency;
- reversibility;
- ecological and social context; and
- environmental standards, guidelines or objectives for assessing the impact.

In assessing significance against these criteria the EA Report shall, where possible, employ relevant existing regulatory documents, environmental standards, guidelines, or objectives such as prescribed maximum levels of emissions or discharges of specific hazardous agents into the environment. The EA Report shall contain a section which explains the assumptions, definitions and limits to the criteria mentioned above in order to maintain consistency between the effects on each VEC.

The EA Report shall provide a summary of the regional, provincial, Aboriginal or national objectives, standards or guidelines that have been used to assist in the evaluation of the significance of environmental effect.

If significant adverse effects are identified, the proponent shall determine the probability (likelihood) that they will occur. The EA Report shall also address the degree of scientific uncertainty related to the data and methods used within the framework of its environmental analysis.

The EA Report shall clearly explain the method and definitions used to describe the level of the adverse effect (e.g., low, moderate, high) for each of the above

categories and how these levels were combined to produce an overall conclusion on the significance of adverse effects for each VEC. This method must be transparent and reproducible.

9.5 Effects of the Environment on the Project

The EA Report shall take into account how local conditions and natural hazards, such as severe and/or extreme weather conditions and external events (e.g. flooding, ice jams, icing, wind, rock slides, landslides, fire, outflow conditions, seismic events and tsunamis) could adversely affect the Project and how this in turn could result in impacts to the environment (e.g., extreme environmental conditions result in malfunctions and accidental events). For the marine component of the assessment, this list would include sediment mobilization by waves and currents, variability and mobility of nearshore bars systems (if present on the route), sediment mass transport if any (e.g., in submarine canyons), fluid escape from pockmarks, etc.

The sensitivity of the Project to long-term climate variability and effects must be identified and discussed. This discussion should include a description of climate data used. With respect to the effects of climate change the EA Report will include a description of the long-term stability of landfall sites (e.g. rates of coastal retreat, predicted rates under postulated sea-level rise scenarios). The Agency Procedural Guide, *Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners* (Agency, 2003), provides guidance for incorporating climate change considerations in an EA. In conducting the analysis, the proponent shall also look at the following source: *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* (NSE, 2010).

The EA Report shall provide details of planning, design and construction strategies intended to minimize the potential environmental effects of the environment on the Project.

9.6 Effects of Potential Accidents or Malfunctions

The EA Report shall identify the probability of potential accidents and malfunctions (e.g., electrical hazards; air, ground and marine traffic hazards; hazardous material handling; bird collision events and avian electrocutions) related to the construction and operation of transmission lines, substations, grounding facilities, right-of-way clearing, and subsea cables. The EA Report must include an explanation of how those events were identified, potential consequences (including the environmental effects), the worst-case scenarios and the effects of these scenarios.

The geographical and temporal boundaries for the assessment of malfunctions and accidents may be different than those in the scope of factors for each VEC. This must include an identification of the magnitude of an accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the accident and malfunction events.

The EA Report shall also describe the safeguards (i.e., industry standard safety procedures and protocols) that have been established to protect against such occurrences and the contingency/emergency response procedures in place if an accident and/or malfunction does occur.

9.7 Cumulative Environmental Effects

The EA Report shall include an assessment of the effects of the Project in tandem with the effects of other projects and activities that have been or shall be carried out, and for which the effects are expected to overlap with those of the Project. Past and present projects and ongoing activities e.g., existing marine traffic in the Cabot Strait, shall be reviewed under the description of existing conditions for each VEC.

The proponent shall consider different types of effects (e.g., synergistic, additive, induced, spatial or temporal) and identify impact pathways and trends. Generally speaking, the information available to assess the environmental effects from other projects and activities can be expected to be more conceptual and less detailed as those effects become more remote in distance and time to the Project, or where information about another project or activity is not available. The EA Report shall determine the significance of the residual cumulative environmental effects that remain after mitigation has been implemented.

The Agency guidance documents, *Operational Policy Statement - Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act* (Agency 2007) and *Cumulative Effects Assessment Practitioners Guide* (Agency 1999) should be consulted regarding the assessment of cumulative impacts in the EA Report.

9.8 Summary

For all key VECs assessed, the EA Report should contain tables summarizing the following key information:

- potential adverse environmental effects;
- proposed mitigation and compensation measures;
- a brief description of potential residual effects;
- a brief description of potential cumulative effects;

- applicable standards or guidelines;
- who is responsible for implementing the mitigation measure and the timing of implementation;
- whether the mitigation measure is likely to be included in future regulatory authorizations;
- whether the effectiveness of the mitigation measures will be included in a Follow-Up Program;
- comments from the public and responses;
- comments from Aboriginal groups and individuals and responses;
- relationship of the VEC to an asserted or established Aboriginal or Treaty right of the Mi'kmaq of Nova Scotia; and
- the proposed commitments, summarizing the timing and responsibility of each of the actions for which a commitment (including special management practices or design features) will be provided.

10 ENVIRONMENTAL MANAGEMENT

10.1 Planning

The EA Report shall describe the proposed environmental management plans (EMPs) for all stages of the Project and include a commitment by the proponent to implement them, should the Project proceed. The finalization of detailed EMPs will occur through consultation with federal and provincial government agencies, Aboriginal groups, the public and other stakeholders. This may occur after the EA but must be consistent with the information presented in the EA Report. Pertinent legislation, regulations, industry standards, documents and legislative guides shall be used in the development of the EMPs.

10.1.1 Decommissioning and Reclamation Plan

The EA Report shall provide the preliminary outline of a decommissioning and reclamation plan for any components associated with the Project. This shall include ownership, transfer and control of the different Project components as well as the responsibility for monitoring and maintaining the integrity of some of the structures. The full preparation and submission of the plan to appropriate authorities will occur prior to the decommissioning of the temporary components of the Project. For permanent facilities, a conceptual discussion on how decommissioning may occur shall be provided.

10.1.2 Fish Habitat Compensation Strategy

An acceptable fish habitat compensation strategy, to compensate for the potential loss of fish habitat shall be included in the EA Report. DFO will work with the proponent on the development of the strategy.

10.2 Follow-Up Program

A follow-up program is designed to verify the accuracy of the EA and to determine the effectiveness of the measures implemented to mitigate the adverse environmental effects of the Project. Should RAs determine that a follow-up program is required, additional guidance will be provided during the technical review phase of the Project.

PART 3: GUIDANCE ON SELECT ENVIRONMENTAL COMPONENTS

The following section provides an overview of the proposed studies and approach to be undertaken in the EA Report for each VEC. Detailed study approaches and analytic methods and assumptions shall be provided in the EA Report.

11 GEOPHYSICAL ENVIRONMENT

11.1 Existing Environment

11.1.1 Physiography and Topography

The EA Report shall describe terrestrial and topographical features for the proposed Project area. The EA Report will also include terrain features, including: coastal features, marine features, watercourses, wetlands and glaciated and post-glaciated landforms. This should include a description of the submarine seascapes (e.g. features such as nearshore bars, bedrock terrains, submarine canyons, pockmark fields, submerged channels of fluvial or glacial origin, etc.)

11.1.2 Geology and Soils

A description of bedrock geology, surficial geology and sediment/soils along the transmission corridor will be included. The submarine component of the project should also include a description surficial sediment character, thickness, and mobility under modern environmental conditions.

The EA Report shall consider the potential for Acid Rock Drainage/Metal Leaching (ARD/ML) where new bedrock may be exposed and/or excavated.

11.1.3 Sediment Quality

The EA Report shall include an analysis of sediment quality along the proposed route for the subsea cable. Sediment sampling shall be conducted in accordance with EC's disposal at sea requirements.

11.1.4 Geotechnical and Natural Hazards

The EA Report will include a summary of existing or, if required, conduct new terrain stability mapping for the relevant areas of the transmission corridor.

The EA Report will include information, evidence for historic, active and human-induced land movements and flood hazards at major stream crossings and at the landfall locations of the Project.

The EA Report will include identification of the major faults and tectonic features including geotechnical and soils/stability information along the transmission corridor, as appropriate. For the submarine component of the Project, the EA Report will note/describe the presence of hazards such as: submarine mass transport, major faults, fluid escape, and impact of sea ice in shallow water, as appropriate. The coastal stability (erosion rates, future erosion rates, cyclic coastal changes in response to winter storms) will also be included.

11.2 Effects Assessment and Mitigation

The effects assessment shall identify and evaluate:

- Potential effects of increased sediment and erosion along the transmission corridor and at the substations due to construction and operations. Include potential effects due to right-of-way clearing and excavation during construction and right-of-way maintenance during operation;
- Potential for induced slope failures along the entire transmission corridor, due to construction and operation activities;
- Potential for transmission line right-of-way clearing to increase the risk of terrain instability and accelerated erosion events and their potential for impact on downslope biophysical, transportation infrastructure and land use values;
- Risk of flood hazards at major stream crossings and potential for damage or disruption during construction and operation of the transmission line; and
- The impact of landfall structures on coastal processes.

In conducting the analysis, the EA Report shall consider pertinent acts, policies, guidelines and directives relating to the geophysical environment. The EA Report will also provide a prediction of the potential cumulative and residual effects of the overall Project on the geophysical environment and their significance.

12 ATMOSPHERIC ENVIRONMENT

12.1 Existing Environment

12.1.1 Climate

The EA Report shall include a discussion of climate conditions in the region of the proposed Project corridor, including predominant wind conditions (i.e., wind direction, velocity) and seasonal variation. Relevant data obtained from EC or other sources will be provided.

A summary of data and trends of annual precipitation including precipitation; fog/low visibility conditions, storm surge and extreme water levels (both positive and negative), and both climate normals and extreme conditions applicable to the proposed Project area will be included. A review of available climate data (climate normals) from the nearest meteorological stations shall be conducted to establish baseline climate information.

The climate discussion will also include sea level rise (using latest published Projections) and climate variability and trends.

12.1.2 Air Quality

The EA Report shall:

- Provide a summary of ambient air quality levels to characterize baseline air quality conditions in each of the communities and jurisdictions in the proposed Project area. Include $PM_{2.5}$ and PM_{10} measurements from the nearest regional government monitoring stations and dustfall baseline measurements from the proposed Project area.
- Identify potential fixed and transient emission sources to be used during construction and operation activities for the transmission line and at the substations.
- Identify sources of air emissions and potential air quality effects from other industries and activities in the proposed Project area.
- In conjunction with climatic studies, identify the areas of potential adverse changes in air quality.

12.1.3 Acoustic Environment

The EA Report shall:

- Describe ambient noise levels along the transmission corridor in the terrestrial environment.
- Identify the locations of all potentially noise-sensitive human receptors in relation to the Project.
- Identify all potential noise sources during construction, operation and decommissioning, including any tonal (e.g. sirens), low frequency (which can result in the production of vibrations), implusive (e.g. blasting) and/or highly impulsive noises (e.g. hammering, pile driving), and their expected durations.
- Compare baseline noise levels with predicted noise levels at sensitive receptor locations to determine whether expected noise levels may result in adverse health effects.
- Ensure that noise levels do not exceed provincial or municipal acceptable noise levels, and if exceedences are predicted, discuss potential mitigative measures.

More information about evaluating human health effects associated with noise can be found in Health Canada's "*Useful Information for Environmental Assessments*", (Health Canada, 2010b).

12.1.4 Electric and Magnetic Fields

The intensity of the Electric and Magnetic Fields (EMF) emitted by power lines depends on wiring and tower configurations, as well as the line voltage, the current flow (direct or alternating), and distance from the lines.

At present, there are no Canadian guidelines for EMF at extremely low frequencies as there is no conclusive evidence of any harm caused by EMF exposure at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors (Health Canada, 2010a). Nevertheless, public concern about the possible health risks from EMF exposure may be an issue with transmission line projects. If public concern is expressed, it is advisable to carry out exposure assessments in areas accessible to the general public.

An assessment of possible EMF exposure would include:

- a discussion on the current state of scientific knowledge with respect to possible health effects from EMF exposure and a review of current exposure guidelines and/or position statements from health-related

organizations (e.g. World Health Organization 2007a and 2007b, Federal-Provincial-Territorial Radiation Protection Committee 2008);

- identification of all potential sources of EMF and potential human residents in the project area;
- assessment of background EMF levels at selected locations at the proposed site prior to construction, and their corresponding estimated levels after construction; and
- a description of measures that will be taken to mitigate potential public concern over project-related EMF exposure.

12.2 Effects Assessment and Mitigation

The EA Report shall list and predict the direct and indirect GHG emissions and the potential impact on carbon sinks for activities associated with the construction, operations, and decommissioning phases of the Project. Greenhouse gas emissions that should be considered as applicable include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_20), sulphur hexafluoride (SF_6), perfuorocarbons (PCFs), and hydrofluorocarbons (HFCs). The assessment will also be in consideration of existing conditions, standard good practice and procedures, and planned mitigation. Climate information will be used to assess the potential effects of the environment on the proposed Project.

The proponent shall evaluate potential for effects on air quality during construction of overhead transmission lines from construction machinery and from fugitive dust during right-of-way clearing and site preparation and increased highway construction traffic.

The proponent shall assess the impacts on the acoustic environment at all stages of the Project.

If there is public concern associated with potential EMF issues, the proponent shall provide a discussion of measures that will be taken to mitigate public concern over Project-related EMF exposure.

The EA Report shall identify intended measures to avoid, minimize or otherwise mitigate effects of construction and operation of the proposed Project on biological receptors (e.g., vegetation, fish, wildlife, human health).

13 WATER RESOURCES

13.1 Existing Environment

The location and extent of water resources in the Project area shall be mapped. The EA Report shall identify all water bodies which may be impacted by the

project along the transmission link corridor, at the converter station sites and grounding facilities sites. This will include all water bodies showing on 1:50,000 scale topographic mapping, as well as all surface water and groundwater resources located in protected and unprotected public water supply areas.

The EA Report will compare baseline water quality parameters with appropriate guidelines and standards, such as the Canadian Council of Ministers for the Environment, *Canadian Water Quality Guidelines for Protection of Aquatic Life*, *Guidelines for Canadian Recreational Water Quality* and the *Guidelines for Canadian Drinking Water Quality*.

The EA Report shall identify licensed and, if possible, unlicensed surface water withdrawal locations transected upstream by the transmission corridor and summarize baseline water quality by reviewing existing and collected data. The boundaries of any community watersheds will be noted.

The EA Report shall include a description of hydrological flow regimes for each of the major watercourses, including major wetlands along the transmission corridor. Hydrographs for major watercourses crossed by the transmission corridor or within the footprint of the converter stations will be included.

The EA Report shall include a desktop study describing the general hydro-geological and groundwater conditions along the transmission corridor (for western NL information is available at http://www.env.gov.nl.ca/env/waterres/reports/hydrogeology_westernnl/index.html) with potential to be affected by construction of the grounding facilities, converter stations and other infrastructure, including a discussion about the use of groundwater as a drinking water source for nearby residences (if applicable).

Furthermore, for all protected and unprotected public water supply areas in the Project area, the EA Report must:

- include delineation of natural drainage basins, at appropriate scales;
- identify groundwater flow patterns, recharge and discharge areas, and groundwater interaction with surface waters; and
- summarize the chemical and physical surface water and groundwater chemistry using available data.

13.2 Effects Assessment and Mitigation

The EA Report shall identify and assess potential effects on water resources during all phases of the Project including, site preparation, construction and operation, site restoration and maintenance. In conducting the effects assessment, the EA Report shall consider:

- pertinent acts, policies, guidelines and directives relating to water resources (e.g., NL *Water Resources Act and Policy for Land and Water Related Developments in Protected Water Supply Areas*);
- potential effects to water quality on fisheries resources, aquatic biology and community water supply systems due to steep terrain, unstable slopes and erodible soils;
- its importance to ecosystem function and human use (including potable water supplies; recreational use and protection of aquatic life);
- effects on drinking water supplies;
- effects on water quantity and quality for both surface water and groundwater;
- all protected and unprotected water supply areas within the Project area; and
- erosion and sedimentation, including dust deposition.

The EA Report must describe measures to mitigate effects water resources, and predict adverse residual effects and their significance.

14 AQUATIC ENVIRONMENT (FRESHWATER & MARINE)

14.1 Existing Environment

The EA Report shall include a description of the freshwater and marine environments, with emphasis on the abundance and distribution of fish[7] and their associated habitats[8] within the regional and local study areas. This description shall be based on the results of baseline information collected from field studies, the hydrological assessment, published information and information resulting from community and stakeholder consultation.

The EA Report shall include:

[7] For the purpose of this EA "Fish" will be defined as in the *Fisheries Act*, as: "(a) parts of fish, (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals."

[8] For the purpose of this EA "Fish Habitat" is defined as in the *Fisheries Act* as: "spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes."

- a general overview of the freshwater and marine environments in the study area;
- details regarding the design, construction, installation, and operation of all project components that may impact fish and fish habitat;
- characterization and quantification of the fish habitat and fish populations by species and life stage (including marine mammals) affected by the Project, a description of rare, threatened and endangered species as per the *Species at Risk Act (SARA)*, NL *Endangered Species Act,* Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and Atlantic Canada Conservation Data Centre (ACCDC), including fish, marine mammals and sea turtles;
- details of programs, data collection methodologies and sources, and interpretation/reporting with respect to fish and fish habitat classification and quantification;
- an assessment of critical and sensitive habitats for spawning, nursing, rearing, feeding, and migration by fish, amphibians and invertebrate species;
- an assessment of work windows and sensitive times of the year (e.g. migration, feeding and spawning) which are critical for fish populations identified in the study area;
- a description of coral and sponge communities present in the Project areas;
- water and marine sediment quality, including associated levels of contamination, as components of habitat quality (*i.e.*, as they potentially affect biological receptors); and
- a description of ecologically sensitive areas, protected areas and candidate protected areas

14.2 Effects Assessment and Mitigation

The EA Report will consider potential environmental effects of construction and operation activities along the transmission corridor, including the site access roads that may be required to facilitate construction access and transmission line installation, on aquatic environments, including fish and fish habitat. The EA Report shall describe measures for avoiding, minimizing or otherwise mitigating environmental effects to fish and fish habitat and will identify potential residual effects and their significance including:

- maintenance/construction: any herbicide/pesticide use near waterbodies;
- influences of increased access;

- effects of the Project on movement/migration of fish (e.g. lobster);
- effects of noise during construction and EMF during operation;
- development and implementation of an EMP to reduce or eliminate impacts to fish and fish habitat, applicable to construction and operation of the transmission line, converter stations and grounding facilities;
- description and quantification of harmful alteration, disruption or destruction of fish and fish habitat expected from Project activities, along with conceptual habitat compensation options to offset such alterations or losses to ensure that the proposed Project will not result in a net loss of the productive capacity of fish habitat;
- measures to mitigate impacts on coral and sponge communities in the area;
- measures to mitigate impacts to fish species that may occur in the Project area, including measures to mitigate impacts to *SARA*-listed species and those assessed as 'at risk' by COSEWIC (including fish, marine mammals and turtles), and their critical habitat;
- measures to mitigate impacts on aquatic environment and its components, including creeks, streams, wetlands, and the Cabot Strait, to fish, fish habitat, marine mammals, species at risk, sensitive areas (marine and freshwater) and water quality resulting from modifications (including site access) and operation at substations and grounding facilities;
- measures to mitigate impacts on ecologically sensitive areas; and
- design requirements for bridges and culverts.

In conducting the analysis, the proponent shall consider pertinent acts, policies, guidelines and directives relating to fish and fish habitat. The EA Report shall provide a description of measures to mitigate effects to fish and fish habitat and predict potential residual effects and their significance.

15 VEGETATION

15.1 Existing Environment

The EA Report shall describe the terrestrial ecosystem and existing vegetation species and plant communities present within the area potentially affected by the Project. The description will include species lists and dominant species by community type. In particular, the EA Report shall provide information on key indicator communities, and species groups or ecosystems that have ecological,

cultural or social value. This discussion shall include various habitat types (i.e., forests, wetlands, riparian habitat) as well as plant species and ecological communities of conservation concern.

The EA Report shall identify data sources, data collection methods and surveys to delineate vegetation units and to assess potential effects on vegetation resources. The EA Report will also include base maps to delineate vegetation units within the study area.

The EA Report will apply habitat modeling based on existing data. Available information on the known occurrence of rare and uncommon plant species from public and private sources shall be reviewed including the *SARA* Registry, the NS *Endangered Species Act*, the Nova Scotia Nature Trust, the NL *Endangered Species Act*, the significant habitat database, the ACCDC database, NSDNR, the NL Species Status Advisory Committee, species recommended for legal listing by COSEWIC, and species with a general status (as per the NL Department of Environment and Conservation – Wildlife Division General Status of Wildlife Ranks) as maybe at risk or undetermined.

Field surveys shall be conducted with a focus on areas of high potential for species at risk (SAR), rare vascular plants, uncommon species assemblages and species of conservation concern (SOCC) within the Project boundary. The surveys must be undertaken during the seasons appropriate to capture the presence of SAR and SOCC. The locations of SAR and SOCC identified during the field surveys will be presented in the EA Report.

In addition to habitats within the Project footprint, the EA Report will also consider habitats that may be indirectly affected by the Project (e.g., wetlands outside the immediate footprint that may experience a change in hydrology).

The discussion shall include vegetation that is harvested or grown for subsistence, social, cultural, ceremonial or medicinal purpose, as appropriate.

15.2 Effects Assessment and Mitigation

The EA Report shall include an estimate (in hectares) of each ecosystem type to be newly cleared along the transmission corridor, at the converter stations and grounding facilities. The EA Report shall identify and assess potential effects on vegetation species/communities during construction and operation phases of the Project. The assessment shall consider extent and type of rare or threatened habitat and SAR and SOCC as defined above that may be potentially disturbed, altered, or removed during construction and operation of the proposed transmission line.

The EA Report shall provide an evaluation of fire hazard risk to the nearby communities and land uses resulting from invasive weeds, accumulation of slash and other potential fuel sources along the right-of-way.

Pertinent acts, policies, guidelines and directives relating to vegetation/ecological communities shall be considered during the analysis. The EA Report shall describe measures to mitigate impacts to vegetation species/ecological communities which may include but are not limited to measures to prevent the spread of invasive species, reclamation and revegetation, and mitigation against impacts to Aboriginal traditional use for food, social, cultural, and/or ceremonial purposes.

16 WETLAND ECOSYSTEMS

16.1 Existing Environment

The locations and extent of all wetlands in the Project area, including coastal wetlands (e.g., salt marshes and eelgrass beds), shall be mapped. The EA Report shall provide an estimate (in hectares) of each type of wetland ecosystem along the transmission link corridor and at the converter station sites and grounding facilities sites. This will include all wetlands previously mapped by NSDNR, as well as wetlands identified by the study team through desktop analysis and field survey programs.

The desktop study to identify and determine extent of wetlands within the Project area will be conducted using the NS Wetland Database, NS Wet Areas Mapping, aerial imagery, and 1:50,000 topographic mapping.

An assessment, including a full delineation, should be completed for all wetlands that will be directly impacted by this Project. The EA Report should apply the US Army Corps of Engineers (1987) Wetland Delineation Method to formally define wetland habitat; and the Canadian Wetland Classification System (NWWG 1997) to classify and characterize wetland habitat. The assessment and delineation should be completed in accordance with protocols established by the Nova Scotia Environment and the Canadian Wildlife Service (CWS).

Potentially affected wetlands outside of the Project area will be mapped using the NSDNR data only, for Nova Scotia.

16.2 Effects Assessment and Mitigation

The EA Report shall evaluate the potential effects of construction and operation activities, such as site development, laydown areas, and access roads, including;

- the direct loss of wetland habitat within the Project footprint and indirect effects on wetland habitat, quality, ecosystem integrity and function

through changes in hydrology to areas immediately adjacent to the footprint;

- the potential for new corridors to increase access to wetlands (e.g., by ATVs); and
- the potential for introduction of invasive species from other areas from the operation of equipment within and adjacent to wetlands.

The EA Report shall evaluate the extent and type of wetland ecosystem that may be potentially disturbed, altered, or removed during the construction or operation of the new transmission line, substations, and grounding facility sites. The *Federal Policy on Wetland Conservation* (FPWC) and related implementation guidance identify the importance of planning, siting and designing a project in a manner that accommodates a consideration of mitigation options in a hierarchical sequence – avoidance, minimization, and as a last resort, compensation. The EA Report shall assess direct and indirect impacts on wetlands and describe how proposed mitigation measures will adhere to the FPWC, the NS *Wetland Conservation Policy*, the NL *Policy for Development in Wetlands* and related implementation guidance. Measures to ensure no net loss of wetland function should be detailed. In the event that avoidance of wetlands is not possible, the reasons why elimination of adverse effects on wetland function was not possible should be clearly demonstrated in the EA Report. Guidance related to the assessment of impacts to wetlands can be found in the EC publication "*Wetland Ecological Functions Assessment: An Overview of Approaches*" (Hanson et al., 2008).

Where wetland avoidance is not possible, mitigation plans shall be presented for minimizing the affected area of wetland (e.g., water management, erosion prevention and sediment control). The area of wetlands affected by the Project should be quantified, and the expected functional change described. The mitigation measures and monitoring plan, as well as a proposed compensation plan, should be consistent with those proposed for other projects in Atlantic Canada.

Opportunities to offset the loss of wetland area and function through wetland compensation shall be presented conceptually to Nova Scotia Environment, the NL Department of Environment and Conservation, EC, and DFO.

In conducting the analysis, the proponent shall consider pertinent acts, policies, guidelines and directives relating to wetlands. The EA Report shall provide a description of measures to mitigate effects to wetlands and predict potential residual effects and their significance. Since wetlands are indicators of possible change in groundwater regimes within the Project area, their extent and characteristics should be monitored.

17 WILDLIFE AND WILDLIFE HABITAT

17.1 Existing Environment

The EA Report shall describe wildlife and wildlife habitat including all terrestrial and marine fauna (excluding fish), avifauna and associated habitat located within the Project and surrounding areas potentially affected by the Project (e.g., as a result of noise or visual stimulus). This includes:

- birds, including those species protected under the *Migratory Birds Convention Act (MBCA)* and associated regulations, and those species under provincial responsibility,
- mammals (including fur bearers and ungulates) and their habitats, including rare or sensitive species;
- amphibians and reptile populations and their habitats, including rare or sensitive species;
- all SARA and COSEWIC-listed species, including species recommended for legal listing by COSEWIC;
- all species ranked by the ACCDC as S1, S2, or S3
- all species listed in the NL *Endangered Species Act* and species protected under the NL *Wildlife Act*, all species recommended for legal listing by the NL Species Status Advisory Committee, and all species with general status (according to the NL Department of Environment and Conservation – Wildlife Division General Status of Wildlife Ranks) as maybe at risk or undetermined;
- all species listed in the NS *Species at Risk Regulations* made under Sections 10 and 12 of the *Endangered Species Act* and those ranked extremely rare (S1) or rare (S2) in the ACCDC;
- sensitive coastal habitats (e.g. dunes, beaches, flats); and
- areas of concentration for other wildlife species (e.g., deer wintering areas).

The EA Report shall include a description of other wildlife (e.g., ungulates, furbearers, amphibians, and marine mammals) and their habitats, which may occur at the Project site and within local and regional study areas, including the results of any surveys conducted. The EA Report shall also include a description of any wildlife corridors and physical barriers to movement that exist within the Project area.

The description of wildlife shall be based on existing information and databases (e.g., ACCDC, Maritime Bird Breeding Atlas), field surveys, and consultation with federal and provincial agencies, hunting and trapping associations, local residents, and the results of the Mi'kmaq Ecological Knowledge Study (MEKS).

Newfoundland Caribou

Particular attention should be paid to the Newfoundland Woodland Caribou as it is being reviewed for legal listing by COSEWIC, SARA and the NL *Endangered Species Act*. For caribou in Newfoundland, the proponent will undertake the following:

- Plot all current caribou point data from current and previous collaring programs, by time period and season, to determine present and previous caribou occurrence in the Project footprint, and calculate relevant summary statistics (number of locations per time period, percentage of point locations in footprint per time period, etc.).
- Based on the above, determine the number and percentage of individuals that occur within the Project footprint by time period and by season.
- Determine the level of occurrence within the Project footprint and in adjacent areas by animals by time period and by season to assess annual and seasonal movements. This effort is to determine if the area might be used by migrating caribou that don't spend much time in the area per se, but use the area for an important purpose.
- Overlay caribou point location data on the Ecological Land Classification (ELC) and identify those polygon types where caribou locations fall, and provide summary statistics as well as percent occurrence by polygon type. Identify those polygon types containing higher percentages of caribou point locations spatially, and in relation to the overall Project footprint, and especially the proposed routing for the 26-28 km of new transmission line.
- two helicopter flights in 2012, one each during the first two weeks of June, to determine presence of caribou by age and sex within the 26-28 km of new transmission line portion of the Project footprint.

Migratory Birds

Migratory birds are protected under the MBCA and associated regulations. Migratory birds protected by the MBCA generally include all seabirds except cormorants and pelicans, all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles). Most of these birds are specifically named in the EC publication *Birds Protected in Canada under the Migratory Birds Convention Act* (Environment Canada 1991).

Preliminary data from existing sources should first be gathered on migratory bird use of the area for all four seasons (e.g., winter, spring migration, breeding season, fall migration). In addition to information obtained from the ACCDC and naturalists, other datasets should also be consulted (see below). Datasets are downloadable through Bird Studies Canada's web portal, Nature Counts, at: http://www.birdscanada.org/birdmon/default/datasets.jsp .

In particular, data from the Maritime Breeding Bird Atlas (1st and 2nd atlas) should be considered. Data from the 2nd atlas is not yet fully available through the ACCDC. Special requests for species at risk information from the Maritime Bird Breeding Atlas (MBBA) can be made directly via the Nature Counts website but will require special approval before the data are released. In addition to the MBBA, other datasets of relevance to this Project include: Bird Studies Canada's High Elevation Landbird Survey (contact Greg Campbell, gcampbell@bsc-eoc.org), Atlantic Canada Nocturnal Owl Survey, Christmas Bird Count, and the Breeding Bird Survey.

This data should then be supplemented by surveys. In designing required surveys, the proponent should consult with the Canadian Wildlife Service (CWS) of EC and refer to CWS's Technical Report No. 508, *A Framework for the Scientific Assessment of Potential Project Impacts on Birds* (Hanson *et al*. 2010). Appendix 3 of this Framework provides examples of Project types and recommended techniques for assessing impacts on migratory birds. The CWS may be able to provide data for certain portions of the Project footprint, as well as additional advice regarding priority species.

The EA report shall include the methodology and results of breeding, staging, and migratory bird surveys with maps (to scale) showing areas where surveys were undertaken in relation to the proposed Project infrastructure. Information on migratory birds should be structured by species groups i.e., waterbirds, shorebirds, waterfowl, landbirds. Maps showing any SAR and SOCC, designated or protected areas, areas of concentrations of birds or other wildlife, flight corridors, wetlands, interior and mature forest habitat, etc, should be shown in relation to Project infrastructure on appropriately scaled maps.

The EA Report shall give particular, but not exclusive, consideration to birds or habitat that meets one of the following criteria:

- species listed under the *SARA* and/or provincial species at risk legislation; designated, under review or identified as candidate species by the COSEWIC; and/or, with rarity ranks assigned by the provinces and/or the ACCDC;

- areas of concentration of migratory birds, such as breeding areas, colonies, spring and fall staging areas, flight corridors, and wintering areas;
- breeding and nesting areas of species low in number and high in the food chain;
- use interior and mature forest habitat;
- species that are identified by priority ranking systems (Partners-In-Flight[9]); or
- habitats in or near areas that have been or are in the process of being identified by land managers as particularly important to the survival of the species globally, regionally, or locally, or habitats valued by local users of the resource. These include, but are not limited to, areas with the following existing, proposed, or potential designations:
  - Migratory Bird Sanctuaries;
  - National Wildlife Areas;
  - Ramsar sites;
  - Western Hemisphere Shorebird Reserve Network sites;
  - Important Bird Areas; or
  - Other types of protected or designated areas that have been established, in part, to protect migratory birds and their habitat, such as those established through the Eastern Habitat Joint Venture.

17.2 Effects Assessment and Mitigation

The EA Report shall evaluate the effects of the Project footprint, construction, maintenance and operations that have the potential to interact with wildlife and wildlife habitat. As a starting point, the analysis shall include:

- quantitative and qualitative determination of direct loss and alteration of habitat within the Project footprint caused by clearing, grubbing and removal of vegetation along the transmission corridor, laydown area, access roads and converter station and grounding facilities sites;

[9] For information on Partners-in-Flight priority species in Newfoundland and Labrador, please consult the Canadian Wildlife Service. Information on Partners-in-Flight priority species in the Maritimes can be found in: Busby, D., P.J. Austin-Smith Sr., R. Curley, A. Diamond, T. Duffy, M. Elderkin, S. Makepeace, D. Diamond, R. Melanson, C. Staicer and B. Whittam. 2006. Partners in Flight Maritime Canada Landbird Conservation Plan. Technical Series No. 449, Canadian Wildlife Service, Atlantic Region. 43pp.

- an assessment of potential effects on birds from collisions and avian electrocution (e.g., demonstrate whether (and if so, how) the proposed structures and transmission line configuration are optimized for avoidance of avian collisions and electrocution; clearly identify any areas where the proposed RoW crosses areas used as flight paths by birds e.g., from nesting to foraging areas; and identify any areas where lights, both existing and proposed, may attract birds and thus increase the risk for collisions with structures);
- an assessment of the potential effects on birds shall include nesting and chick-rearing, staging, and wintering life-stages (if applicable) in addition to other appropriate life stages;
- habitat fragmentation due to alteration, habitat loss, access, and increased ungulate predation and decreased habitat availability for certain species, including birds (Note: If habitat fragmentation already occurs in the Project area, it must not be used to dismiss potential effects of further loss or fragmentation of habitat, as this would ignore potential for cumulative effects.);
- an analysis of Project impacts on mature and interior forest habitat for migratory birds on a local scale taking into account cumulative losses (and taking into account the species of migratory birds that use these habitats, as demonstrated by bird surveys);
- displacement and/or disturbance affecting mating, feeding, foraging, migration, or movement of wildlife as well as increasing the risk of encounters with humans;
- physical hazards and attractants (e.g., assessment of the potential impacts of roads, transmission lines, and other structural features on wildlife feeding, migration and movement, denning and refuge, reproductive behaviour and success, nesting and chick-rearing, and direct mortality);
- loss of habitat, decreased foraging success, decreased availability of denning/nesting sites, and less cover for wildlife;
- sensory disturbances and/or other impacts (e.g., assessment of the potential impacts of noise, light, odours, and human presence on wildlife feeding, migration and movement, denning and refuge, reproductive behaviour and success, and direct mortality);
- chemical hazards and attractants (e.g., assessment of the potential impacts of identified contaminants of potential concern on wildlife feeding, migration and movement, denning and refuge, reproductive behaviour and success, and direct mortality);

- displacement, disturbance, injury or direct mortality of marine mammals that may be present;
- an assessment of the potential effects on species known to be important to the Mi'kmaq in Nova Scotia; and
- the potential for and impacts of malfunctions and accidental events to wildlife and wildlife habitat throughout all phases of the Project.

The EA Report shall include an analysis of potential impacts in sensitive coastal habitats and shall describe measures to mitigate the effects of Project activities and installations to wildlife and wildlife habitat and will discuss the potential residual environmental effects and their significance. Management tools (i.e., federal and provincial acts and policies, wildlife management guidelines, and provincial or regional strategies and plans) relevant to the protection of wildlife and/or wildlife habitat shall be considered.

18 PROTECTED AREAS AND AREAS OF CONSERVATION INTEREST

18.1 Existing Environment

The locations and extent of all provincial and federal protected areas and areas of conservation interest/importance (i.e., areas considered by various governmental and non-governmental land-use managers to contain important, imperilled, and/or rare ecosystems, habitats, communities, and/or species) in the Project area shall be considered. This includes but is not limited to Provincial Parks, Wildlife Reserves, ecologically unique sites or special features, any candidate sites for ecological or cultural heritage preservation and conservation, Environmentally Sensitive Areas, Important Bird Areas, International Biological Program sites, conservation agreement lands, and habitat enhancement projects. The following areas should be included: Barachois Pond Provincial Park, Cheeseman Provincial Park, T'Railway Provincial Park, Little Grand Lake Wildlife Reserve, and the globally-rare wave forest habitat which occurs approximately 5 km north of the proposed landing site at Cape Ray.

The EA Report shall note the type of protected area or area of conservation importance (i.e., camping park, Important Bird Area, etc), its size, the ecological region the area represents, and any important biotic or abiotic feature(s) occurring in the protected area or area of conservation importance which may potentially be affected by the Project (e.g., as a result of noise or visual stimulus). The value of the protected area or area of conservation interest within the greater landscape context as it relates to functional landscape connectivity and landscape intactness should also be noted.

The EA Report shall address the value of a protected area or area of conservation interest not only as it relates to its environmental role, but also to the value placed on it by humans (e.g., cultural and social values, aesthetics, etc).

18.2 Effects Assessment and Mitigation

The EA Report shall evaluate the potential effects of the Project footprint, construction, and maintenance and operations on the environmental, cultural, social, and aesthetic values of protected areas and areas of conservation interest. The analysis shall include, among others:

- direct Project effects on protected areas and areas of conservation importance;
- potential isolation of protected areas and areas of conservation importance due to habitat fragmentation caused by habitat alteration and loss;
- effects on features within protected area boundaries due to potential changes to features outside protected areas boundaries, such as increased access by humans and other predators;
- an assessment of effects on the viewshed within the vicinity of the protected area or area of conservation interest, including a determination of the likely appearance of the proposed transmission line and associated infrastructure, and the potential visibility from key/high-value locations of the proposed transmission line and associated infrastructure. The analysis should include: 1) conceptual drawings or photosimulations of the transmission line and infrastructure; and 2) viewshed / visibility modelling and associated maps showing protected areas boundaries and other easily-recognizable landmarks (towns, large waterbodies, etc). The proponent shall comment on impacts of changes to the viewshed on cultural and aesthetic values that protected areas provide; and
- a description of measures to mitigate the effects of Project construction, maintenance, and visual impact on the environmental, cultural, and social benefits of protected areas and areas of significant conservation interest.

19 ECONOMY, BUSINESS AND EMPLOYMENT[10]

19.1 Existing Environment

The EA Report shall describe existing conditions with a focus on population and labour force, training and education, employment / unemployment, income levels and economic production; and business and industry in the province as a whole, including tourism. This information will be obtained from publically available sources (e.g., Statistics Canada, the province of Nova Scotia and Newfoundland and Labrador) and the Municipalities.

Tourism

Using existing research, the EA Report shall describe the existing tourism markets using the area adjoining the powerline corridor, paying particular attention to the activities participated in by those spending nights in the study area, their spending, and the general sensitivity to environmental alteration. In this regard the EA Report shall include:

- the area's scenery (viewpoints from roads, towns and the Trailway Park);
- the outfitting industry (lodges in the area based on success rate, type and size of game, crowding/competition for game and prime hunting/fishing locations, pristineness/scenery);
- the area's unique salmon stocks and recreational fishery (areas where the Project will cross or run parallel and close to rivers, especially salmon pools in terms of existing naturalness, accessibility/crowding and quality of pools); and
- special places (inventory of special places/unique features e.g., estuary of the Codroy River, the Estuary flowing into the southwest shore of Victoria Lake, waterfalls, wave forest, fossil sites, and unique geological formations, classified according to their value to the area's tourism operators).

19.2 Effects Assessment and Mitigation

The effects assessment shall present information on expected direct and indirect employment and expenditures throughout all phases the Project, which will enable estimates to be made regarding effects on labour, supply and services

[10] Consideration of socio-economic impacts, unless brought about by a change in the environment as a result of the Project, are beyond the scope of the federal EA but will be considered by the provinces.

requirements, direct and indirect employment income, and provincial GDP and taxation.

The EA Report shall include the following information:

- National Occupation Classification (NOC) codes (at the 4-digit level) associated with each position for all phases of the Project, including the number of positions associated with each NOC code.
- The approximate time lines for each of the positions during the construction and operations phases of the Project. Including the number of positions for each 4-digit NOC code throughout the Project at specified time intervals (monthly or at least quarterly) that show levels of employment throughout the Project timeline.
- An indication of whether the positions are full-time equivalent or if they are the actual number of positions; specifying full-time vs. part-time.
- An estimate of the number of apprentices (by level) and journeypersons required.
- The anticipated source of the workforce, including an estimate of local employment (local area, provincial) and any strategies for recruitment.
- An identification of any specialized training, such as post-journeyperson training, that may be required.

The EA Report shall indicate the proponent's commitment to provide quarterly Reports during the construction phase, including information on the number employed by 4-digit NOC, the number of full-time/part-time employees, the number of apprentices (by level) and journeypersons, gender, and source of the workforce.

The EA Report shall indicate the proponent's commitment to execute a benefits agreement with the Province of Newfoundland and Labrador for the Maritime Link Transmission Project which is aligned with:

- The Term Sheet between Emera and Nalcor Energy and subsequent commercial agreements;
- The Memorandum of Understanding between the Government of Newfoundland and Labrador and the Government of Nova Scotia.

and which contains Gender and Diversity provisions and various reporting requirements consistent with Government of Newfoundland and Labrador policy.

Tourism

The EA Report shall include an assessment of:

- the quality of scenery affected by the Project using existing checklist systems used in British Columbia, including overlaying the Project on the scenic settings and describing visual impacts;
- the Project's impacts on the outfitting industry, in particular, hunting lodges and potential impacts to success rates and competition for resources resulting from increased access;
- the Project's impacts to scenic viewscapes used by the lodges;
- the Project's impacts on unique salmon stocks and the recreational fishery, in particular crowding/competition and catch rates resulting from increased access to prime angling location; and
- the effects of the Project on special places, including impacts on their value to the area's tourism operators who depend on them for their livelihood.

The EA Report shall describe measures to mitigate any adverse effects to economy, business and employment and will identify any potential residual effects and their significance.

20 LAND AND RESOURCE USE

20.1 Existing Environment

The EA Report shall evaluate potential interactions between the Project and use of land and resources and shall address compatibility with rural planning, as well as natural, environmentally-significant or protected areas that are designated or formally recognized by government agencies.

The EA Report will describe relevant land and resources use within the study area including:

- current use of land and resources, including freshwater and marine aquatic resources (e.g. recreational and commercial fishing, tree harvesting, agricultural use, petroleum and mineral exploration, quarries, structural development such as cabins, outfitting camps, trapper's camps, etc), as well as current access to these sites;
- current navigational use (e.g., vessel/boat traffic) and winter travel in areas of electrodes, sub-sea cables, temporary/permanent water crossings, and any other works than are placed in, on, over, through, or across any navigable water; and
- location and description of unique sites or special features, including any candidate sites for ecological or cultural heritage preservation and

conservation, Environmentally Sensitive Areas, reserves or protected areas, areas of conservation interest (e.g. the globally-rare wave forest approximately 5 km north of the proposed landing site at Cape Ray), conservation agreement lands and habitat enhancement projects.

20.2 Effects Assessment and Mitigation

The EA Report shall assess the potential effects of any change in the environment as a result of the Project on land and resource Use. This assessment shall include indirect and direct impacts to satisfy the requirements of the federal government and the provinces.

The EA Report shall assess the effects of any change to the use of surrounding lands and resources by the public and private sectors as a result of the Project. The EA Report shall consider the environmental effects that will restrict the ability of people to use and enjoy adjacent lands and/or the marine area presently or in the future (e.g., exclusion or disruption of recreation activities, loss of areas of special community or social value, and changes to the local visual aesthetics).

The potential for Project-related emissions, noise, and vibration to adversely affect current land and resource use shall be assessed and the degree or extent of impact shall be described. The EA Report shall describe measures to mitigate any adverse effects to land and resource use and will identify any potential residual effects and their significance. Types of mitigation may include controls on dust, noise, lighting and other potential disturbances associated with Project activities. Mitigation may also include an information program to notify local residents, businesses and planners of upcoming Project activities and requirements.

With respect to effects of the Project on navigation and navigable waters, the Proponent shall describe effects on the navigability and the navigation patterns of all waters impacted by any Project phase (construction, installation, operation) of the Project. Impacts on traditional (e.g., hunting, fishing) and current recreational and commercial waterway use shall be identified and assessed.

The proponent shall identify measures to reduce or eliminate impacts on safe navigation during the construction, installation, and operation of the sub-sea cable crossing, sea electrode sites, temporary and permanent stream crossings, and all aerial transmission lines over navigable waters.

21 COMMERCIAL AND RECREATIONAL FISHERIES

21.1 Existing Environment

A detailed review of fishing activity, including traditional, existing and potential commercial, recreational and aboriginal fisheries shall be provided. This shall include most recent and available information, discussions with provincial and federal agencies and consultation with fishing associations and individuals who fish in the vicinity of the Project shall be presented.

The EA Report shall include a description of the types and intensity of commercial fisheries in the marine Project site and the area affected by Project activities and infrastructure. The description will include the species and seasons fished, the number of fishing licenses in the region and a summary of landings and landed values. To the extent that the information is available, the EA Report will include a description of the spatial distribution of commercial fishers in the marine Project area to identify areas that are fished more intensively and areas that are avoided. The nature and location of aquaculture operations, if present, will be described.

The EA Report will also include a description of any recreational and tourism-related fishing that occurs in marine Project area, with a focus on the Project area and its immediate vicinity. Fishing, both licensed commercial fishing and fishing conducted for traditional purposes in the area by Aboriginal peoples will be described.

21.2 Effects Assessment and Mitigation

The EA Report shall assess the potential interaction with commercial/recreational fish species and commercial/recreational fishing operations in the region during construction, operation, and maintenance activities including changes in commercial/recreational fish populations (i.e., displacement, direct mortality, loss or alteration of habitat and use), loss of fishing gear due to entanglement with Project infrastructure, navigation restrictions and constricted vessel movements associated with additional marine construction traffic, and loss of access to traditional fishing areas.

The potential for malfunctions and accidental events and potential interactions with Commercial and Recreational Fisheries throughout all phases of the Project will be addressed.

The effects assessment for commercial fisheries shall be completed based on the results of the desktop and benthic studies and consultation with DFO representatives, resource experts and input from the fisheries consultation. The assessment will focus on anticipated changes to fishing patterns due to loss of or displacement from fishing grounds and changes to commercial fishery incomes

from the factors above, as well as from habitat loss or degradation from Project infrastructure and activities.

It is assumed that habitat compensation shall be provided to achieve no net loss of productive capacity of fish habitat in consideration of the importance of commercial species. Other types of issues and mitigation (e.g., potential avoidance of marine construction during key fishing seasons) shall also be discussed. The proponent may consult with local fishing industry representatives regarding any specific fishing mitigation and habitat compensation plans.

In conducting the analysis, the proponent shall consider pertinent acts, policies, guidelines and directives relating to the commercial fisheries. The EA Report shall provide a description of measures to mitigate effects to commercial and recreational fisheries and predict potential residual effects and their significance.

22 ARCHAEOLOGICAL AND HERITAGE RESOURCES

22.1 Existing Environment

To characterize the existing environment within the Project site with regards to archaeological and heritage resources[11], the following methods will be used:

- marine and terrestrial archaeological and heritage resources and sites providing evidence of past use and occupation;
- known resources shall be determined through a review of the provincial archives, provincial heritage records, documented archaeological sites, provincial and local museum records, local historical societies, community historians, and the Mi'kmaq of Nova Scotia, if applicable; and
- a reconnaissance-level search will be undertaken for those resources that may exist within the property boundaries, but of which there is currently no knowledge (e.g., undiscovered archaeological resources).

The EA Report shall identify any terrestrial and aquatic areas known to contain features of historical, archaeological, paleontological, architectural or cultural

[11] Archaeological and heritage resources are defined under *CEAA* as any structure, site or item of historical, archaeological, paleontological or architectural significance, including physical remnants and buildings, found below and / or on top of the ground surface informing us of past human use of, and interaction with, the physical environment; paleontological resources; and buildings of architectural significance (i.e., provincially designated as heritage buildings).

importance. A description of the nature of the features located in the Project area will be provided including resources of interest to the Mi'kmaq of Nova Scotia.

It is recommended that prior to commencing the archaeology assessment, the proponent will meet with the NSOAA, the Nova Scotia Department of Communities, Culture and Heritage, the archaeology consultant and with the Archaeology Research Division of the KMKNO to provide the Archaeology Research Division with an opportunity to comment on the proposed methodology for the archaeology assessment. Upon review of these comments, the archaeology consultant might be provided with additional direction if it is required.

22.2 Effects Assessment and Mitigation

The EA Report shall assess the potential effects of any change in the environment as a result of the Project on physical and cultural heritage resources and on structures, sites or things of historical, archaeological, or paleontological significance. Potential Project interactions with documented archaeological and historic features (terrestrial and marine) shall be assessed with mitigation and monitoring proposals provided.

An archaeological potential model shall also be provided including proposals for monitoring and contingency planning in the event that previously undocumented resources are discovered during Project development. Provisions for notification and involvement of relevant regulators and the Mi'kmaq of Nova Scotia shall also be included.

In conducting the analysis, the proponent shall consider pertinent acts, policies, guidelines and directives relating to archaeological and heritage resources. The EA Report shall provide a description of measures to mitigate effects to archaeological and heritage resources and predict potential residual effects and their significance. The potential for malfunctions and accidental events may also have interactions with Archaeological and Heritage Resources throughout all phases of the Project.

23 CURRENT USE OF LAND AND RESOURCES FOR TRADITIONAL PURPOSES BY ABORIGINAL PERSONS

23.1 Existing Environment

The EA Report will assess the effects on current use of land and resources (including terrestrial, freshwater and marine aquatic resources) by Aboriginal

persons for traditional purposes[12], including locations of camps, harvested species, and transportation routes, if the effect results from a change in the environment caused by the Project.

The EA Report shall describe fishing for food and ceremonial purposes (not related to commercial fisheries) by Aboriginal persons potentially impacted by the Project. The EA Report shall describe flora and fauna that is harvested for subsistence, social, cultural, ceremonial or medicinal purposes.

In Nova Scotia, an MEKS shall be conducted to gain an understanding of current and past use of the Project area by the Mi'kmaq. The MEKS will be conducted in accordance with the Protocol established by the Kwilmu'kw Maw-klusuaqn, which consists of defined procedures for the planning/design, development, implementation and reporting stages of an MEKS. It is recommended that prior to commencing the MEKS, the proponent contact the NSOAA and KMKNO to seek directions on conducting an MEKS.

While respecting the intellectual property rights of Aboriginal communities and individuals, the information collected during discussions with Aboriginal persons will be reflected in the EA Report and will be used, as appropriate, to carry out the environmental effects assessment.

Community and Aboriginal leadership engagement activities will be conducted to ensure that the Aboriginal persons are informed of the Project, to hear concerns that will need to be considered, and to identify opportunities for their participation in the Project.

Traditional activities carried out by Aboriginal people should be described based on information provided by Aboriginal groups or, if Aboriginal groups do not provide this information, on available information from other sources (to be cited).

23.2 Effects Assessment and Mitigation

Should discussions with Aboriginal persons indicate that the Project area is used for traditional purposes, Project effects shall be assessed through consideration of the nature and duration of those uses, the locations within the Project boundary, including the marine footprint, at which those uses occur, and the spiritual, cultural and economic significance of that use.

The EA Report will identify:

[12] See footnote 5

- potential adverse social and/or economic effects to Aboriginal groups that may arise as a result of any change in the environment due to the Project;
- effects of any change in the environment due to the Project on current and proposed uses of land and resources by Aboriginal groups for traditional purposes;
- effects of any change in the environment due to the Project on hunting, fishing, trapping and cultural uses of the land (e.g., collection of medicinal plants, use of sacred sites), as well as related effects on lifestyle, culture and quality of life of Aboriginal groups; and
- effects of any change in the environment as a result of the Project on heritage and archaeological resources in the Project area that are of importance or concern to Aboriginal groups.

The EA Report will provide a description of measures to mitigate effects to the Current Use of Land and Resource Use for Traditional Purposes by Aboriginal persons and predict potential residual effects and their significance.

REFERENCES

Atlantic Canada Conservation Data Centre. http://www.accdc.com/

Assembly of Nova Scotia Mi'kmaq Chiefs. 2007. *Mi'kmaq Ecological Knowledge Study Protocol*. http://66.29.197.94/uploads/KMKMEK.pdf

Barnthouse, L.W., W. R. Munns Jr. and M. T. Sorensen. 2008. *Population-Level Ecological Risk Assessment.* CRC Taylor and Francis, NY. Society of Environmental Toxicology and Chemistry.

Busby, D., P.J. Austin-Smith Sr., R. Curley, A. Diamond, T. Duffy, M. Elderkin, S. Makepeace, D. Diamond, R. Melanson, C. Staicer and B. Whittam. 2006. *Partners in Flight Maritime Canada Landbird Conservation Plan*. Technical Series No. 449, Canadian Wildlife Service, Atlantic Region. 43pp.

Canada. Privy Council Office. 2003. *A Framework for the Application of Precaution in Science-based Decision Making About Risk*. Accessed January 26, 2012. http://www.pco-bcp.gc.ca/docs/information/Publications/precaution/Precaution-eng.pdf

Canadian Environmental Assessment Agency. Operational Policy Statement. 2007. *Addressing "Need for", "Purpose of", "Alternatives to" and "Alternative Means" under the Canadian Environmental Assessment Act*. Canadian Environmental Assessment Agency - Policy & Guidance - Operational Policy Statement - Addressing "Need for", "Purpose of", "Alternatives to" and "Alternative Means" under the CEAAct

Canadian Environmental Assessment Agency. Operational Policy Statement. 2007. *Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act.* Canadian Environmental Assessment Agency - Policy & Guidance - Operational Policy Statement - Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act

Canadian Environmental Assessment Agency. Procedural Guide. 2003. *Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners*, prepared by: The Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment. Canadian Environmental Assessment Agency - Policy & Guidance - Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners

Canadian Environmental Assessment Agency, Reference Guide 1994. *Addressing Cumulative Environmental Effects*. Canadian Environmental Assessment Agency - Policy & Guidance - The Responsible Authority's Guide

Canadian Environmental Assessment Agency, Procedural Guide 1999. *Cumulative Effects Assessment Practitioners Guide,* Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling and D. Stalker. Prepared by: The Cumulative Effects Assessment Working Group and

AXYS Environmental Consulting Ltd. http://dsp-psd.pwgsc.gc.ca/Collection/En106-44-1999E.pdf

Environment Canada, 1991. *Birds Protected in Canada under the Migratory Birds Convention Act*, Canadian Wildlife Service Occasional Paper No. 1. http://www.ec.gc.ca/Publications/default.asp?lang= En&xml=97AC4B68-69E6-4E12-A85D-509F5B571564

Federal-Provincial-Territorial Radiation Protection Committee. 2008. *Response Statement to Public Concerns Regarding Electric and Magnetic Fields (EMF) from Electrical Power Transmission and Distribution Lines.* www.hc-sc.gc.ca/ewh-semt/radiation/fpt-radprotect/emf-cem-eng.php

Government of Canada. 2003. *A Framework for the Application of Precaution in Science-based Decision Making About Risk*. http://www.pco-bcp.gc.ca/index.asp?lang=eng&page=information&sub=publications&doc=precaution/precaution_e.htm

Hanson, A., L. Swanson, D. Ewing, G. Grabas, S. Meye, L. Ross, M. Watmough, and J, Kirby. 2008. *Wetland Ecological Functions Assessment: An Overview of Approaches*. Canadian Wildlife Service Technical Report Series No. 497. Atlantic Region. 59 pp. http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=B8737F25-B456-40ED-97E8-DF73C70236A4

Hanson, A., L. Goudie, A. Lang, C. Gjerdrum, R. Cotter and G. Donaldson. 2009. *A Framework for the Scientific Assessment of Potential Project Impacts on Birds*. Canadian Wildlife Service's Technical Report Series No. 508. Atlantic Region. 61 pp.

Health Canada. 2010a. *It's Your Health – Electric and Magnetic Fields at Extremely Low Frequencies*. www.hc-sc.gc.ca/hl-vs/alt_formats/pdf/iyh-vsv/environ/magnet-eng.pdf

Health Canada. 2010b. *Useful Information for Environmental Assessment*. Prepared for Her Majesty the Queen in Right of Canada, represented by the Minister of Health. http://www.hc-sc.gc.ca/ewh-semt/pubs/eval/environ_assess-eval/index-eng.php

Minister of the Department of Indian Affairs and Northern Development. 2011. *Aboriginal Consultation and Accommodation - Updated Guidelines for Federal Officials to Fulfill the Duty to Consult.* http://www.ainc-inac.gc.ca/eng/1100100014664

National Wetlands Working Group (NWWG). 1997. *The Canadian Wetland Classification System*, second edition, B.G. Warner and C.D.A. Rubec (ed.). Wetlands Research Centre, University of Waterloo, Waterloo. 68 p.

Newfoundland and Labrador Department of Environment & Conservation, Wildlife Division. Newfoundland and Labrador: A Provincial Policy Regarding the Conservation of Species at Risk. http://www.env.gov.nl.ca/env/wildlife/endangeredspecies/index.html

Newfoundland and Labrador Department of Environment & Conservation. Wildlife Division General Status of Wildlife Ranks. http://www.env.gov.nl.ca/env/wildlife/all_species/general_status.html

Newfoundland and Labrador Species Status Advisory Committee. http://www.env.gov.nl.ca/env/wildlife/endangeredspecies/ssac/index.html

Nova Scotia Environment. 2010. *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia*. http://climatechange.gov.ns.ca/files/02/65/EA_CC_Guide1.pdf

Nova Scotia Office of Aboriginal Affairs. 2011. *Proponents' Guide: The Role of Proponent's in Crown Consultation with the Mi'kmaq of Nova Scotia*. http://www.gov.ns.ca/abor/office/what-we-do/consultation/

U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual*. http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf

Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process. 2010. http://www.gov.ns.ca/abor/docs/MK_NS_CAN_Consultation_TOR_Sept2010_English.pdf

WHO. 2007a. Fact sheet No. 322. *Electromagnetic fields and public health: Exposure to extremely low frequency fields.* www.who.int/mediacentre/factsheets/fs322/en/index.html

WHO. 2007b. *Environmental Health Criteria Monograph No.238. Extremely Low Frequency Fields*. www.who.int/entity/peh-emf/publications/Complet_DEC_2007.pdf

APPENDIX B

Potential Permitting and Approval Requirements

Although this Appendix provides a comprehensive list of permits and approvals, each one is considered to be a “potential” requirement. In other words, only some of these permits/approvals will be applicable as a matter of law, while others will not apply. This table has been created as a checklist to help ENL ensure that it has given, and will continue to give, considered analysis to relevant legislative and policy requirements, or guidance, at all levels of jurisdiction for appropriate consideration of all potential effects of the Project.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
FEDERAL					
Environmental Assessment Course of Action Decision (for Transitional Screening)	Canadian Environmental Assessment Act, 2012 (CEAA 2012)	N/A	Project (as scoped for the purpose of EA by the proponent and by the RAs, including construction, operation and decommissioning. Recent federal scoping has been broad post Red Chris federal court decision)	Relevant Federal Departments (Responsible Authorities (RAs) and Federal Authorities (FAs)) under former version of CEAA	The requirements of CEAA 2012 must be fulfilled before any irrevocable decision is made by a federal authority that would allow the Project to proceed. A Transitional Screening must be completed before the RAs identified under the former version of CEAA can exercise any power or perform any duty or function that would permit the Project to be carried out in whole or in part. Permit applications can be made prior to EA approval, but permit decisions cannot be made or permits issued until a positive EA decision is made.
Fisheries Act Authorization or Letter of Advice	Fisheries Act	N/A	Construction of cable crossings and watercourse crossings Also applicable for construction of grounding sites	Fisheries and Oceans (Fisheries and Oceans (DFO)	Authorization is required from DFO under Sections 32(2) and 35(1) of the Fisheries Act for the killing of fish by means other than fishing or the harmful alteration, disruption, or destruction (HADD) of fish habitat, respectively. Authorizations will only be issued where fish mortality or the loss of fish habitat cannot be avoided through mitigation. Where potential for harmful effects to fish or fish habitat can be prevented, DFO may issue a Letter of Advice outlining appropriate mitigation procedures or conditions to be followed. Authorization under Section 35(1) of the Fisheries Act (commonly referred to as HADD Authorization) requires the proponent to develop and implement a fish habitat compensation plan that is approved by DFO.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Approval under Navigable Waters Protection Act	Navigable Waters Protection Act (NWPA)	N/A	Construction of cable crossings and watercourse crossings Could be applicable for construction of grounding sites	Transport Canada – Navigable Waters Protection Program (NWPP)	A permit is required for any works or construction activity located below the high water mark, either over, under, through or across any navigable waters. This could include any structure, device or thing that may interfere with navigation. An application must be submitted for each alteration to a navigable waterway. Section 5(2) - If the Minister considers that the work would substantially interfere with navigation, the Minister may impose any terms and conditions on the approval that the Minister considers appropriate, including requiring that construction of the work be started within six months and finished within three years of the day on which approval is granted or within any other period that the Minister may fix. Section 5(3) - If the Minister considers that the work would interfere, other than substantially, with navigation, the Minister may impose any terms and conditions on the approval that the Minister considers appropriate, including requiring that construction of the work be started and finished within the period fixed by the Minister.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Permit for Disposal at Sea (DAS)	Canadian Environmental Protection Act (CEPA)	Disposal at Sea Regulations and Regulations respecting applications for Permits for Disposal at Sea	Construction of cable crossings Could be applicable for dredging and side-casting associated with construction of grounding sites	Environment Canada	Disposal at Sea is the deliberate disposal at sea of approved substances from ships, aircraft, platforms or other structures. These substances are primarily dredged sediment from river or marine sources or excavated native till. Part 7, Division 3 of CEPA specifies that the definition of "disposal" under the Act excludes "the placement of a substances for a purpose other than its mere disposal", provided that the placement is not contrary to the purposes of Division 3 of CEPA, the aims of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, and the associated Protocol.
Licence for Radio communication	Radio communication Act	Radio communication Regulations	Establishment and use of radio equipment and associated towers	Industry Canada	Prohibits the deposit of oil, oily wastes or any other substances harmful to migratory birds in any waters or any area frequented by migratory birds. The Canadian Wildlife Service should be notified about the mortality of any migratory bird in the project
Temporary Magazine Licence	Explosives Act	Explosives Regulations	Temporary storage of explosives at certain construction areas (Storage only - Explosives manufacture is not contemplated).	Natural Resources Canada (NRCan) –Explosives Regulatory Division (ERD) of Explosives Safety and Security Branch (ESSB)	A license would be required to temporarily store explosives on site.
Explosives Purchase and Possession Permit	Explosives Act	Explosives Regulations	Purchase and possession of explosives	Natural Resources Canada (NRCan) –Explosives Regulatory Division (ERD) of Explosives Safety and Security Branch (ESSB)	A permit is required to purchase and possess explosives.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Explosives Transportation Permit	Explosives Act	Explosives Regulations	Transportation of explosives	Natural Resources Canada (NRCan) –Explosives Regulatory Division (ERD) of Explosives Safety and Security Branch (ESSB)	A permit is required for transporting explosives.
Wetland Policy	Federal Policy on Wetland Conservation		Any disruption of wetland habitat Applies to wetland function. Typically only applies for projects on federal lands/waters or wetlands affected by federal government activities, although CWS has extended interest to all wetlands in federal EA context	Canadian Wildlife Service (CWS)	The goals of this policy should be considered where a project could affect wetland habitat. Goal of no net loss of wetland functions on all federal lands and waters.
Coasting Trade Licence	Coasting Trade Act	N/A	Temporary importation of foreign vessel, or use of Canadian non-duty paid vessel, to carry out subsea cable-laying operations	Canadian Transportation Agency (CTA); Canada Border Services Agency (CBSA); Transport Canada; and Public Safety Canada	Licence authorizes a foreign ship or a non-duty paid ship to engage in the coasting trade while in Canadian waters or in waters above the continental shelf of Canada. Applications for Vessel Temporary Admission to the Coasting Trade of Canada should be filed simultaneously with the CBSA and the CTA. The CTA also requires applicants to provide specific information regarding the proposed activity. The required information can be found in the CTA Guidelines Respecting Coasting Trade Licence Applications. Applications are successful if no Canadian vessel is offered or the CTA determines that there is no suitable

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
					Canadian vessel available to provide the service. Licences are issued by CBSA on behalf of the Minister of Public Safety.
Notices to Shipping (NOTSHIP) and Notices to Mariners (NOTMAR)	Canada Shipping Act, 2001	Charts and Nautical Publications Regulations; Collision Regulations	Installation and operation of subsea cables	Canadian Coast Guard (CCG) under DFO; Marine Communications and Traffic Services (MCTS) under Transport Canada	NOTSHIP alerts will be required during Project construction (*i.e.*, cable laying) activities. CCG issues NOTSHIPs to inform mariners about hazards to navigation and to share other important information. NOTSHIP alerts are broadcast by radio by MCTS. Written NOTSHIP alerts are issued when the location of the hazard is beyond broadcast range, or when the information remains in effect for an extended period of time. Following construction, the cable route will need to be marked on all applicable Canadian hydrographic marine navigational charts and published in NOTMARs. CCG issues NOTMARs to update or correct charts and other publications carried onboard ships in Canadian waters. NOTMARs also contain information on navigational hazards such as shoals and wrecks, as well as regulations and procedures governing vessel transit.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
COMPLIANCE STANDARDS					
Prohibition - Deposit of Deleterious Substances	Fisheries Act	Deposit Out of the Normal Course of Events Notification Regulations	Any run-off from the project site being discharged to receiving waters (including sediment) not otherwise authorized under industry-specific regulations (*e.g.*, metal mining and pulp and paper). Also applicable for any discharges associated with Project activities in the marine environment.	Environment Canada In practice, DFO may take the lead for Section 36(3) of the Act in cases where the pollutant is sediment and not chemical in nature, as sedimentation can also constitute HADD.	Section 36(3) of the Fisheries Act prohibits deposition of a deleterious substance in water frequented by fish. Environment Canada is responsible for administering Section 36(3) of the Fisheries Act. However, DFO is responsible for matters dealing with sedimentation. Discharge must not be deleterious and must be acutely non-lethal.
Migratory Birds	Migratory Birds Convention Act (MBCA)	Migratory Birds Regulations	Disturbance or clearing of vegetation or soil, the management of water levels, the maintenance of buildings and other infrastructure as well as some recreational activities. Environment Canada refers to this unintentional but reasonably predictable damage and/or destruction of migratory birds nests that result from human activities as "incidental take".	Canadian Wildlife Service (CWS), Environment Canada	Prohibits the deposit of oil, oily wastes or any other substances harmful to migratory birds in any waters or any area frequented by migratory birds. The Canadian Wildlife Service should be notified about the mortality of any migratory bird in the project area, including passerine (songbirds) and waterfowl species. Prohibits disturbing, destroying or taking a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, and possessing a live migratory bird, carcass, skin, nest or egg, except when authorized by a permit. The prohibition to destroy or disturb migratory bird nests and eggs applies to circumstances of incidental take.
Shipping (Permits may be required)	Canada Shipping Act	Associated Regulations made under the Act	Project-related shipping activities	Transport Canada	All shipping activities in Canadian waters must comply with the Act and Regulations.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Fire Code (Permits may be required)	National Fire Code		On-site structures (temporary or permanent)	Government Service Centre	Approval is required for fire prevention systems in all approved buildings.
Building Code (Permits may be required)	National Building Code		On-site structures (temporary or permanent)	Government Service Centre	Approval is required for all building plans.
Species at Risk	Species at Risk Act (SARA)	Associated Regulations made under the Act	All Project activities carried out on federal lands or waters	Environment Canada (EC), Fisheries and Oceans (DFO), and Parks Canada	SARA forbids the killing, harming, harassment, capture, or taking of species at risk protected by the Act (*i.e.*, any species listed as Extirpated, Endangered, Threatened, or of Special Concern on Schedule 1 of SARA).
Overhead Systems	CAN/CSA-C22.3 No. 1-10 Overhead Systems	N/A	Construction of transmission line	Canadian Standards Association (CSA)	This Standard applies to electric supply and communication lines and equipment located entirely outside of buildings and fenced supply stations. This Standard, which forms part of the Canadian Electrical Code, Part III, provides requirements for the construction of overhead systems. It covers electric supply and communication circuits that (a) are installed alone; (b) are in joint use; (c) are in proximity to each other or other facilities; (d) cross each other or other facilities; and (e) cross railways, highways, or land that is likely to be traversed by vehicles or pedestrians.
Ballast Water	Canada Shipping Act, 2001	Ballast Water Control and Management Regulations	Operation of cable laying vessel	Transport Canada	Specifies plans and procedures to address the growing problem of invasive aquatic species that may be carried in ships' ballast water, including bacteria and other microbes, micro-algae, and various life stages of aquatic plant and animal species.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Pollution from Ships	Canada Shipping Act, 2001	Vessel Pollution and Dangerous Chemicals Regulations	Operation of cable laying vessel	Transport Canada	Regulations stipulate requirements for control of emissions from ships, including emissions of nitrogen oxides, sulphur oxides, volatile organic compounds, and ozone-depleting substances.
Port Authorities and Port Traffic Control	Canada Marine Act	Port Authorities Operations Regulations	Transiting or docking of cable laying vessel within jurisdiction of a port authority (*e.g.*, St. John's Port Authority)	Transport Canada	Compliance with requirements of port authorities and port traffic control.
Environmental Emergencies	Canadian Environmental Protection Act, 1999 (CEPA)	Environmental Emergency Regulations; Release and Environmental Emergency Notification Regulations	Accidental events and malfunctions resulting in spills of hazardous substances or other environmental emergencies	Environment Canada	The Environmental Emergency Regulations require notification of the Minister regarding the possession of a substance specified in the Regulations, and preparation of an environmental emergency plan respecting the prevention of, preparedness for, response to and recovery from an environmental emergency in relation to that substance. The Release and Environmental Emergency Notification Regulations provide contact information for the authorities that must be notified in the event of an environmental emergency or the release into the environment (including air or water of a substance regulated under the Act. Notification of a release or environmental emergency in NS should be directed to the Maritimes Regional Office of the Canadian Coast Guard at 902-426-6030 or 1-800-565-1633. Notification of a release or environmental emergency in NL should be directed to

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
					the NL Regional Office of the Canadian Coast Guard at 709-772-2083 or 1-800-563-9089.
Interprovincial Movement of Hazardous Wastes	Canadian Environmental Protection Act, 1999 (CEPA)	Interprovincial Movement of Hazardous Wastes Regulations	All transport within Canada of hazardous waste that is (a) a solid in a quantity of 5 kg or more; (b) liquid in a quantity of 5 L or more; or (c) a liquid or a solid, or a mixture of liquids and solids, in a quantity of 500 grams or more that contains PCBs described in item 1 of the List of Toxic Substances in Schedule 1 to the Act in a concentration greater than 50 mg/kg.	Environment Canada	No person shall transport hazardous waste within Canada unless the waste is accompanied by a manifest in accordance with the Regulations.
Storage Tanks Systems for Petroleum Products and Allied Petroleum Products	Canadian Environmental Protection Act, 1999 (CEPA)	Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations	Any storage tank system located in Canada in which petroleum products or allied petroleum products are stored and that is operated by a federal authority or Crown corporation or is located on federal or aboriginal land.	Environment Canada	Specifies requirements related to leak detection, delivery of petroleum products or allied petroleum products, emergency planning, installation of storage tank systems, operation and maintenance, release reporting, withdrawal from service, removal, and record keeping.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
PCBs and Products Containing PCBs	Canadian Environmental Protection Act, 1999 (CEPA)	PCB Regulations	Storage or use of PCBs or any products containing PCBs (*e.g.*, electrical capacitors, light ballasts, electrical transformers and their auxiliary electrical equipment, including pole-top electrical transformers and their pole-top auxiliary electrical equipment)	Environment Canada	Regulations specify prohibitions and permitted activities, as well as requirements for storage, labelling, reporting and record-keeping, with respect to PCBs and products containing PCBs.
Construction of Fishways	Fisheries Act	N/A	Construction of cable crossings and watercourse crossings	Fisheries and Oceans (DFO)	As per Section 20(1) of the Fisheries Act, every obstruction across or in any stream where the Minister determines it to be necessary for the public interest that a fish-pass should exist shall be provided by the owner or occupier with a durable and efficient fish-way or canal around the obstruction, which shall be maintained in a good and effective condition by the owner or occupier, in such place and of such form and capacity as will in the opinion of the Minister satisfactorily permit the free passage of fish through it. According to Section 20(3), the place, form and capacity of the fish-way or canal to be provided pursuant to subsection (1) must be approved by the Minister before construction thereof is begun and, immediately after the fish-way is completed and in operation, the owner or occupier of any obstruction shall make such changes and adjustments at his own cost as will in the opinion of the Minister be necessary for its efficient operation under actual working conditions.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Newfoundland and Labrador Operational Statement - Maintenance of Riparian Vegetation in Existing Rights-of-Way	Fisheries Act	N/A	Vegetation maintenance in riparian areas (*i.e.*, vegetated areas adjacent to a water body) within the transmission corridor right-of-way	Fisheries and Oceans (DFO)	Outlines measures to protected fish and fish habitat when maintaining riparian vegetation in rights-of-way. DFO requests notification 10 days before the commencement of vegetation maintenance activities in riparian areas in order to evaluate the effectiveness of the work carried out in relation to the Operational Statement.
NEWFOUNDLAND AND LABRADOR					
Release from Environmental Assessment	Canada Environmental Protection Act	Environmental Assessment Regulations	Project	Environmental Assessment Division, Department of Environment and Conservation	The Act applies to any proposed development in the province which may have a significant effect on the environment. The Project requires registration under the Act. After a public and governmental review, the Minister of Environment and Conservation will determine whether the Project may proceed, subject to other applicable legislation, or whether environmental assessment is required.
Crown Land Leases / Grants / Easements	Lands Act	Associated Regulations made under the Act	Development on Crown Lands	Lands Division, Department of Environment and Conservation	Letter of Approval is required for Project activities and infrastructure on Crown Land.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Permit to Alter a Body of Water	Water Resources Act		Any in-stream activity (including culvert installation, bridges and fording a watercourse) or development within 15 m of a body of water	Water Resources Division, Department of Environment and Conservation	Approval is required for any in-stream activity, including culvert installations and fording activities, before undertaking the work. This also includes any development within 15 m of the high watermark of any water body. The Department has published server all potentially relevant guideline documents, including: General Construction Practices; Culverts; Watercourse Crossings; Bridges; Diversions, New Channels, Major Alterations; and Stream Crossings by ATV. These are available online at: http://www.env.gov.nl.ca/env/waterres/regulations/appforms/index.html.
Permit for Water and Sewerage Works and/or Potable Water Dispensing Units	Water Resources Act		Sewerage works and/or potable water dispensing units for use at temporary camps, during construction and operation activities, and at the converter station and grounding site locations	Water Resources Division, Department of Environment and Conservation	Approval is required for the construction of water and sewerage works and/or the installation of potable water dispensing units. Guidelines for Design, Construction and Operation of Water and Sewerage Systems; and Selection Criteria and Guidelines for the Design, Construction and Operation of Potable Water Dispensing Units can be downloaded from: http://www.env.gov.nl.ca/env/waterres/regulations/appforms/index.html.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Permit for Development Activity in a Protected Public Water Supply Area / Wellhead Protected Water Supply Area	Water Resources Act	Associated Regulations made under the Act	Construction activity in a protected water supply area The Project crosses three known water supply areas in NL: • Dribble Brook, a protected water supply area that has a groundwater and surface water component and supplies St. George's; • an unprotected water supply for Benoit's Siding; and • an unprotected water supply for Tompkins.	Water Resources Division, Department of Environment and Conservation	Approval is required for any activity (including linear development) in a protected public water supply area prior to the commencement of any work. The completed application must be forwarded to the nearest regional office of the Department of Environment and Conservation accompanied by the appropriate fee ($75). All applications for proposed developments in Wellhead Protected Water Supply Areas should be sent to the Groundwater Resources Section of the Department of Environment and Conservation in St. John's.
Certificate of Approval for Construction Site Drainage	Water Resources Act	Associated Regulations made under the Act	Any run-off from the project site being discharged to receiving waters	Water Resources Division, Department of Environment and Conservation	Approval is required for any run-off from the project site being discharged to receiving waters.
Water Use Authorization	Water Resources Act	Associated Regulations made under the Act	Water withdrawal for use at temporary camps or during construction and operation activities	Water Resources Division, Department of Environment and Conservation	Water use authorization is required for all beneficial uses of water.
Application for Water Well Drilling Licence (for camps)	Water Resources Act	Associated Regulations made under the Act	Drilling activity for a water well	Water Resources Division, Department of Environment and Conservation	A licence is required to carry on the business of water well drilling in Newfoundland and Labrador.
Application for Permit for Constructing a Non-Domestic Well (*i.e.* for construction purposes)	Water Resources Act	Associated Regulations made under the Act	Establishment of a water well	Water Resources Division, Department of Environment and Conservation	A licence is required to establish non-domestic water well in Newfoundland and Labrador.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Policy Directives	Water Resources Act	Associated Regulations made under the Act	Project activities	Water Resources Division, Department of Environment and Conservation	The Department has a number of potentially applicable policy directives in place, including those related to: Infilling Bodies of Water; Use of Creosote Treated Wood in Fresh Water; Treated Utility Poles in Water Supply Areas; Land and Water Developments in Protected Water Supply Areas; Development in Shore Water Zones; and Development in Wetlands.
Permit to Engage in an Activity that Affects a Designated Species	Endangered Species Act	N/A	Permit may be required for survey work (*e.g.*, Pine Marten survey) on listed species	Department of Environment and Conservation	As per Section 19. (1) of the Act, the Minister may, with the approval of the Lieutenant-Governor in Council, issue a permit to a person to engage in an activity affecting a designated species, the residence of a specimen of a designated species or critical or recovery habitat, where, in the opinion of the minister, (a) the impact on the designated species is incidental to the carrying out of an activity that is economically beneficial to the province; (b) there is no reasonable alternative; and (c) the activity will not prevent the recovery or survival of the designated species.
Development Permit - Highway Access	Urban and Rural Planning Act, Works, Services and Transportation Act	Protected Road Zoning Regulations	Construction of access roads and trails	Service NL for Protected Roads or Department of Transportation and Works for all other roads	The construction of an access to a highway that is classified as a Protected Road requires approval.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Development Permit - Protected Road or Area	Urban and Rural Planning Act	Protected Road Zoning Regulations	Construction activity	Service NL	A development permit is required to build on and develop land, whether Crown or privately owned, within the building control lines (*i.e.*, within 400 m of the centre line) of a Protected Road (defined as road designated under Section 61 of the Urban and Rural Planning Act for the purpose of controlling development) or within the boundaries of a Protected Area.
Development Permit - Extension or Accessory Building	Urban and Rural Planning Act, 2000	Protected Road Zoning Regulations	Construction of building extension or accessory building	Service NL	All proposals to construct an extension to an existing building or to construct an accessory building along a Protected Road or within a Protected Area require prior approval from Service NL.
Quarry Permit	Quarry Materials Act	Associated Regulations made under the Act	Quarry materials may be required for the construction of on-land infrastructure, as well to armour and/or bury the cables in the marine environment	Mineral Lands Division, Department of Natural Resources	A Quarry Permit is required for any source of quarry material in Newfoundland and Labrador.
Cutting Permit	Forestry Act	Cutting of Timber Regulations	Clearing land areas for the right-of-way, borrow pits, camp sites or laydown areas	Department of Natural Resources	A permit is required for the commercial or domestic cutting of timber on Crown land. Application can be obtained from the appropriate District Office.
Operating Permit	Forestry Act	Forest Fire Regulations	Operations on forest land (*i.e.*, land upon which trees or shrubs are growing or standing, including dry marsh and bogland areas as well as land commonly known as barrens), or within 300 m of forest land, that involves the use of machinery or equipment either in a building or in the open	Department of Natural Resources	A permit is required to carry out a logging or industrial operation during the Forest Fire Season on Crown or private land at a specified site.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Permit to Burn	Forestry Act	Associated Regulations made under the Act	Any burning required during the Project	Department of Natural Resources	A permit is required to light fires outdoors between April and December. Permits are not issued during forest fire season.
Archaeological Research Permit	Historic Resources Act	Associated Regulations made under the Act	Any archaeological investigations required	Provincial Archaeology Office, Department of Tourism, Culture and Recreation	A permit is required for any archaeological investigations on land or underwater.
Fuel Cache Permit (possibly)	Environmental Protection Act	Environmental Guidelines for Fuel Cache Operations	Temporary fuel storage	Service NL	A permit is required for any temporary fuel storage in a remote location.
Registration of Fuel Storage and Handling Facilities	Environment Protection Act and Fire Prevention Act	Storage and Handling of Gasoline and Associated Products Regulations, 2003	Storing and handling gasoline and associated products	Service NL	Registration is required for all underground and above ground storage facilities for the storage and handling of gasoline and associated products.
Permit for Storage, Handling, Use or Sale of Flammable and Combustible Liquids	Fire Prevention Act	Fire Prevention Flammable and Combustible Liquids Regulations	Storing and handling flammable liquids	Service NL	This permit is issued on behalf of the Office of the Fire Commissioner. Approval is based on a review of information provided for the Certificate of Approval for Storing and Handling Gasoline and Associated Products.
Certificate of Approval for Installation of a Sewage System	Health and Community Services Act	Sanitation Regulations	Sewage disposal and treatment at construction camps	Department of Health and Community Services	Sewage disposal systems designed, constructed or installed to service a private dwelling or a commercial or other building with a daily sewage flow less than 4,546 L must be approved by an inspector before installation.
Certificate of Approval for Septic Systems > 4,546 L per day and Well Approval	Environmental Protection Act	Associated Regulations made under the Act	Sewage disposal and treatment at construction camps	Service NL	A Certificate of Approval is required for commercial septic systems and wells in an un-serviced area, not covered by a municipality.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Certificate of Approval for a Water Withdrawal System of > 4,546 L per day	Water Resources Act	Associated Regulations made under the Act	Water supply at temporary camps, and for use in construction activities	Water Resources Division, Department of Environment and Conservation	Certificate of Approval is required for any private water withdrawal system of 4,546 L/day or greater.
Certificate of Approval for Installation of Water Supply System	Health and Community Services Act	Sanitation Regulations	Water supply at temporary camps and maintenance depots	Department of Health and Community Services	Water supply systems designed, constructed or installed to service a private dwelling or a commercial or other building, including systems not governed by a municipal council, local service district or local water committee must be approved by an inspector before installation.
Certificate of Approval for a Waste Management System	Environmental Protection Act	Waste Management Regulations	Waste disposal associated with construction and operation	Department of Environment and Conservation, Department of Health and Community Services	Approval is required for waste disposal (*e.g.*, incineration or burying). Used tires must be disposed according to regulations.
Food Establishment Licence – Temporary Facility Permit	Health and Community Services Act, Food and Drug Act	Food Premises Regulations	Establishing and operating a temporary camp and kitchen facility, or using/upgrading existing facilities	Service NL	A licence is required to operate food premises. Where municipal services are unavailable, two copies of plans and specifications for water supply and sewage disposal must be submitted with application for a licence. Food premises are routinely inspected to ensure compliance.
New Highway Sign Approval	Urban and Rural Planning Act	Highway Sign Regulations	Erecting a Project-related sign	Service NL	Approval is required to erect a sign along any highway maintained by the Department of Transportation and Works, or along that portion of any intersecting municipal and private roads that falls within the control zone as defined by the regulations. Application requirements include a completed form, two copies of a sketch of the proposed sign, and two copies of a location plan (if required).

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Permit to Destroy Problem Animals	Wildlife Act	Associated Regulations made under the Act	Dealing with nuisance wildlife	Department of Natural Resources	The Department provides direction on handling nuisance animals. Details on the situation must be provided for a permit to be issued.
COMPLIANCE STANDARDS					
Fire Prevention	Fire Prevention Act	Fire Prevention Regulations	On-site structures (temporary or permanent)	Service NL	All structures must comply with fire prevention standards.
Water Discharge	Water Resources Act	Environmental Control Water and Sewage Regulations	Any waters discharged from the project	Pollution Prevention Division, Department of Environment and Conservation	A person discharging sewage and other materials into a body of water must comply with the standards, conditions and provisions prescribed in these regulations for the constituents, contents or description of the discharged materials.
Sewage and Waste Disposal	Health and Community Services Act	Sanitation Regulations	Sewage and waste disposal	Department of Health and Community Services	Outlines standards for sewage and waste disposal.
Archaeological and Heritage Resources	Historic Resources Act	Associated Regulations made under the Act	Any known archaeological sites near project area or sites encountered during construction or operation	Provincial Archaeology Office, Department of Tourism, Culture and Recreation	All archaeology sites and artifacts are considered to be the property of the Crown and must not be disturbed. Any archaeological materials encountered must be reported to the Provincial Archaeology Office. Any proposed alterations to the project should be referred to the Provincial Archaeology Office for approval.
Occupational Health and Safety	Occupational Health and Safety Act	Associated Regulations made under the Act	Project-related occupations	Department of Human Resources, Labour and Employment	Outlines minimum requirements for workplace health and safety. Workers have the right to refuse dangerous work. Proponents must notify Minister of start of construction for any project greater than 30 days in duration.

Table 1 Potential Permitting and Approval Requirements

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Endangered Species	Endangered Species Act	Associated Regulations made under the Act	Project Activities	Wildlife Division, Department of Environment and Conservation	Prohibits the disturbance, harassment, injury, or killing of an individual of a species designated as threatened, endangered or extirpated. The Minister may, under certain circumstances, issue a permit for an activity affecting a designated species, the residence of a specimen of a designated species or critical or recovery habitat.
Dangerous Goods	Dangerous Goods Transportation Act	Associated Regulations made under the Act	Storing, handling and transporting fuel, oil and lubricants	Department of Transportation and Works	If the materials are transported, handled and stored fully in compliance with the regulations, a permit is not required. A Permit of Equivalent Level of Safety is required if a variance from the regulations is necessary. Transporting goods considered dangerous to public safety must comply with Regulations.
Hazardous Materials	Occupational Health and Safety Act	Workplace Hazardous Materials Information System (WHMIS) Regulations	Handling and storage of hazardous materials	Service NL	Outlines procedures for handling hazardous materials and provides details on various hazardous materials.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
NOVA SCOTIA					
Environmental Assessment (EA) Approval	Environment Act	Environmental Assessment Regulations	According to the Act, an "undertaking" is defined as an enterprise, activity, project, structure, work or proposal that, in the opinion of the Minister, causes or may cause an adverse effect or an environmental effect, and may include, in the opinion of the Minister, a policy, plan or program or a modification, extension, abandonment, demolition or rehabilitation, as the case may be, of an undertaking. Designated Class I and Class II undertakings are specifically listed in Schedule A of the Regulations. The Maritime Link Project is considered a Class I undertaking. The registration of an undertaking required by clause 33(a) of the Act must occur before a proponent proceeds with the final design of an undertaking.	Nova Scotia Environment (NSE) -- Environmental Assessment (EA) Branch	Minimum EA documentation requirements for registering a Class I undertaking are specified in the regulations. The proponent is responsible for the following during the registration process: paying a registration fee to the Minister of Finance; providing hard copies and electronic copies of the registration document to the EA Branch; publishing newspaper advertisements notifying the public of the registration and inviting the public to submit written comments to the EA Branch; and making hard copies of the registration document available for review by the general public. The EA Branch will circulate the registration document to various government departments and non-government offices. Both the government and the general public will have a period of 30 days to review the document and submit comments to the EA Branch.
Authorization	Enterprise Cape Breton Corporation Act		Cross a railway under provincial jurisdiction (Cape Breton and Central Nova Scotia Railway)	Enterprise Cape Breton Corporation (ECBC)	

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Burn permit	Forests Act	Forest Fire Protection Regulations	Burn a fire within 1,000 feet of the woods	Nova Scotia Department of Natural Resources (NSDNR)	Conditions considered necessary for the adequate protection from, and control of, forest fires may be imposed as stipulations of the permit.
Heritage Research Permit (HRP)	Special Places Protection Act		Investigation for the purpose of seeking heritage resources (*e.g.*, as part of EA)	Nova Scotia Department of Communities, Culture and Heritage - Heritage Division	Submit permit application to Heritage Division describing the work to be undertaken. There is no application fee for a HRP in support of archaeological reconnaissance, archaeological research, or paleontological research, but there is a $111 application fee for a HRP in support of archaeological resource impact assessment. The applicant must be qualified to undertake the work described in the HRP application. While work is being carried out under a HRP, consultation may be necessary with the Heritage Division regarding mitigation measures or contingency procedures in the event of an archaeological discovery.
Travel In Woods During Woods Closure Permit	Forests Act	Forest Fire Protection Regulations	Travel on forest land while a travel ban (woods closure) is in force	Nova Scotia Department of Natural Resources (NSDNR)	Application made to Local or Area Office of NSNDR
Dangerous Goods / Waste Dangerous Goods Approval	Environment Act	Division IV of Activities Designation Regulations	Construction, operation, or reclamation of a facility for the handling or storage of dangerous goods or waste dangerous goods	Nova Scotia Environment (NSE)	Application is made to regional NSE office. http://www.gov.ns.ca/nse/forms/docs/Application-DangerousGoodsApproval.pdf Application requires information on type of dangerous good handling/storage/disposal, design details (as applicable), site plan, operating procedures (including contingency plan) and confirmation of legal right to conduct activity on the site (property deed, lease, *etc.*) as well as a Municipal Approval.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Watercourse Alteration Approval	Environment Act	Division I of Activities Designation Regulations	Alteration of a watercourse, water resource, or any natural body of water by: (a.) constructing or maintaining a culvert; (b.) constructing or maintaining a bridge which is in the water course, or using equipment closer than 3 metres from the water course; (c.) constructing or maintaining a causeway, wharf, weir, fish way or other in stream structure; (d.) removing material from a surface water course; (e.) diverting a watercourse from its natural channel; (f.) installing or maintaining fishing equipment, fish way, counting fence, fish habitat improvement structure, aquaculture cage or any similar structure in a water course; (g.) dredging or any other modification of a surface water course; (h.) installing or maintaining a pipeline, cable or other equipment in a surface water course; (i.) placing rock or other erosion protection material in a surface water course; or (j.) any other alteration of a surface water course or the flow of the water.	Nova Scotia Environment (NSE)	There are different levels of permitting (Category I, II, and III). Applicants must submit application form and submission checklist, including design details, plans, drawings, and specifications, as well as proposed mitigation. DFO, Transport Canada, local authorities, and community organizations may be involved in the application review process. Approvals are issued with associated Terms and Conditions that must be followed.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Wetland Alteration Approval	Environment Act; Nova Scotia Wetland Conservation Policy	Division I of Activities Designation Regulations	Alteration (including filling, draining, flooding, or excavating) of a wetland greater than 100 square metres in total area [Approval is not required for altering the following types of wetlands: those on federal lands (they are managed under the Federal Policy on Wetland Conservation); those constructed specifically for wastewater or storm water treatment; those created by humans on upland habitats not for the purpose of fulfilling compensation requirements; those designated as "Marshlands" under the Agricultural Marshland Conservation Act as agricultural land; those within agricultural drainage ditches; or those that develop as the unintended consequence of construction projects completed less than 20 years ago. An approval is also not required for linear developments that are less than 10 m wide and less than 600 square metres in total area (*e.g.*, forest access roads) through shrub or wooded swamps that are not classified as Wetlands of Special	Nova Scotia Environment (NSE)	The Wetland Alteration Approval process supports the Nova Scotia Wetland Conservation Policy's objective of managing human activity in or near wetlands with the goal of no loss in Wetlands of Special Significance and the goal of preventing net loss in area and function for other wetlands. Applicants are required to retain the services of a person or persons qualified in the field of wetland hydrology and wetland ecology to prepare a report which includes the following minimum information, to be submitted with their application for approval to alter a wetland: wetlands information (including location, size, boundaries, and ecological, hydrological, and hydrogeological characterization); purpose and description of the alteration (including reason, nature of the proposed alteration, alternatives, impacts to wetland, opportunities for mitigation and/or compensation); and property information (including property ownership and boundary information and information on municipal zoning requirements). Applications are reviewed and considered against the following mitigation sequence (*i.e.*, hierarchy of priorities): avoidance of impacts, minimization of unavoidable impacts, and compensation for residual impacts that cannot be minimized. Compliance with Terms and Conditions of Wetland Alteration Approval is

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
			Significance, or for periodic or emergency maintenance for public safety or protection of adjacent properties and infrastructure in wetlands within the footprint of existing utility corridors or electrical generation, transmission and distribution infrastructure.)		required. In addition, the Environmental Assessment Regulations under the Environment Act require that undertakings which disrupt a total of two or more hectares of any wetland must undergo an EA.
Pesticide Use and Storage Approval	Environment Act	Pesticide Regulations and Division II of Activities Designation Regulations	The application of a pesticide (including herbicide) on a utility corridor or utility right-of-way, excluding spot treatment and the direct application of wood preservatives to utility poles	Nova Scotia Environment (NSE)	Application form submitted to regional NSE office.
On-site Sewage Disposal Approval	Environment Act	On-site Sewage Disposal System Regulations	Installation of on-site sewage disposal system	Nova Scotia Environment (NSE)	The application for approval must be supported by an assessment and a selection or design of an on-site sewage disposal system that has been completed by a qualified person recognized by the Department. Applications and forms can be found here: http://www.gov.ns.ca/nse/wastewater/regulations.tech.guidelines.asp
Work Within Highway Right-of-Way Permit; Use of Highway Right-of-Way for Pole Lines Permit	Public Highways Act		Construction of transmission line	Nova Scotia Transportation and Infrastructure Renewal (NSTIR)	Application form submitted to nearest district or area office of NSTIR. Brochure provided to assist with application process. http://www.gov.ns.ca/tran/hottopics/lpa/highwayrightofwaybrochure.pdf

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Special Move: Over-Dimension Permit	Motor Vehicle Act	Weight and Dimensions of Vehicle Regulations	Anyone who wants to move a vehicle on a public road in Nova Scotia which is over-sized in one or more of the following ways: 1. has an extension [boom extension] that is greater than 1 meter in front of the vehicle or greater than 2 meters at the rear of the vehicle 2. is higher than 4.15 meters (13 feet, 6 inches) 3.is wider than 2.6 meters (102 inches) 4.is longer than 23 meters (75 feet)	Service Nova Scotia and Municipal Relations	Can apply online: http://www.gov.ns.ca/snsmr/access/drivers/special-move-permits.asp Application requires information on carrier, trailer and load, and travel dates
Special Move: Overweight	Motor Vehicle Act	Weight and Dimensions of Vehicle Regulations	Anyone who wants to move a vehicle on a public road in Nova Scotia which is heavier than the legal weight permitted. (The legal weight limit varies depending upon such factors as the number of axles the vehicle has, *etc.*)	Service Nova Scotia and Municipal Relations	Can apply online: http://www.gov.ns.ca/snsmr/access/drivers/special-move-permits.asp Application requires information on carrier, trailer and load, and travel dates
Crown Lands – Lease (Private Enterprise)	Crown Lands Act	N/A	Lease of Crown Lands in Nova Scotia under the control of NSDNR	Nova Scotia Department of Natural Resources (NSDNR) - Land Administration Division (LAD)	Applicants must submit Project Description information detailing the specifics of the Project. The NSDNR-LAD will use this information as the basis for conducting an internal review process. Legal surveys or land appraisals may be required at the applicant's expense.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Access Road Construction Permit	Crown Lands Act	N/A	Construction of temporary access roads across provincial Crown Lands	Nova Scotia Department of Natural Resources (NSDNR)	Application form obtained from Local or Area Office of NSNDR nearest to road being constructed. Application involves sketch of property and proposed location of access road.
Railway Crossing License	Crown Lands Act	N/A	Crossing of transmission line over any abandoned railway line(s) owned by the Province of Nova Scotia	Nova Scotia Department of Natural Resources (NSDNR)	Application form obtained from Local or Area Office of NSNDR nearest to road being constructed. Application must include a location sketch and copy of applicant's deed or other title documents.
Crown Lands Right-of-Way (RoW) Agreement	Crown Lands Act	N/A	Permanent rite of passage across provincial Crown Lands to private land	Nova Scotia Department of Natural Resources (NSDNR)	An applicant can make a request in writing to the Land Administration Division of the N.S. Department of Natural Resources (see above), or to the nearest Regional or Area Office of the Department. If all requirements are met, and the application is approved, the applicant will be notified by the Department following a decision by the N.S. Executive Council [Provincial Government Cabinet].
COMPLIANCE STANDARDS					
Spring Weight Restrictions	Public Highways Act	Spring Weight Restrictions	Transportation of Project-related vehicles and equipment	Nova Scotia Transportation and Infrastructure Renewal (NSTIR)	
Building Code (see Municipal requirements for permits under this legislative authority)	Building Code Act	Nova Scotia Building Code Regulations	Construction/demolition of buildings	Nova Scotia Labour and Advanced Education	
Endangered Species	Endangered Species Act	Species at Risk List Regulations	Any activity that threatens or disturbs designated endangered species or their habitats	Nova Scotia Department of Natural Resources	The Act applies to all species at risk on private and provincial public (Crown) land in Nova Scotia. The Act prohibits killing or disturbing species, destroying or disturbing its residence (*i.e.* habitat) and/or destroying or disturbing core habitat.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Wildlife	Wildlife Act	General Wildlife Regulations	Any activity that can affect forest resources, wildlife, and wildlife habitat	Nova Scotia Department of Natural Resources	The Act applies to all wildlife and wildlife habitat on private and public land and requires a licence or permit to hunt or fish wildlife, and/or to secure and export wildlife for propagation or scientific, education or other purpose in the public interest. Regulations require report of accidental killing of any wildlife within twenty-four hours to a conservation officer at the nearest district office of the Department with exception of kills made by vehicle collision (unless big game is involved in which case it is reported).
Petroleum Management	Environment Act	Petroleum Management Regulations	Storage of fuels on site for refueling equipment, *etc.*	Nova Scotia Environment (NSE)	
Compliance Standard	Special Places Protection Act	N/A	Exploring or excavating land, including land covered by water, for the purpose of seeking archaeological, historical or paleontological sites and remains; work on protected sites	Nova Scotia Department of Communities, Culture and Heritage; Nova Scotia Department of Natural Resources	The Act provides for the Preservation, Regulation and Study of Archaeological and Historical Remains and Paleontological and Ecological Sites. Also applies to investigations conducted under archeological permit.
Occupational Health and Safety	Occupational Health and Safety Act	Various	All occupational duties	Labour and Advanced Education	The Act outlines occupational precautions and duties for owners, employers, employees, contractors.
Air Quality	Environment Act	Air Quality Regulations	Generation of air emissions.	Nova Scotia Environment (NSE)	These Regulations define Maximum Permissible Ground Level Concentrations for air emissions.
Noise	Environment Act	Guidelines for Environmental Noise Measurement and Assessment	Noise generating activities.	Nova Scotia Environment (NSE)	Guidelines recommend maximum sound levels for different times of day.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
PCB Management	Environment Act	PCB Management Regulations	PCB storage.	Nova Scotia Environment (NSE)	Regulations define requirements for PCB storage.
Waste Management	Environment Act	Solid Waste-Resource Management Regulations	Generation and handling of solid waste.	Nova Scotia Environment (NSE)	Regulations define requirements for sorting and recovery of wastes.
Dangerous Goods Management	Environment Act	Dangerous Goods Management Regulations	Storage and handling of dangerous goods.	Nova Scotia Environment (NSE)	Regulations define requirements for storage of dangerous goods.
Emergency Spill Reporting	Environment Act	Emergency Spill Regulations	Accidental spills.	Nova Scotia Environment (NSE)	Regulations define spill reporting requirements based on spill material and volume.
TOWN OF ST. GEORGE'S, NEWFOUNDLAND AND LABRADOR					
Compliance with Town of St. George's Municipal Plan	Urban and Rural Planning Act, 2000; Town of St. George's Municipal Plan	Applicable by-laws	Development within municipal boundary	Town Council of St. George's; NL Department of Municipal and Provincial Affairs	The St. George's Municipal Plan contains policy statements and maps approved by Council and registered by the Minister of Municipal Affairs to guide community growth and development for the next 10 years. The Town of St. George's Development Regulations are prepared at the same time as the Municipal Plan, and like the Plan, may be amended at any time to include new land uses and specific regulations. The Development Regulations shall deal with matters relating to development and buildings as defined under the Urban and Rural Planning Act 2000, which include in addition to permitted and discretionary land uses, matters such as non-conforming uses, advertisements, subdivisions and permitting requirements.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
					Development schemes (amendment to the Municipal Plan), design concepts, comprehensive plans, subdivision agreements and concept plans further implement the Municipal Plan and Development Regulations with more details designs, design strategies and policies for roads and other facilities and development.
Compliance with Town of St. George's Development Regulations	Urban and Rural Planning Act, 2000; Town of St. George's Municipal Plan	Town of St. George's Development Regulations 2011 (also known as Subdivision and Advertisement Regulations)	Development within municipal boundary	Town Council of St. George's; NL Department of Municipal and Provincial Affairs	
Service Fees from Local Service Districts (LSDs)	Municipalities Act, 1999	Local Service District Regulations	Development within municipal boundary	NL Department of Municipal and Provincial Affairs	
Building Permit	Urban and Rural Planning Act, 2000; Municipalities Act, 1999; Town of St. George's Municipal Plan	Town of St. George's Development Regulations, 2011 (including the Ministerial Development Regulations)	Development within municipal boundary	Town Council of St. George's; NL Department of Municipal and Provincial Affairs; Service NL	A permit is required for any development or building within municipal boundaries. Application for a permit to develop a subdivision shall be made to the Town and a description of the plans, specifications and drawings required to be provided with the application. A separate building permit shall be obtained for each building proposed and no building permit for any building in the area of the subdivision shall be issued until the developer has compiled with all provisions of these Regulations with respect to the development of the subdivision.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Approval for Waste Disposal	Urban and Rural Planning Act, 2000; Town of St. George's Municipal Plan	Town of St. George's Development Regulations, 2011 (including the Ministerial Development Regulations)	Solid Waste disposal	Town Council of St. George's; NL Department of Environment and Conservation	The use of a community waste disposal site in Newfoundland and Labrador by proponents/contractors to dispose of waste requires municipal approval. Restrictions may be in place as to what items can be disposed of a municipal disposal site. All development within 1.6 km of the centre of the regional landfill must be approved by the Department of Environment and Conservation before a permit is issued by the Town.
Corridor Development	Urban and Rural Planning Act, 2000; Town of St. George's Municipal Plan	Town of St. George's Development Regulations, 2011	Development within Nalcor (NAL) Corridor	Town Council of St. George's	Applications to be submitted to Nalcor Energy for approval before permits are issued by the Town.
Road Zoning	Urban and Rural Planning Act, 2000; Town of St. George's Municipal Plan	Protected Road Zoning Regulations under the Development Regulations, 2011	Trans-Canada Highway development	Town Council of St. George's; Service NL	Since the highway lies outside the Town boundary, but within the Municipal Planning Area, development within 150 m of the centre-lines is subject to the approval.
CAPE BRETON REGIONAL MUNICIPALITY, NOVA SCOTIA					
Burning Permit	Municipal Government Act; Municipal Planning Strategy of the Cape Breton Regional Municipality	Burning By-law - B-400	Open air burning	CBRM	Permit must be obtained from the Fire Chief for open air fires. An Industrial/Commercial Permit is required for any burning that an individual or contractor has been paid to do. The By-law contains restrictions which apply at the times when the fire is made for which a permit is issued (*e.g.*, burning conditions).

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
Development Permit	Municipal Government Act; Municipal Planning Strategy of the Cape Breton Regional Municipality	Land Use By-law	The construction, location, alteration or change in use of any building within CBRM	CBRM	Application for Building and Development Permit can be found here: http://www.cbrm.ns.ca/images/stories/buildin%20development%20permits/Building%20development%20permit%20application%20form%20may%202%202012%20page%202%20and%203.pdf Application Fee Schedule can be found here: http://www.cbrm.ns.ca/images/stories/buildin%20development%20permits/building%20development%20permit%20fees%20and%20definitions%20may%202%202012.pdf Development permits cannot be issued unless all provisions of the Land Use By-law are complied with.
Building Permit	National Building Code of Canada; Municipal Planning Strategy of the Cape Breton Regional Municipality	Building By-law	Construction of building and/or repairs/renovations in excess of $5000	CBRM	Application for Building and Development Permit can be found here: http://www.cbrm.ns.ca/images/stories/buildin%20development%20permits/Building%20development%20permit%20application%20form%20may%202%202012%20page%202%20and%203.pdf Application Fee Schedule can be found here: http://www.cbrm.ns.ca/images/stories/buildin%20development%20permits/building%20development%20permit%20fees%20and%20definitions%20may%202%202012.pdf
Footing Permit	Building Code Act; Municipal Planning Strategy of the Cape Breton Regional	Nova Scotia Building Code Regulations	This permit is received as part of the Building Permit Approval process for new construction.	CBRM	A separate application is not needed for this permit; it is a part of the Building Permit approval process. A Location Certificate is required when the footing(s) are complete.

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
	Municipality				Application fee is included in the Development Permit application fee.
Demolition Permit	Building Code Act	Nova Scotia Building Code Regulations	Building demolition	CBRM	Application requires information on owner/contractor, building to be demolished, schedule of demolition, and disposal area.
Fence Permit	Building Code Act	Nova Scotia Building Code Regulations	Fence installation	CBRM	Application requires civic information on property where fence is to be erected.
COMPLIANCE STANDARDS					
Landscape	Municipal Planning Strategy of the Cape Breton Regional Municipality	Land Use By-law	New developments, including construction of utilities transmission	CBRM	Utility operators are responsible to ensure facilities and structures do not adversely affect the surrounding landscape. Provisions are imposed in the Land Use By-law to help them blend into surrounding landscape (s. 13).
Noise	Municipal Planning Strategy of the Cape Breton Regional Municipality	Cape Breton Regional Municipality (CBRM) Noise By-law (N-100)	Noise generating activities	CBRM	Schedule A lists activities which unreasonably disturb the peace, comfort and tranquility of a resident including the use or operation of construction equipment without effective muffling devices (at all times) and use or operation of construction equipment except where such equipment is used or operated on any highways (at specified times also listed in Schedule A).
Waste Management	Municipal Planning Strategy of the Cape Breton Regional Municipality	CBRM Solid Waste Resource Management By-law (S-300)	Storage, handling and disposal of waste material	CBRM	By-law contains provisions for the collection, storage, separation, and removal of waste materials, including for industrial, commercial and institutional waste. The property owner of an industrial, commercial or institutional business (including one undergoing construction) must maintain a Waste Management Plan which complies with the provincial Solid Waste-Resource Management Regulations and this by-law. The Waste

Table 1 Potential Regulatory Requirements (Continued)

Permit/Approval/ Compliance Potentially Required	Legislation/ Policy	Regulations	Activity Requiring Approval or Compliance	Department or Agency	Requirements
					Management Plan must identify the solid waste generated and the location of disposal/recycling.
Land Use	Municipal Planning Strategy of the Cape Breton Regional Municipality	Land Use By-law	Development (construction) and operation/maintenance activities occurring in CBRM	CBRM	The Land Use By-law is the instrument used to provide specific direction on meeting policies outlined in the MPS. The By-law delineates land use zones and defines permitted uses and prohibitions in these zones. Lot parcel development requirements (Section 19) including minimum lot parcel area, road frontage, and setbacks. Section 42 of the by-law states Development Permits may be issued in any zone for utility transmission facilities provided: • the building or structure is used solely for the purpose of housing a utility use; • all utility buildings must conform to the lot parcel size and setback requirements within the zone the building is located; and • no goods, materials or equipment shall be stored outside a building in zones with "residential", "neighborhood", "urban", "street", "apartment" or "estate" in the title. Upon receipt of application for a Development Permit to construct a communications tower, the Planning Department will notify all property owners within 250 feet of the footprint of the tower.

*** These are estimates based on past experience and best case schedules. Follow-up with regulators is recommended for confirmation or a more accurate estimation of timelines.**

APPENDIX C

Monthly Requirements for Each Position and Associated NOC Code During Construction

Estimated Construction Phase Work Force Requirements, 2013-2017

Position	NOC Code	Person-Years	2013												2014												2015												2016												2017
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
Construction Trades and Labour																																																			
Power Line Technician (Line Person)	7244	96																																																	
Utility Electrician	7242	68																																																	
Equipment Operator Earth Mover - Excavator, Dozer, Loader (Equipment Operator C); Equipment Operator General Equipment (General) - Dump truck, Screening equipment etc. (With exception of Dump trucks, Equipment Operator D); Digger Operator	7521	41																																																	
Trades Helpers and Labourers - Grounds Person Truck Driver, Grounds Person, Mechanic Helper, Mixer Operator, Utility Person, Traffic Control Person, General Laborer (unskilled)	7612	32																																																
Mechanic / Operator	7312	1																																																	
Welders	7237	14																																																	
Crane Operator (Equipment Operator A), Boom Truck Operator (Equipment Operator B)	7371	19																																																	

Estimated Construction Phase Work Force Requirements, 2013-2017

Position	NOC Code	Person-Years	2013												2014												2015												2016												2017
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
Blaster - Compressor Operator, Special services (HDD drillers, other)	7372	11																																																	
Surveyor	2154	20																																																	
Arborist (tree cutter)	8421	6																																																	
Communication Installer	7246	19																																																
Carpenter (includes also concrete forms, rebar)	7271	41																																																
Technicians (electrical, instrument, Mechanical), Drafting, Geotechnical Work	2230	184																																																
Mill Wrights	7311	9																																																
Pipe Fitters	7252	7																																																
Iron Workers	7236	3																																																
Camp Staff																																																		
Accommodation Attendant (Personnel interactions)	6721	3																																																
Cook	6322	2																																																
Waiter / Waitress	6513	2																																																

Estimated Construction Phase Work Force Requirements, 2013-2017

Position	NOC Code	Person-Years	2013												2014												2015												2016												2017
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
Construction Management																																																				
Construction Manager	0711	15																																																	
Construction Superintendent	7200	74																																																	
Engineering Surveying and completion checks	2260	50																																																	
Engineering and Project Management																																																			
Engineering	2130	150																																																	
Senior Management (President, VP,	0016	13																																																	
Project Manager	0212	7																																																	
Procurement / Expediting	1225	20																																																	
Safety	2263	19																																																	
Quality Control	2262	6																																																	
Finance / Accounting	1111	50																																																	
Legal	4110	11																																																	

APPENDIX D

Commercial Fisheries Catch Data

Figure 1 Geographic Distribution of Offshore Catch by Region, 2007

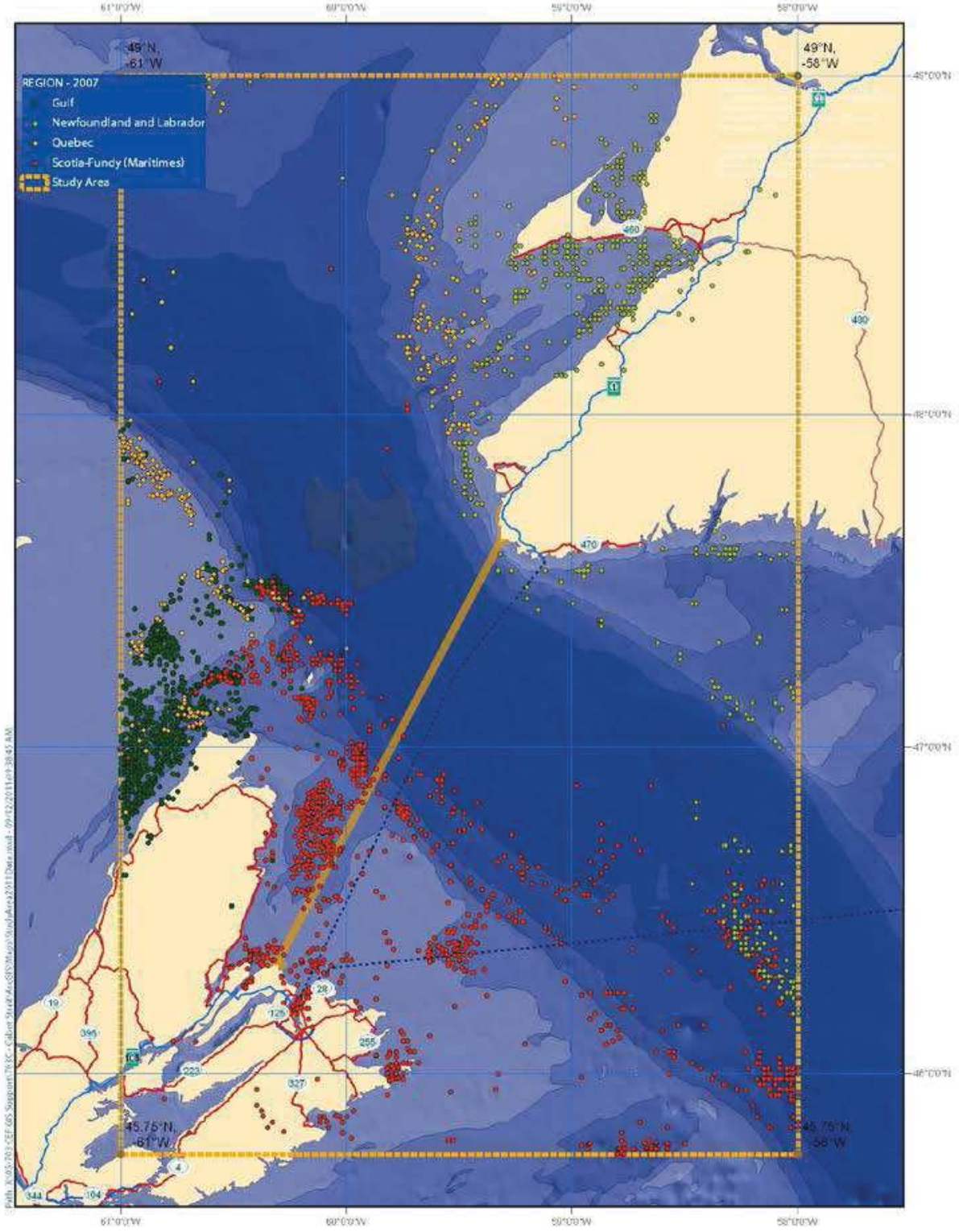


Table 1 **Landings and Values Within Statistical Districts 39-43 (3Pn & 4R), 2008-2010**

Species Group	2008		2009		2010	
	Landings (tonnes)	Value ($'000)	Landings (tonnes)	Value ($'000)	Landings (tonnes)	Value ($'000)
Groundfish	2,736	$3,986	2,698	$3,156	1,367	$1,665
Pelagic	23,004	$5,737	24,574	$7,066	16,884	$5,421
Crustaceans	885	$7,044	1,061	$4,837	987	$4,506
Molluscs	21	$34	-	-	27	$42
Other	0.6	$89	0.4	$1	1.7	$12
TOTAL All Species	**26,646**	**$16,891**	**28,332**	**$15,059**	**19,267**	**$11,646**

Source: DFO Newfoundland and Labrador, Economics Branch.

Figure 2 **Average Monthly Landed value for Statistical Districts 39-41 by Species Group, 2008-2010**

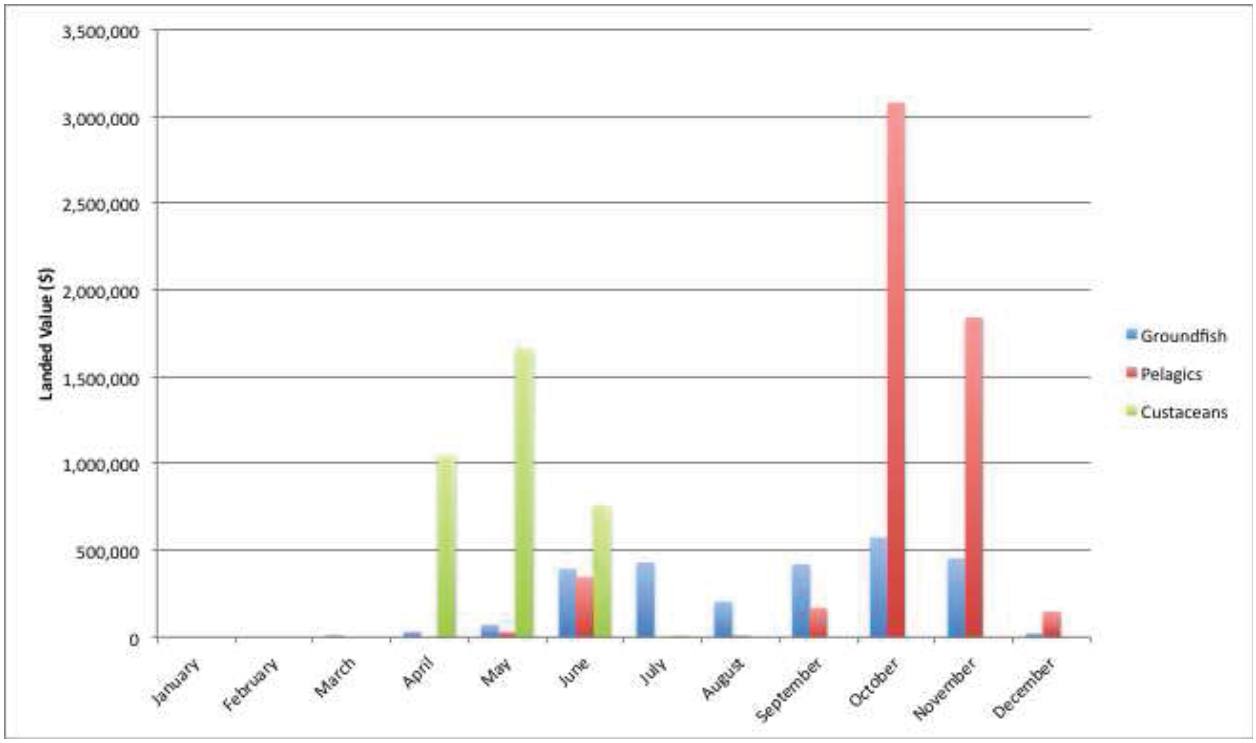


Table 2 Number of Licence Holders by Type and Vessel Size, 2008-2010, in DFO Statistical Sections 39-43

Species	Vessels < 40 ft			Vessels > 40 ft		
	2008	2009	2010	2008	2009	2010
Bait	250	251	252	15	15	15
Capelin	10	10	10	8	7	7
Eels	24	0	0	1	1	1
Groundfish	205	206	206	23	22	22
Herring	143	141	140	11	10	10
Lobster	223	223	224	14	13	13
Mackerel	141	140	143	19	18	18
Rock Crab	7	7	7	0	0	0
Scallop	35	34	34	6	6	4
Sea urchin	0	0	0	1	1	1
Seal	432	396	388	19	18	18
Snow crab	150	148	149	19	19	19
Squid	48	49	49	1	0	0
Whelk	21	23	27	5	4	4

Table 3 Landings and Value within Districts 1, 4, 6, and 7 (4Vn), 2008-2010

Species Group	2008		2009		2010	
	Landings (tonnes)	Value ($'000)	Landings (tonnes)	Value ($'000)	Landings (tonnes)	Value ($'000)
Groundfish	2,940	$3,962	3,985	$4,833	2,840	$2,720
Pelagic/Estuarial	379	$309	112,443	$108	28	$25
Crustaceans/ Mollusc	13,756	$63,496	14,617	$48,606	14,951	$56,592
TOTAL All Species	**17,075**	**$67,767**	**18,323**	**$53,654**	**18,205**	**$59,337**

Source: DFO Maritimes Region Statistics Branch

Figure 3 **Average Monthly Landed Weight (tonnes) in DFO Statistical Districts 1, 4, 6, and 7 for 2009 – 2010**

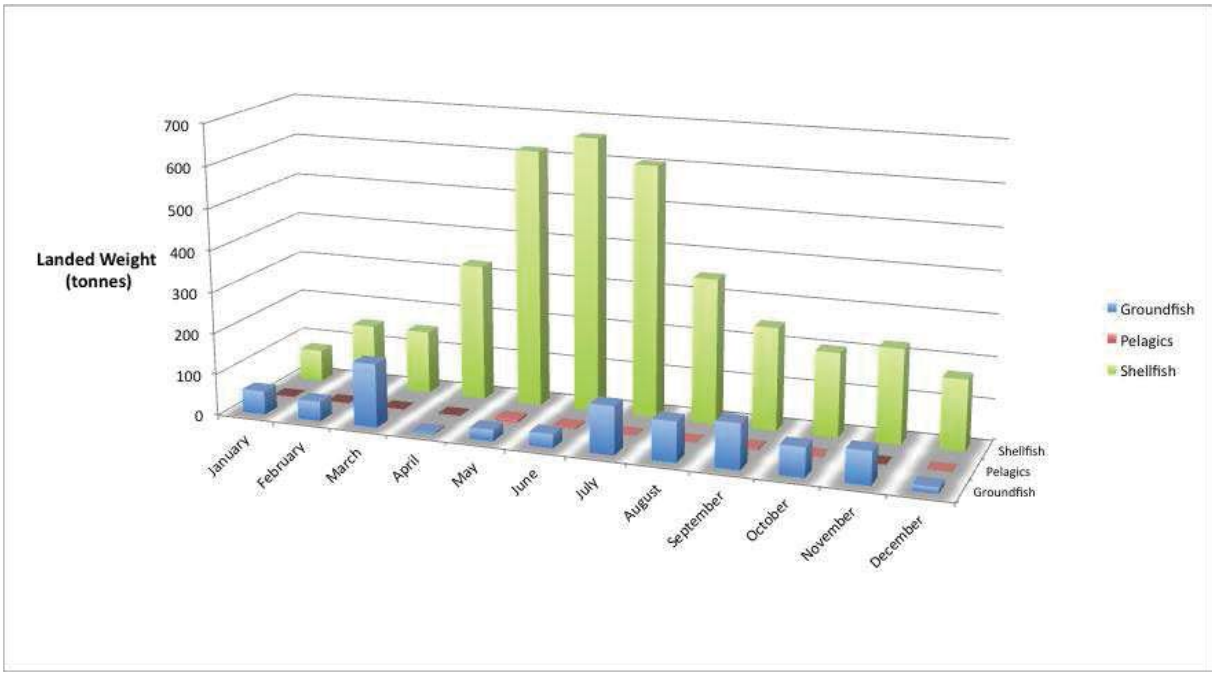


Figure 4 **Average Monthly Landed Weight (tonnes) of Shrimp, Snow Crab, and Lobster in DFO Statistical Districts 1, 4, 6, and 7 for 2009 and 2010**

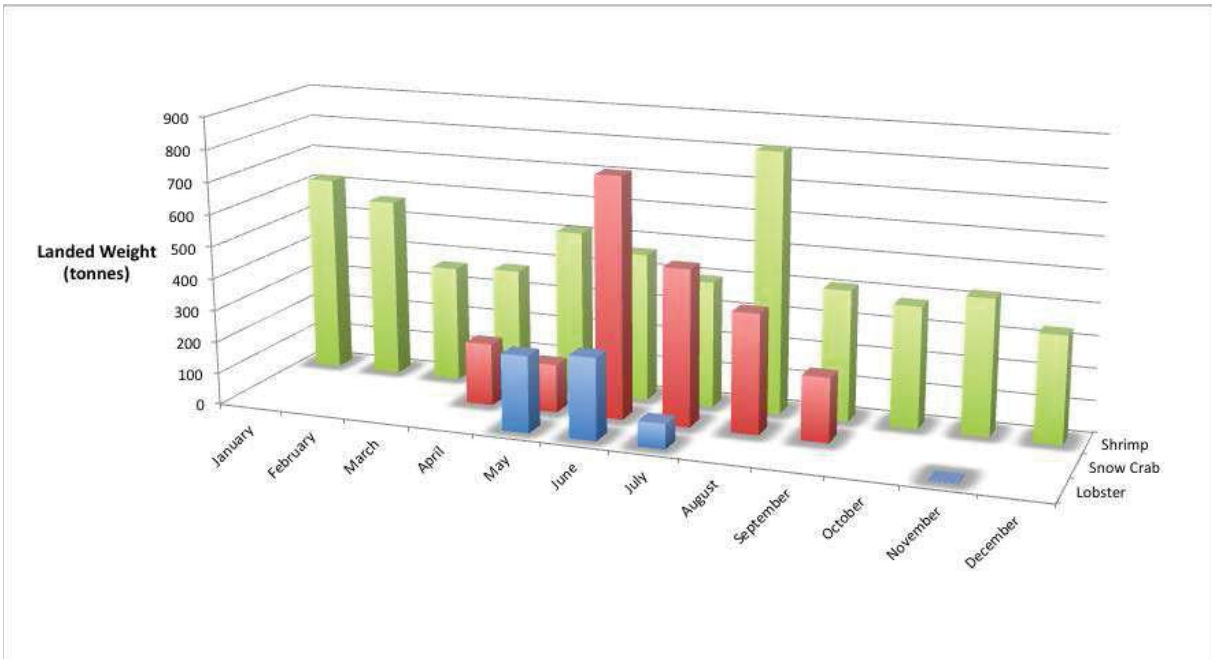


Table 4 Numbers of Licence Holders by Type and Vessel Size, 2009-2010 in DFO Statistical Districts 1, 4, 6, and 7

Species	Vessels < 65 ft		Vessels > 65 ft	
	2009	2010	2009	2010
Groundfish	68	56	1	5
Herring		1		
Lobster	473	468		
Mackerel	8	4		
Oyster		4		
Rock Crab	8	11		
Scallop	21	18		
Sea Cucumber	1	1		
Sea urchin	2	2		
Shrimp	23	10	2	2
Snow Crab	111	103		
Swordfish		1		
Tuna	1	1		
Whelks	1			

Table 5 Offshore Catch (Kg) by Species, Species Group and Region for 2007

Species/ Species Group	DFO Region				Totals
	Gulf	Newfoundland	Quebec	Maritimes	
Cod	292,180	151,429	650,432	264,135	**1,358,176**
Redfish	35,258	374,929	23,021	863,375	**1,296,583**
Total Groundfish	710,132	1,025,428	875,495	1,577,294	**4,188,349**
Herring	83,000	1,043,963	-	70,737	**1,197,700**
Mackerel	-	11,079,256	-	350,042	**11,429,298**
Total Pelagic/Coastal	84,118	12,719,941	-	448,748	**13,252,807**
Shrimp	4,487	1,576	3,621	939,390	**949,074**
Snow Crab	903,091	17,447	272,906	397,362	**1,590,806**
Total Crustacean	920,346	19,023	280,366	1,526,321	**2,746,056**
Grand Total	**1,714,596**	**13,764,392**	**1,155,861**	**3,552,378**	

Note: Offshore catch data from 2007 was used due to the fact that this was the most recent year that catch data from vessels registered in the Quebec region was available.
Source: DFO Interzonal Database. DFO Statistical Services, Ottawa.

Figure 5 Offshore Catch of Atlantic Halibut from Interzonal data, 2007-2010

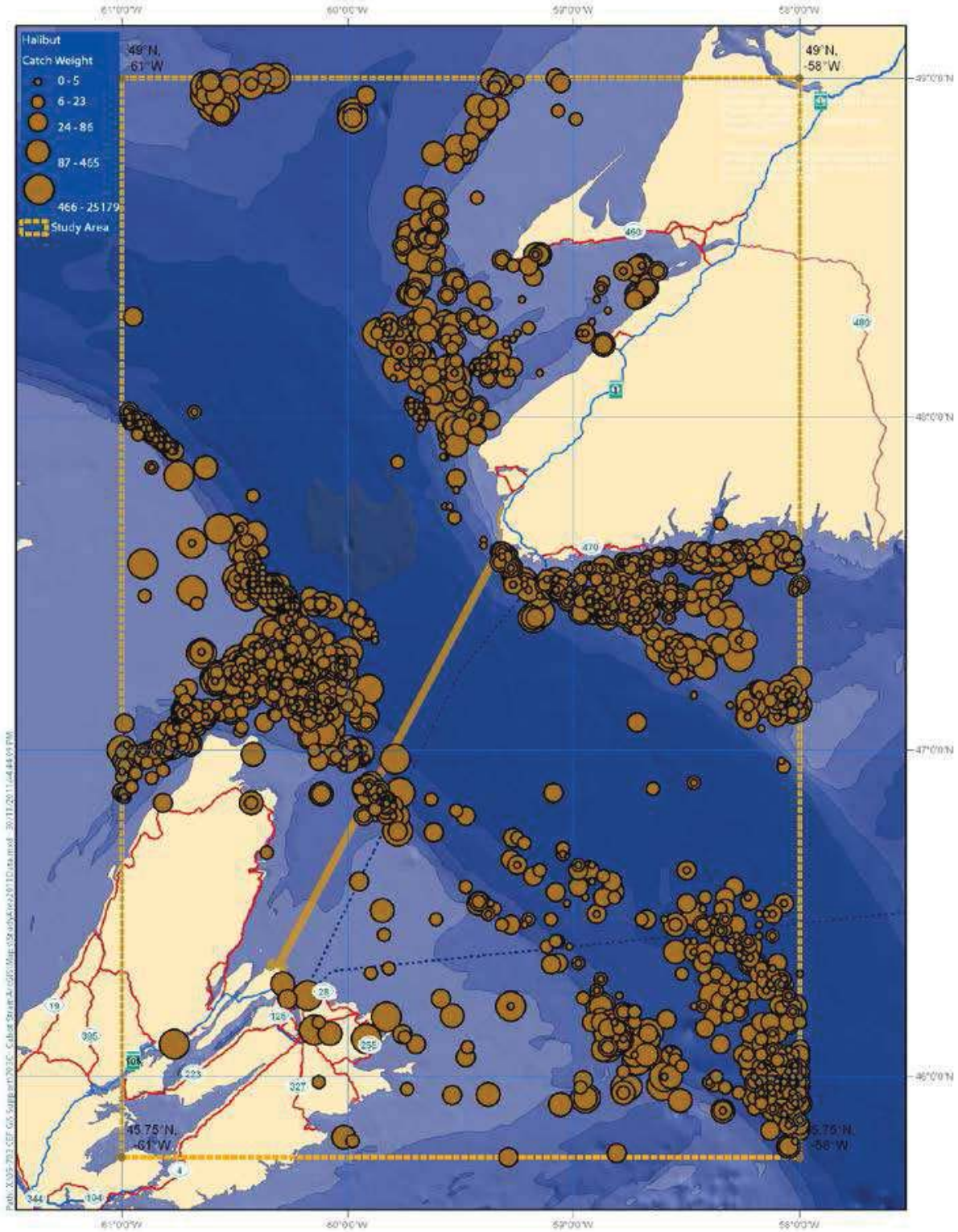


Figure 6 **Seasonal Offshore Catch of Atlantic Cod from Interzonal Data, 2007-2010 for summer (left pane) and winter (right pane).**

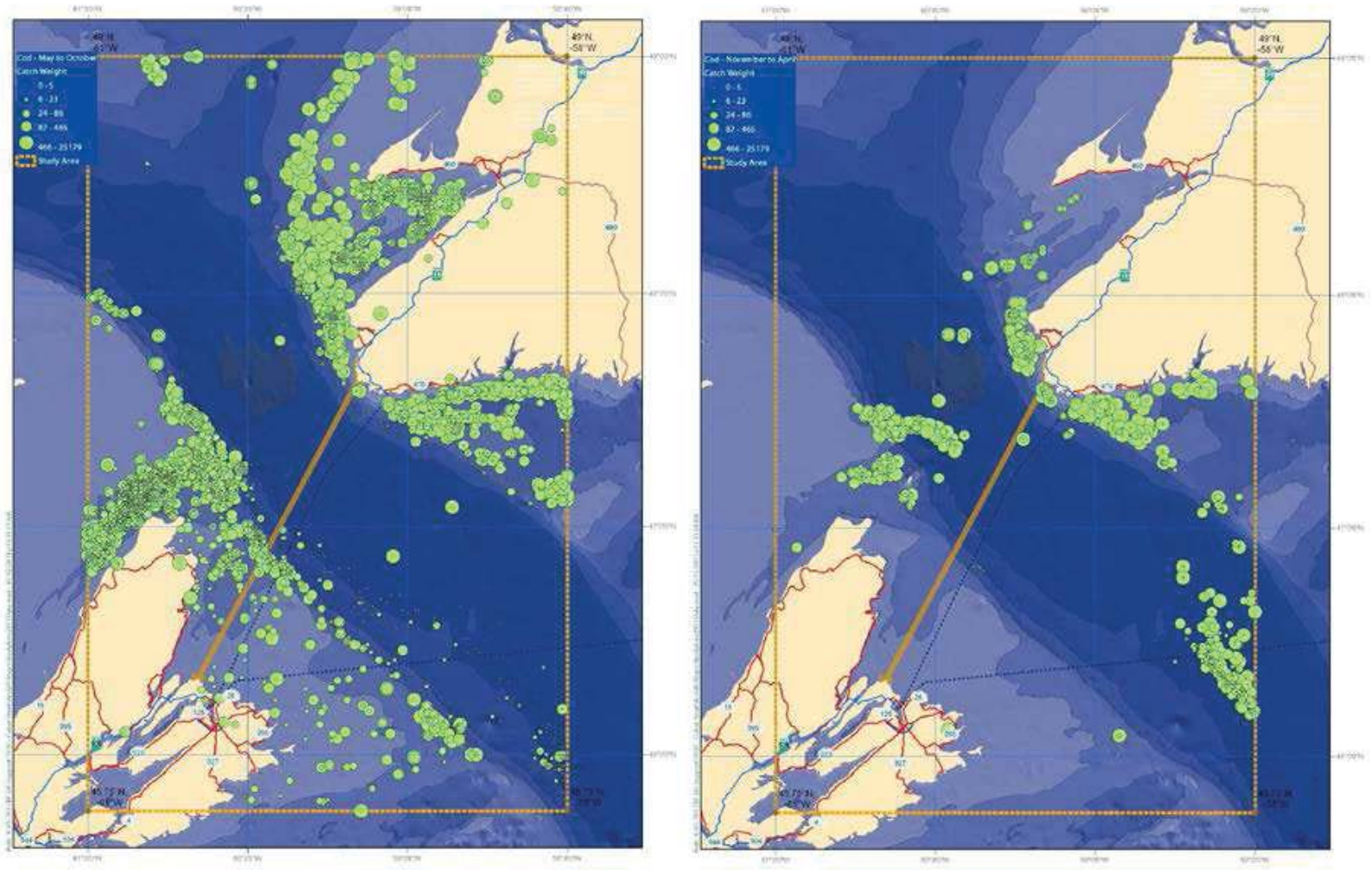


Figure 7 Offshore Catch of Redfish from Interzonal Data, 2007-2010

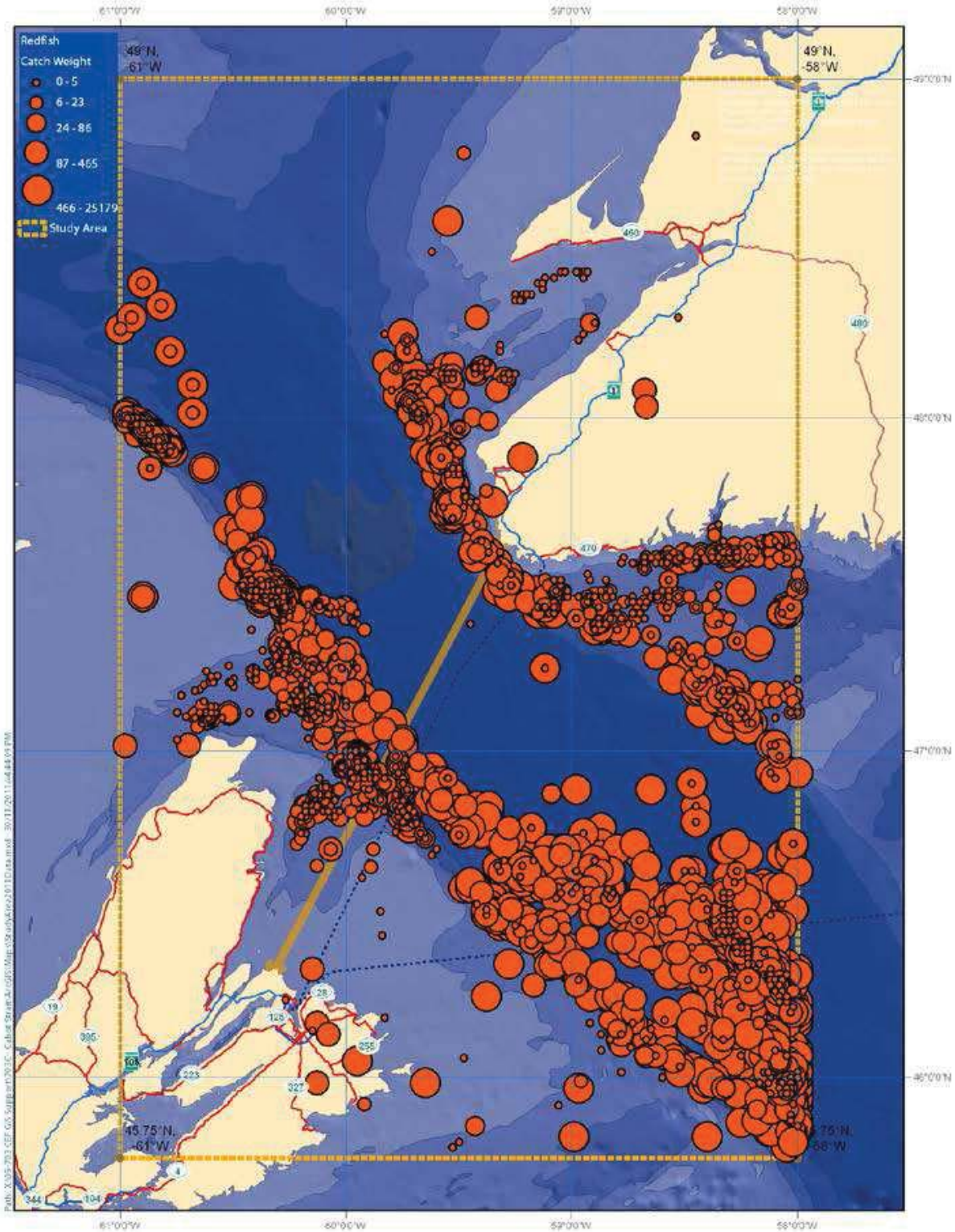


Figure 8 Herring Catch from Interzonal Data, 2007-2010

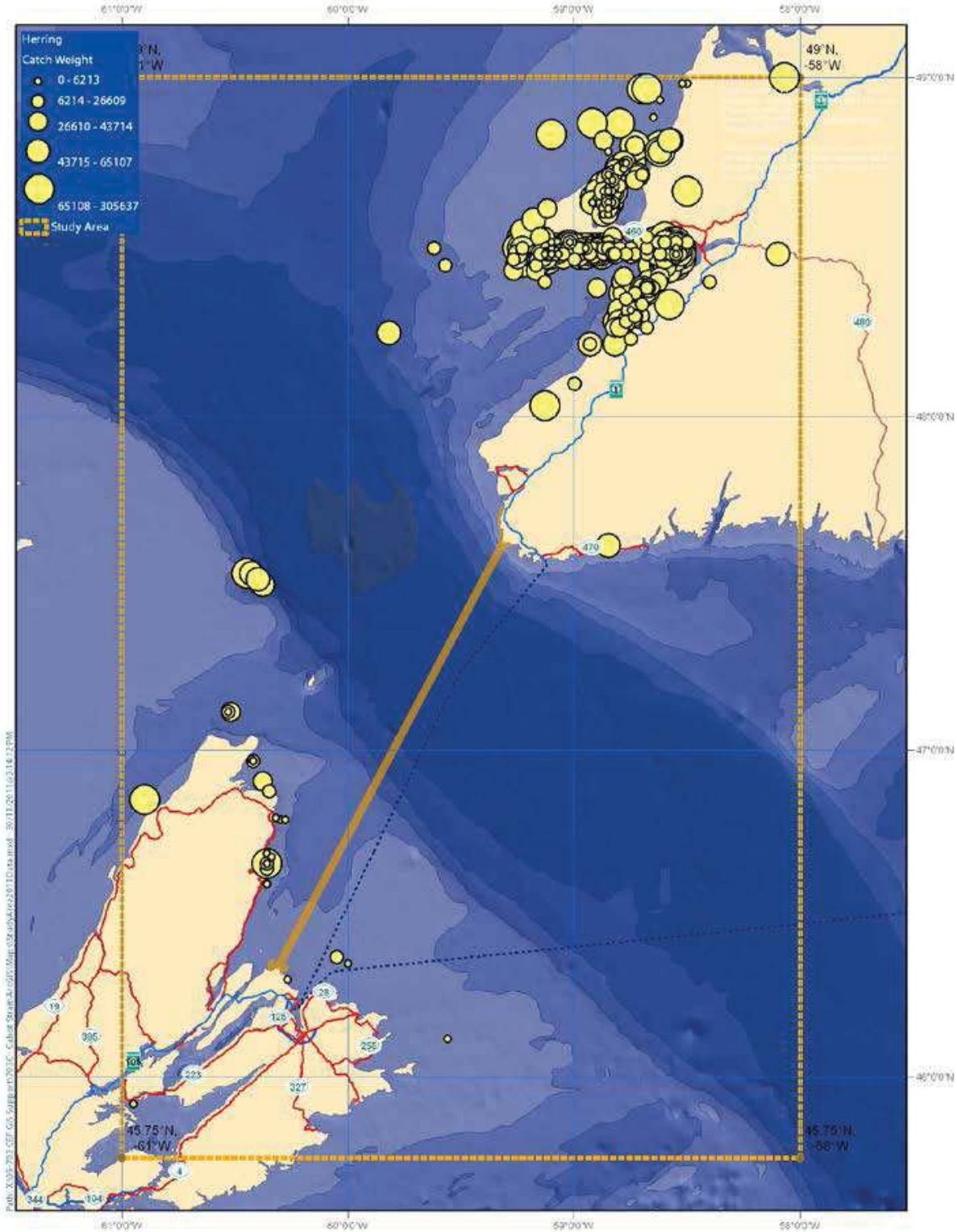


Figure 9 Mackerel Catch from Interzonal Data, 2007-2010

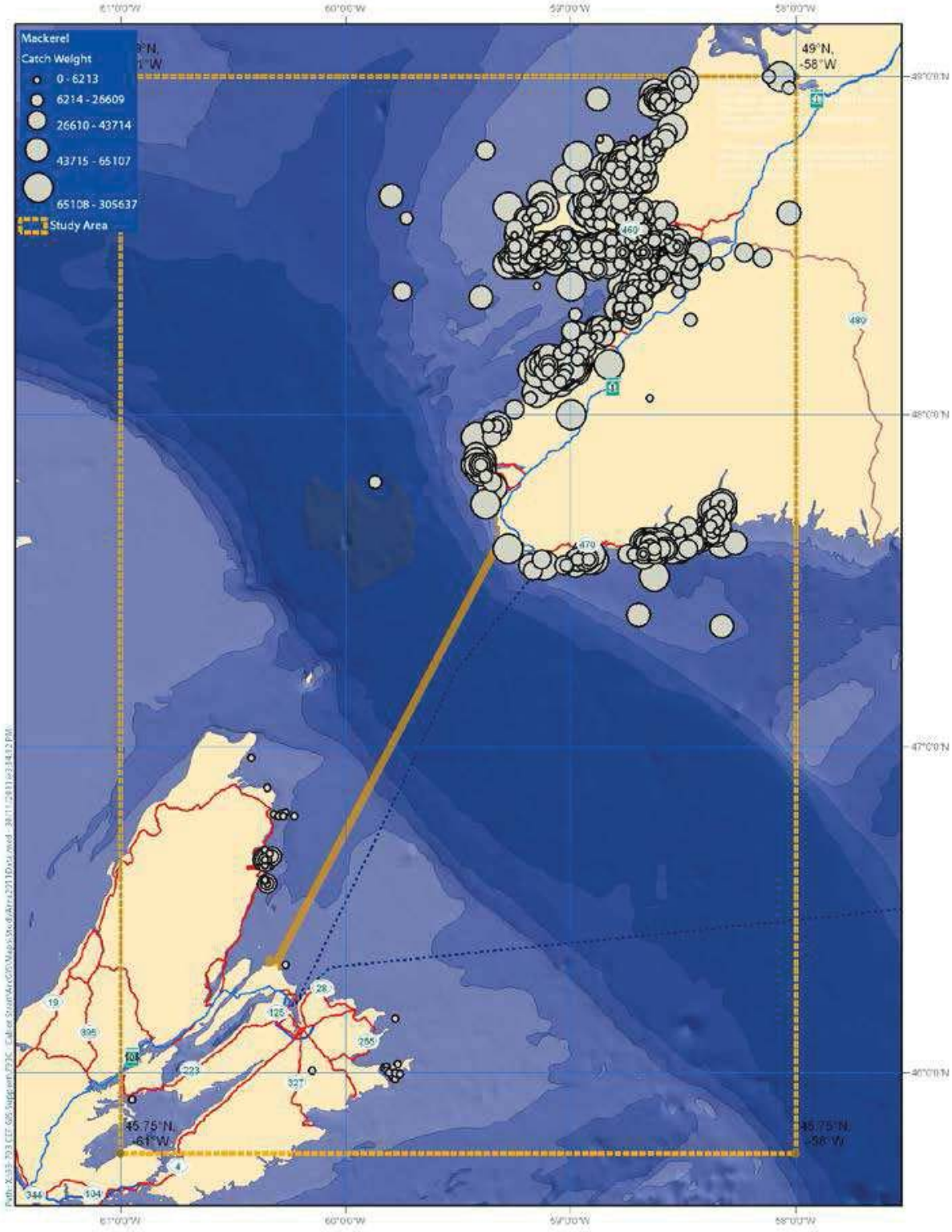


Figure 10 Capelin Catch from Interzonal Data, 2007-2010

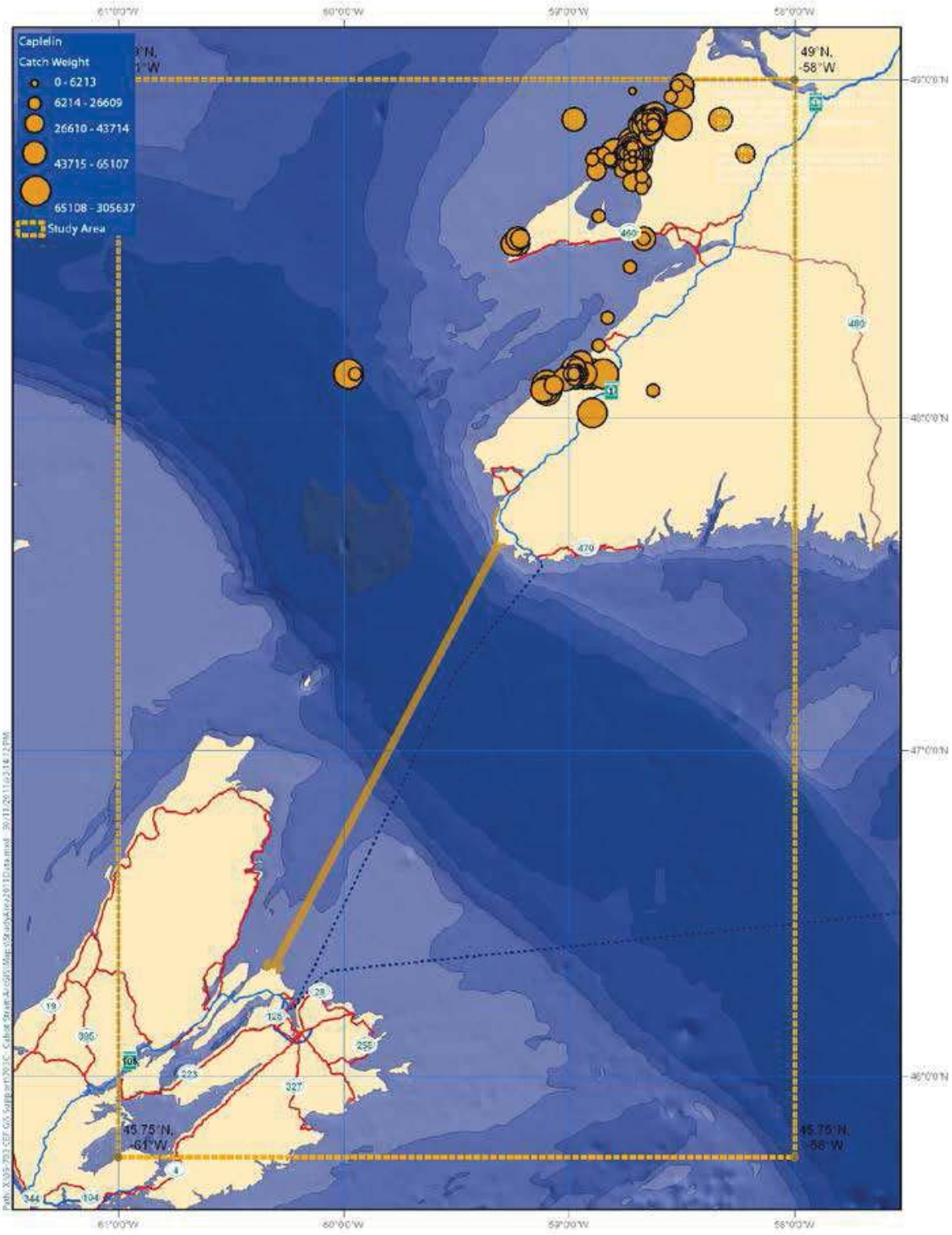


Figure 11 Offshore Catches of Snow Crab from Interzonal Data, 2007-2010

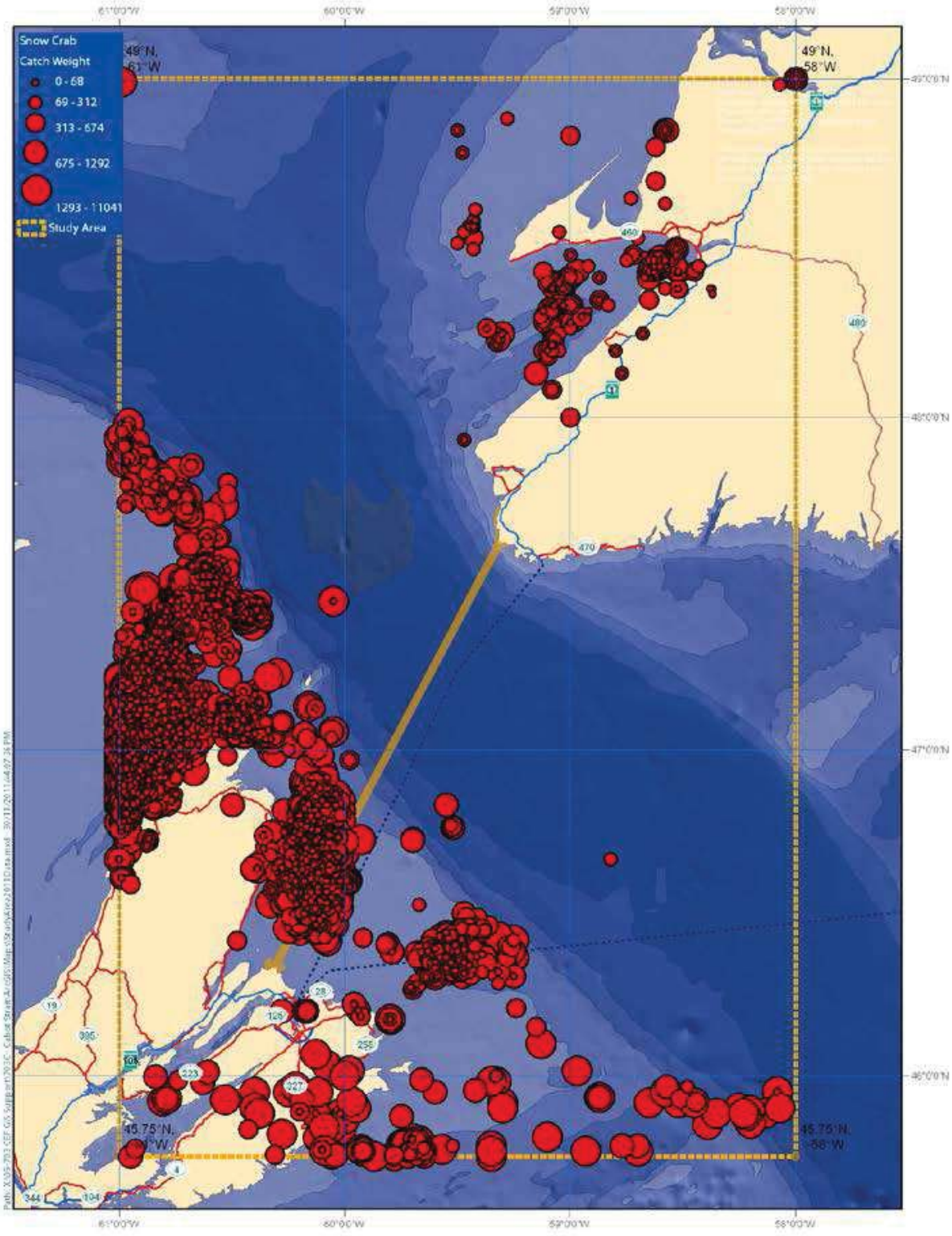


Figure 12 Offshore Shrimp Catch from Interzonal Data, 2007-2010

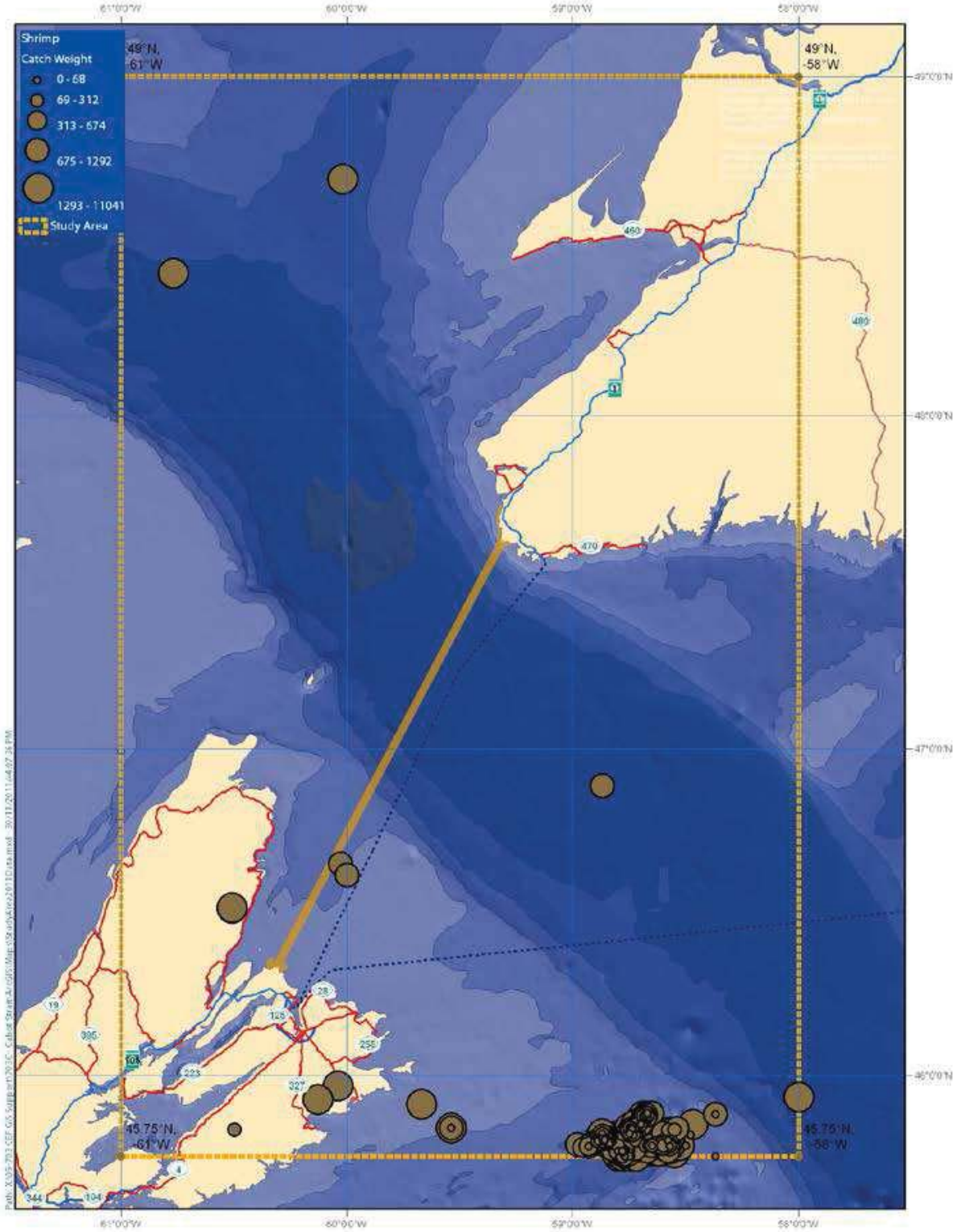
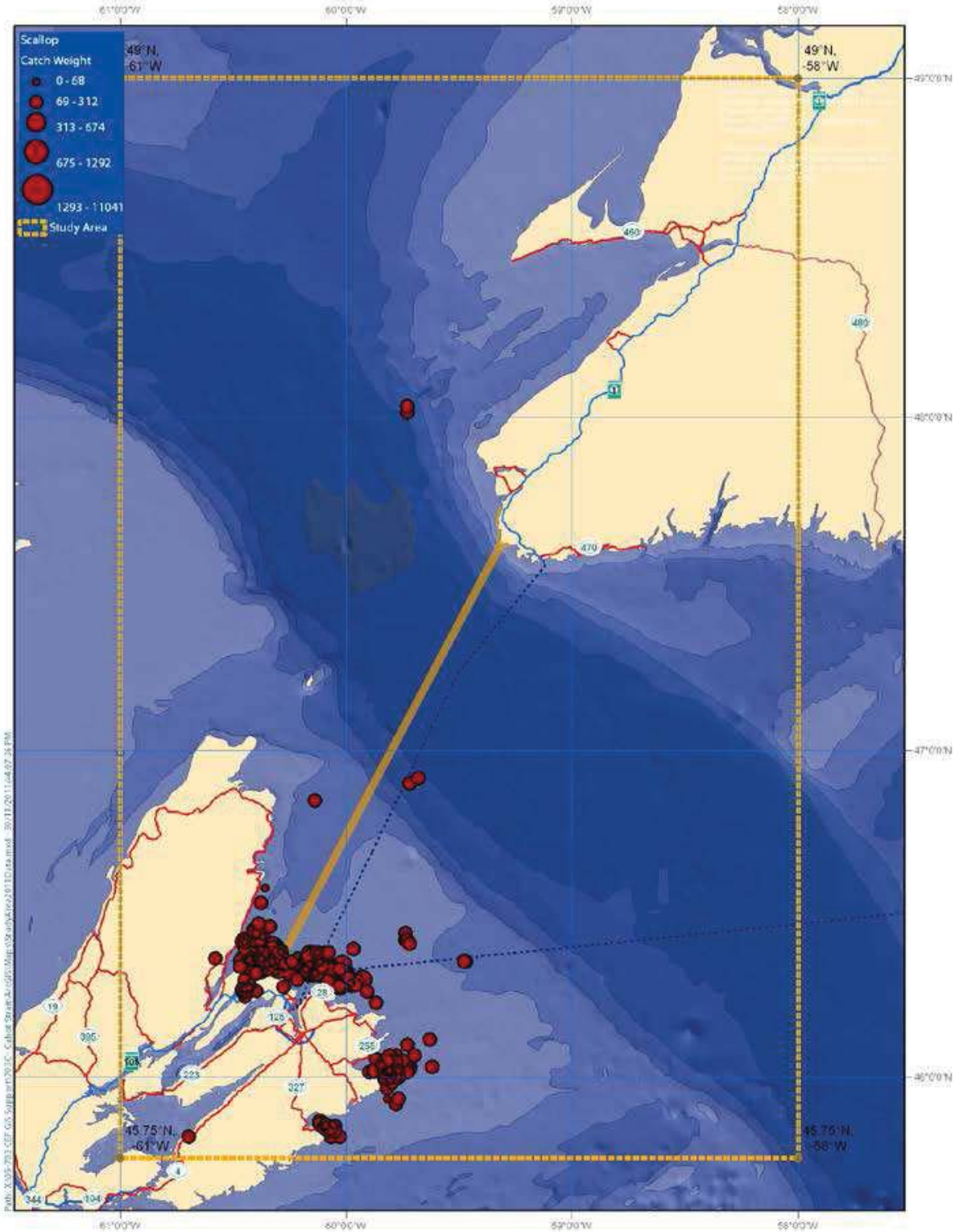


Figure 13 Scallop Catch from Interzonal Data, 2007-2010



APPENDIX E

Summary of EA Commitments

Summary of EA Commitments

Commitments	Timing of Implementation	EA Reference
Environmental Mitigation/Best Practices		
Clearing and Grubbing		
Tree clearing activities will be executed in a manner that complies with the *MBCA* and *SARA* , specifically to avoid incidental take: ● primary mitigation will be through Project planning and scheduling of clearing activities, on a best-efforts basis, to avoid key migratory bird nesting periods; and ● secondary mitigation will be the development and implementation of an avifauna management plan designed to reduce the likelihood of interaction; establish training protocols for personnel to identify active nests; and protocols for nesting surveys by trained ornithologists in advance of clearing activities.	P/D, C	Section 2.6.7.1
Harvesting of timber on private lands will be subject to agreement of a legal interest in the land and/or a timber harvesting agreement.	C	Section 2.6.7.1
Permission to access areas for clearing purposes will be obtained from property owners.	C	Section 2.6.7.1
Harvesting timber on Crown Land will be done in accordance with Provincial Crown requirements.	C	Section 2.6.7.1
A commercial harvesting permit will be obtained from the respective forest management district office prior to commencement of activities.	C	Section 2.6.7.1
All timber harvested under a commercial permit will be scaled and stumpage paid as per the timber royalty regulations.	C	Section 2.6.7.1
All timber will be harvested in accordance with the Cutting of Timber Regulations.	C	Section 2.6.7.1
All timber, both merchantable and non-merchantable vegetation, will be harvested using standard forest harvesting technologies, including both felling and mulching, and in accordance with applicable regulatory requirements. The transmission corridor to be cleared will be marked to visually define limits of the Project area.	C	Section 2.6.7.1
Stump heights will be kept as low as feasible for future vegetation management purposes.	C	Section 2.6.7.1
An operating permit will be obtained from each forest management district in the fire season.	C	Section 2.6.7.1
Brush disposal will include options such as chipping, mulching and/or removal.	C	Section 2.6.7.1
Where feasible existing access (*i.e.,* logging roads, farm roads and trails) will be utilized through design and routing decisions, to minimize the area to be cleared for new access. Existing roads may require upgrading to accommodate the size and weight of expected construction equipment and transport trucks. These upgrades may include grading, widening, top dressing, ditching, *etc.*	C	Section 2.6.7.1
In Nova Scotia, any work areas created on provincially owned roads will conform with the Nova Scotia Temporary Workplace Traffic Control Manual (updated 2012).	C	Section 2.6.7.1
Environmentally sensitive features will be identified and clearly marked where feasible (*e.g.* , watercourses, wetlands, areas of high archaeological potential).	C	Section 2.6.7.1
All watercourses will be kept free of chips and debris resulting from clearing activities.	C	Section 2.6.7.1
Established watercourse crossings will be utilized where feasible; otherwise, new temporary crossings will be designed and constructed in accordance with hydrological conditions, weight restrictions and other criteria as defined by standard best practices.	C	Section 2.6.7.1
Trees that are inadvertently felled into a watercourse will be removed immediately.	C	Section 2.6.7.1
In Nova Scotia, with the exception of access to temporary watercourse crossing locations, a 30 m partially altered buffer will be retained on both sides of all waterbodies, including wetlands as per the NS Watercourse Alteration Manual (2010). "Partially altered" is defined as vegetation of less than 2 m in height will remain. Vegetation over 2 m will be hand cleared to meet system reliability standards. In Newfoundland, in non-protected water supply areas, the minimum buffer zone width is 20 m for all waterbodies, including wetland, with slopes less than 30%. For slopes greater than 30%, the buffer distance will be determined using the formula: 20 m + 1.5 m x slope of the land (%) or 20 m, whichever is larger, as per the Guidelines for the Protection of Freshwater Fish Habitat in Newfoundland. Vegetation over 2 m will be hand cleared to meet system reliability standards.	C	Section 2.6.7.1
Appropriate erosion and sedimentation controls will be implemented to stabilize the slopes/banks on either side of watercourses and prevent sediment run-off.	C	Section 2.6.7.1
Clearing within the riparian buffer zones for access to temporary watercourse crossings will be minimized to accommodate construction traffic requirements only, and will not span the full transmission corridor width. Cutting will be undertaken by hand or using equipment with a long-reach mechanical arm within these buffer areas. At tower locations where grubbing is required, grubbed materials will be re-spread or stockpiled and as many stumps and roots as feasible will be left on the ground surface.	C	Section 2.6.7.1
Dewatering of excavated areas will involve measures to minimize and control the release of sediment-laden water by means of filtration through vegetation or engineered erosion control devices.	C	Section 2.6.7.1
Felling of trees adjacent to an energized transmission corridor will employ qualified personnel in regular scheduled contact with the energy centres and following appropriate protocols established by the respective utilities in both provinces.	C	Section 2.6.7.1
Soil and aggregates required for construction of access roads, tower foundations and facility foundations will be sourced from existing approved pits and/or quarries. If new pits or quarries are required, the proponent will follow applicable regulations and standard industry practices.	C	Section 2.6.7.1
Work vehicles and/or heavy equipment will be cleaned and inspected prior to use upon initial mobilization at a work site, and/or following transportation between sites, to prevent the introduction of weed/invasive/non-native species to terrestrial corridors. This excludes construction activities that occur in continuous manner along the transmission corridor.	C	Section 2.6.7.1
Final alignment and access routing will consider the locations of known high concentrations of waterfowl and SAR, to the extent feasible.	C	Section 2.6.7.1

Commitments	Timing of Implementation	EA Reference
Vegetation Management		
Vegetation management will be focused on removing trees and shrubs which may impede the reliable operation of the transmission system.	O/M	Table 5.3.2
Procedures for removal and control of vegetation will range from manual cutting to selective use of approved herbicides.	O/M	Table 5.3.2
Herbicides will be applied by certified applicators, in accordance with standard industry practices and applicable regulations.	O/M	Table 5.3.2
Where feasible, vegetation management activities will take place outside of the identified bird breeding season.	O/M	Table 5.3.2
Work near wetlands and watercourses will adhere to the conditions of relevant permits.	O/M	Table 5.3.2
Blasting		
Should blasting be necessary for rock excavation, it will be conducted in accordance with provincial legislation and subject to terms and conditions of applicable permits.	C	Section 2.6.7.2
Should blasting be required on provincially owned roads in Nova Scotia, a permit will be obtained from NS Transportation and Infrastructure Renewal's local Area Manager.	C	Section 2.6.7.2
Potentially affected landowners will be notified of any blasting activities through a communication plan, to be developed as part of the Environmental Protection Plan (EPP).	P/D, C	Section 2.6.7.2
All blasts are to be conducted and monitored by certified professionals.	C	Section 2.6.7.2
A pre-blast survey of all structures (*e.g.* , homes, wells, etc.) will be completed within a radius of the blasting zone that is consistent with regulatory requirements. The survey will include, where applicable, analysis of well water quality (e.g., chemistry, bacteria).	P/D, C	Section 2.6.7.2
Where blasting is planned within 500 m of residences, activities will comply with the requirements of existing by-laws (where applicable).	C	Section 2.6.7.2
Blasting near watercourses will only occur in consultation with DFO, and will follow the requirements of the Fisheries Act as well as the requirement of the DFO Factsheet: Blasting – Fish and Fish Habitat Protection; and/or the DFO Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright and Hopky 1998), as applicable.	C	Section 2.6.7.2
If sulphide bearing materials are identified through pre-construction geotechnical surveys, these areas will be referenced in the EPP. Rock removal in known areas of elevated potential will conform to relevant legislation (*e.g.* , the Sulphide Bearing Material Disposal Regulation of the NS*EA*), and in consultation with relevant regulatory departments.	C	Section 2.6.7.2
Atmospheric Environment (Dust, Noise and Air Quality)		
Where required, dust will be controlled by using water or a suitable, approved dust suppressant.	C	Section 2.6.7.3
Dust control will be employed as necessary, including limiting exposed soils (*e.g.,* through re-vegetation) and application of water to dry and/or dust-prone soils, if required.	C	Table 5.3.2
Construction equipment will be maintained in good working order and properly muffled.	C	Section 2.6.7.3
Noise control measures (*e.g.,* sound barriers, shrouds, enclosures) will be used where warranted.	C	Section 2.6.7.3
Noise-generating construction activities will comply with the requirements of existing by-laws (where applicable).	C	Section 2.6.7.3
Air emissions will be mitigated through regular equipment inspection and maintenance and restriction of engine idling.	C	Table 5.3.2
Erosion and Sedimentation Control		
Where feasible, Project design and routing will avoid areas where conditions could elevate the potential for erosion and sedimentation (*e.g.,* erodible soils, steep slopes).	P/D, C	Section 2.6.7.4
The area of exposed soil will be limited, and the length of time soil is exposed without mitigation (*e.g.* , mulching, seeding, rock cover) will be minimized through scheduled work progression. Steeper slopes susceptible to erosion will be stabilized with rock, hydroseed, etc.	C	Section 2.6.7.4
Both temporary and permanent control measures for erosion and sedimentation will be implemented in an appropriate time frame.	C, O/M	Section 2.6.7.4
Erosion and sedimentation control structures will be maintained and inspected regularly with particular emphasis before and after forecasted heavy rain events, and with consideration of the timing and types of activities involved.	C, O/M	Section 2.6.7.4
Existing roads and access routes will be used to the extent feasible.	C	Section 2.6.7.4
With the exception of temporary water crossing locations, travel through wetlands and within watercourse buffers with machinery will be avoided, when feasible. If travel through a wetland is required, the appropriate mitigation measures will be employed, (*e.g.,* swamp matting).	C	Section 2.6.7.4
Site run-off from access roads and construction areas will be intercepted and diverted away from watercourses and wetlands. The quality of the water released from the site will be monitored so that it does not exceed the level of suspended solids specified by regulatory approvals and will follow the DFO Factsheet: Guidelines for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (Gosse et al. 1998) for work undertaken in that province.	C	Section 2.6.7.4
In Nova Scotia, site run-off from access road and construction areas will be intercepted and diverted away from watercourses and wetlands as per the requirements of the NS *EA* and associated regulations.	C	Section 2.6.7.4
Where necessary, mitigation measures will remain in place after work is completed and areas have stabilized. Erosion and sedimentation control measures will be temporary until natural re-vegetation occurs. All temporary erosion and sedimentation control materials will eventually be removed from the construction site.	C, O/M	Section 2.6.7.4
Permits/approvals related to site construction will be kept on-site.	C	Section 2.6.7.4

Commitments	Timing of Implementation	EA Reference
Watercourse Crossings		
The access plan being developed is premised on the optimum use of existing roads, and will also identify locations for crossing watercourses. Previously established crossings, with existing culverts and bridges, will be utilized to reduce the number of permanent and temporary crossings. Any temporary bridge crossings will be removed following completion of construction.	C	Table 5.3.2
Transmission lines will span watercourses, suspended from towers on either side, and strategic locations for watercourse crossings will be established for equipment mobilization, material distribution, tower construction, stringing and tensioning of lines, and all other associated activities.	C	Table 5.3.2
Watercourses will be crossed utilizing existing structures where feasible. Where no permanent crossings are present, temporary engineered structures will be used. Clear span bridges will be the preferred option for temporary crossings and will comply with regulatory requirements. ENL is aware of the DFO National Operational Statement for Clear Span Bridges and DFO Factsheet: Guidelines for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (Gosse et al. 1998). . DFO will be contacted for advice, if required, during construction. In locations where temporary crossings are not possible, fording will be considered as a last resort and only under unique and well-defined circumstances. When existing access and temporary crossings options are ruled out, Letters of Advice for Fording will be sought from DFO and NL's Environmental Guidelines for Fording (NLDEC 1992) will be adhered to. All fording activity that may be required will be carried out in compliance with the terms and conditions of a Certificate of Approval for Alternation to a Water Body under Section 48 of the *Water Resources Act* (NL).	C	Section 2.6.7.5
In Nova Scotia, watercourses will be crossed utilizing existing structures where feasible. Where no permanent crossings are present, temporary engineered structures will be used. Clear span bridges will be the preferred option. ENL will follow the requirements of the NS*EA* , and associated regulations, and the NSE document Nova Scotia Watercourse Alteration Specifications – Temporary Bridge Specifications (2006). DFO will be contacted for advice, if required, during construction. In locations where temporary crossings are not possible, fording will be considered as a last resort.	C	Section 2.6.7.5
During freeze-up conditions, vehicles may cross watercourses via ice bridges, provided that the ice cover is sufficient to hold the weight of the vehicle and the watercourse is not disturbed.	C, O/M	Section 2.6.7.5
All watercourse crossings will be done in compliance with existing regulatory requirements.	C, O/M	Section 2.6.7.5
Watercourses and wetland crossings will not result in permanent diversion restriction or blockage of natural flow.	C, O/M	Section 2.6.7.5
Temporary crossings will be engineered to take into account hydrological characteristics; span length, stream bank stability, and other criteria; will be built to handle the expected load of equipment and materials; and will be maintained throughout the Project through regular inspections.	C, O/M	Section 2.6.7.5
Crossings will be restricted to a single location and occur at right angles to the watercourse or wetland. Crossings should be located in areas which exhibit a stable soil type and where grades approaching the crossings will not be too steep.	C, O/M	Section 2.6.7.5
Temporary spans will be located at a narrow point on the watercourse.	C, O/M	Section 2.6.7.5
The approaches to watercourse crossings will be stabilized with brush mats, where necessary. Stream banks prone to erosion may require additional stabilization. Material used to stabilize/repair stream banks will be clean, non-erodible and will not come from the stream bank or bed.	C, O/M	Section 2.6.7.5
If wetland disturbance cannot be avoided, it will be undertaken under the relevant provincial requirements.	C, O/M	Section 2.6.7.5
Removal of beaver dams will be undertaken only where required to facilitate construction or access. Beavers will be removed by a licenced control officer and dam removal will be in accordance with applicable permits and/or guidelines.	C, O/M	Section 2.6.7.5
Fording of watercourses will be considered only under unique and well-defined circumstances. When existing access and temporary crossings options are ruled out, Letters of Advice for Fording will be sought from DFO and NL's Environmental Guidelines for Fording (NLDEC 1992) will be adhered to. All fording activity that may be required will be carried out in compliance with the terms and conditions of a Certificate of Approval for Alternation to a Water Body under Section 48 of the *Water Resources Act* .	C, O/M	Table 5.3.2
Where feasible, refueling in the field will not occur within 30 m of watercourses and water supply areas (including the known location of private wells). Where equipment is located near a wetland and must be refueled at that location, special precautions will be used to prevent spilled fuel from entering any sensitive receptors (e.g. absorbent pads located below nozzle and spill response kits fully stocked and located at the refueling location).	C, O/M	Table 5.3.2
Temporary storage of waste materials on-site will be located 30 m from watercourses, wetlands, and water supply areas (including known groundwater wells).	C	Table 5.3.2
Wetlands		
Guidance on wetland conservation in NS will follow the Nova Scotia Wetland Conservation Policy (2011).	C, O/M	Section 2.6.7.6
Guidance on wetland conservation in Newfoundland will adhere to the Policy for Development in Wetlands in Newfoundland (1997).	C, O/M	Section 2.6.7.6
Avoidance of wetland habitat, to the extent feasible, has been taken into consideration in Project planning and design. Some of these considerations include: • route delineation; • design of tower foundation; and • seasonal timing of construction activities.	P/D	Table 5.3.2
Wetland avoidance is the primary objective in wetland habitat conservation and is achieved through mitigation by design. A wetlands model, generated at a 1:25,000 scale, was used as an input into the route design to minimize siting infrastructure within wetlands. Having said that, interaction with wetlands is expected both from the construction of physical components of the Project (*e.g.,* clearing of transmission corridor, tower foundation excavation) and gaining access to and through the Project transmission corridor for the purpose of mobilizing equipment and personnel and transporting material.	P/D, C	Section 2.6.7.6

Commitments	Timing of Implementation	EA Reference
If wetlands are to be permanently altered as a result of the Project, compensation measures will be required.	C	Table 5.3.2
To the extent feasible, access for the purpose of construction will utilize existing roads (public roads, resource roads, trails) and existing cleared transmission corridor. It is preferred that construction equipment and materials advance linearly along the cleared transmission corridor, minimizing the extent of disturbance. In situations where wetlands traverses the entire transmission corridor width, access will deviate around the wetland, where feasible, or temporary mitigation such as swamp mats or brush mats will be used to cross the wetland. Since the mats distribute the load weight over a much larger area, any disturbance is expected to be temporal in nature and quickly rehabilitate to original conditions. Mats will be removed at the end of the construction.	C	Section 2.6.7.6
Alteration as a result of tower foundations will be permanent. Mitigation by design allows for the lengthening spans between towers and moving towers laterally to avoid wetlands.		Section 2.6.7.6
Natural vegetated buffers or engineered sedimentation controls will be used if construction activities are required within 30 m of a wetland.	C	Section 2.6.7.6
Final alignment and access routing will consider the locations of known high concentrations of waterfowl and SAR, to the extent feasible.	P/D, C	Section 2.6.7.6
Hydrologic function of the wetland will be maintained.	C	Section 2.6.7.6
Runoff from construction activities will be directed away from wetlands.	C	Section 2.6.7.6
Dangerous Goods Management		
All fuels and lubricants used during construction will be stored according to containment methods in designated areas, located a minimum 30 m from surface waters, wetlands, and water supply areas (including the location of known private wells).	C	Section 2.6.7.7
Where possible, refueling in the field will not occur within 30 m of watercourses and water supply areas (including the known location of private wells). Where equipment is located near a wetland and must be refueled at that location, special precautions will be used to prevent spilled fuel from entering any sensitive receptors (e.g. absorbent pads located below nozzles and spill response kits fully stocked and located at the refueling location).	C	Section 2.6.7.7
Storage of all hazardous materials will comply with WHMIS requirements. Appropriate material safety data sheets (MSDS) will be located at the storage site.	C, O/M	Section 2.6.7.7
Fuel storage areas will have approved secondary containment.	C, O/M	Section 2.6.7.7
Transportation of dangerous goods will comply with Transport Canada's *Transportation of Dangerous Goods Act*.	C	Section 2.6.7.7
Equipment will be kept in good working order, will be inspected regularly and any observed leaks will be repaired.	C	Section 2.6.7.7
For on land construction activities, spill kits and trained personnel will be present at sites at all times.	C	Section 2.6.7.7
Site Reinstatement		
Construction laydown areas will be sited in areas of prior disturbance to the extent practical.	C	Section 2.6.7.8
Construction materials and debris will be removed from laydown areas when construction is complete, and the areas returned to original land-use capability.	C, O/M	Section 2.6.7.8
Waste		
All sites will be kept free from the accumulation of waste material and debris, and on completion of the works surplus materials and temporary structures will be cleaned from the sites.	C	Section 2.6.7.9
Solid wastes, including waste construction material, will be disposed of in approved facilities.	C	Section 2.6.7.9
Temporary storage of waste materials on-site will be located at least 30 m from known watercourses, wetlands, and water supply areas (including known groundwater wells).	C	Section 2.6.7.9
Temporary on-site sewage systems required during construction will be installed and operated according to relevant provincial legislation.	C	Section 2.6.7.9
All solid waste will be properly sorted for recycling, reuse, composting, or landfilling. Segregated materials will be stored in a manner to prevent degradation, burning or burying on site until they are sent to the appropriate, provincially approved waste disposal, recycling or composting facility.	C	Section 2.6.7.9
Horizontal Directional Drilling		
For HDD, the rig layout will include containment facilities designed to contain a release of drilling fluid from the mud circulation system.	C	Section 2.6.7.10
Breaching of the seabed with HDD borehole exits may result in a small release of drilling mud. Mitigation options are described in Section 2.6.6.3 and will be determined in detailed design phase with more geotechnical information. The loss of drilling fluids is unavoidable however, the effect will be localized and best practices with proper contingency planning will minimize the fluid loss. Good mud system control and bit locational controls through accurate telemetry technology is paramount in mitigating drilling fluid loss. Depending on the geology, options may be available to alter the mud composition near the exit location. The use of divers and suction equipment may also be an option depending on safety conditions.	C	Section 2.6.7.10
Noise abatement measures will be installed if deemed necessary in consideration of Health Canada guidelines for daytime and nighttime noise limits (Health Canada 2010).	C	Section 2.6.7.10
An emergency response plan will be developed as part of the Environmental Management Plan (EMP) and will include emergency spill response procedures for potential release of diesel fuel, hydraulic oil and all other types of synthetic oil, drill muds and hazardous materials, and hazardous wastes.	P/D, C, O/M	Section 2.6.7.10

Commitments	Timing of Implementation	EA Reference
Marine Environment		
All marine-based work undertaken by Canadian-registered vessels will comply with the requirements of the *Canada Shipping Act* .	C	Section 2.6.7.11
In recognition that the discharge of ballast water from ships is viewed as a principle vector for the introduction and spread of harmful aquatic organisms and pathogens, all ballast water management activities will comply with the Ballast Water Control and Management Regulations (updated Oct 31, 2012), under the *Canada Shipping Act,* and the Canadian Ballast Water Management Guidelines.	C	Section 2.6.7.11
All marine-based work undertaken by foreign vessels must be undertaken pursuant to a Coasting Trade Permit issued under the *Coasting Trade Act* , and will comply with applicable regulations under the International Maritime Organization Conventions including the International Convention for the Prevention of Pollution from Ships (MARPOL).	C	Section 2.6.7.11
All marine Project activities will be conducted in accordance with the requirements of the Canadian Coast Guard Marine Communication and Traffic Services (CCG-MCTS).	C	Section 2.6.7.11
Silt curtains may be used during dredging of the grounding site and breakwater construction to minimize the transportation of suspended sediments.	C	Section 2.6.7.11
Scheduling of Project activities will be coordinated through consultation with local fish harvesters and other stakeholders and best-efforts will be made to schedule activities to minimize interference with fisheries and other activities.	P/D, C	Section 2.6.7.11
Due diligence audits of vessels will be completed prior to mobilization.	P/D, C	Section 2.6.7.11
Vessel maintenance, inspection and certifications will be required prior to mobilization.	P/D, C	Section 2.6.7.11
Shipboard personnel will be qualified, trained and competent prior to mobilization.	P/D, C	Section 2.6.7.11
If required, a fish capture and relocation plan will be developed to ensure the safe removal of any fish trapped within the saltwater pond created during construction of the grounding elements. This plan will be referenced as a mitigative measure and will be available to DFO for review.	P/D, C	Section 2.6.7.11
All marine equipment used during construction will be examined and cleaned to prevent and control marine biofouling. All anti-fouling activities will comply with the Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals (2012), under the *Canada Shipping Act* , as well as requirements set out by Health Canada and the Pest Management Regulatory Agency regarding approved anti-fouling substances.	P/D, C	Section 2.6.7.11
Maintenance		
Prior to commissioning of the system, a comprehensive maintenance program specific to the Maritime Link will be developed.	P/D, O/M	2.8
Industry reliability best practices involve vegetation management which includes: • removal of trees and shrubs which may impede the reliable operation of the transmission system; • procedures for removal and control of vegetation will range from cutting to selective use of approved herbicides; • herbicides will be applied by certified applicators, in accordance with standard industry practices and applicable regulations; • work near wetlands and watercourses will adhere to the conditions of relevant permits; • compliance with Section 36(3) of the *Fisheries Act* which states that "…no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water." • the frequency of vegetation management will depend on the type of vegetation and the productivity of particular areas; and • vegetation management will comply with industry practices and applicable regulations.	O/M	2.8
Workforce Requirements		
Throughout the life of the Project, employment principles, policies, and procedures will be applied according to a Benefits Plan, and a Gender Equity and Diversity Plan, developed through benefits agreements with the Province of Newfoundland and Labrador and the Province of Nova Scotia, in accordance with the Memorandum of Agreement signed between the Provinces on November 28, 2011.	P/D, C, O/M	Section 2.11
Human resources planning will continue to develop strategies and measures to address employment equity, apprenticeship, and other recruitment and hiring issues.	P/D, C, O/M	Section 2.11
ENL is committed to supporting local employment and skills development, where economically feasible. ENL will continue to collaborate with government and other stakeholders in order to optimize Project employment benefits throughout the life of the Project.	P/D, C, O/M	Section 2.11.3.1
Throughout the Project, ENL will follow a schedule of monitoring and reporting to share information on the progress of initiatives, goals, and targets related to benefits, gender equity, and diversity. Reporting frequency will be consistent with the benefits agreement.	P/D, C, O/M	Section 2.11.3.3
Environmental Management		
Emera Companies exposed to environmental risks in their daily business, business alliances, partnerships or prospective ventures, will: • Make environmental considerations an integral part of decision making, as they pursue environmental performance, value to shareholders, and quality service to customers; • Develop, verify, and continually improve the EMS through strong management leadership and employee commitment; • Consider pollution prevention as the first option, in preference to control or clean-up; • Work with employees and customers to promote the most efficient use of resources and products and services; and • Communicate with all stakeholders on environmental performance in an open manner.	P/D, C, O/M	Section 2.12.1

Commitments	Timing of Implementation	EA Reference
The Project Environmental Management Plan (EMP) will be developed under the umbrella of the EMS and will encompass all environmental regulatory requirements and commitments made for the Project. This includes the formal conditions of the EA processes, as well as subsequent requirements of federal, provincial and/or municipal permitting (Authorizations, Approvals, Permits, Certificates, etc.) processes required for the Project. It also encompasses commitments made in this EA Report, which includes applicable compliance standards and/or industry best management practices.	P/D, C, O/M	Section 2.12.2
The Project EPP will be developed in consideration of the broad spatial (> 500 km) and temporal (> 3 years) boundaries for Project construction activities, to ensure effective and efficient implementation and compliance with regulatory and other requirements set out in the EMP. The EPP will incorporate: • means to comply with requirements of relevant legislation; • environmental protection measures identified as part of the Environmental Assessment; and • environmental commitments made as part of the Environmental Assessment.	P/D, C, O/M	Section 2.12.3
An Emergency Response Plan (ERP) for the Maritime Link Project is currently under development. The ERP will be based on the National Standard of Canada, CAN/CSA-Z731-03 (R2009): Emergency Preparedness and Response. As the Project progresses the ERP will be expanded to include plans for specific Project-related activities.	P/D, C, O/M	Section 2.12.4
Consultation and Engagement		
Public and Stakeholder Consultation		
ENL will continue to engage and consult with municipal government as the Project progresses including engagement with respect to the development and implementation of Community Liaison Committees (Section 3.1.5).	P/D, C, O/M	Section 3.1.1.1
ENL will continue to engage and consult with local residents as the Project progresses.	P/D, C, O/M	Section 3.1.1.2
ENL will continue to engage and consult with landowners as the Project progresses.	P/D, C, O/M	Section 3.1.1.3
As the Project progresses ENL will continue to engage commercial fish harvesters to identify, track, and address the concerns of the local commercial fishing industry. One method of engagement will be the implementation of a Fisheries Advisory Committee. This Committee will be developed in consultation with local fish harvesters and DFO, and in NL with the Fisheries, Food and Allied Workers Union. This Committee will assist in maintaining ongoing consultation with fish harvesters during all Project phases to avoid and/or minimize conflict with fishing activities and to communicate Project activities. Details regarding the Committee will be developed as the Project progresses.	P/D, C, O/M	Section 3.1.1.4
ENL will continue to engage and consult with special interest groups as the Project progresses.	P/D, C, O/M	Section 3.1.1.5
ENL will continue to engage and consult with economic interest groups as the Project progresses.	P/D, C, O/M	Section 3.1.1.6
ENL will continue to engage and consult with the public and stakeholders as the Project progresses. One of the ongoing methods of engagement will be the development of Community Liaison Committees (CLCs). The establishment of CLCs is another way in which ENL intends to build constructive working relationships within communities and promote community engagement. It is anticipated that there will be one CLC in Nova Scotia and, due to the geography of the Project, two on the island of Newfoundland.	P/D, C, O/M	Section 3.1.5
Another series of Open Houses will be held during the public comment period for the EA. The purpose of these Open Houses will be to provide Project updates, results of the EA and answer any questions related to the EA report and process.	P/D, C, O/M	Section 3.1.5
Aboriginal Engagement		
We intend to continue engaging with First Nations for the duration of the Project, promoting opportunities for mutual benefit, like training and employment, and building on this relationship for future projects.	P/D, C, O/M	Section 3.2
ENL is planning information sessions specifically for the Mi'kmaq in Nova Scotia, which are scheduled to take place in early 2013.	P/D	Section 3.2.1
ENL has committed to ongoing meetings to discuss concerns and economic opportunities for the NCNS membership.	P/D, C, O/M	Section 3.2.1
ENL will continue to engage the Qalipu to assess whether the Project will affect its members' current use of lands and resources for traditional purposes.	P/D	Section 3.2.2
ENL has committed to working with the Qalipu to address any information gaps identified through ongoing engagement.	P/D	Section 3.2.2
ENL is committed to working with the Mi'kmaq to identify opportunities for employment, training and capacity-building.	P/D, C, O/M	Section 3.2.4
NEWFOUNDLAND		
Caribou		
Mitigation		
Through Project design, the area of disturbance will be limited through the use of existing roads and by choosing routes that parallel existing linear features, where feasible.	P/D	Table 6.1.16
Obsolete work areas and temporary access roads will be decommissioned to encourage a return to natural conditions.	C, O/M	Table 6.1.16
The proposed routing has avoided primary core areas for calving and winter distribution. Any contemplated route adjustments will, where feasible, avoid these areas of sensitivity for caribou.	P/D, C	Table 6.1.16
Clearing limits will be marked and Project activities will be limited to designated areas, where feasible.	C	Table 6.1.16
Site-specific mitigation measures will be developed in consultation with NLDEC, and included in the EPP.	P/D	Table 6.1.16
Activity within the Primary Core Areas/66% kernel distributions will be limited during calving and post-calving season, as feasible.	C	Table 6.1.16
Areas identified as important movement paths will be avoided during high use periods, where feasible.	C	Table 6.1.16

Commitments	Timing of Implementation	EA Reference
Standard operating procedures will be developed and included in the EPP that specify required actions to be followed if caribou approach work sites. These procedures will include buffer zone distances and will specify permitted and restricted activities.	C	Table 6.1.16
Where feasible, NLDEC will be requested to provide the locations of any collared caribou within a specified distance from construction sites. Where feasible, such activities could be modified while caribou are within a specified distance (to be determined in consultation with NLDEC).	C	Table 6.1.16
A policy of no hunting or other harassment of wildlife by Project personnel will be developed which will prohibit possession of pets on the work site.	C	Table 6.1.16
The size of explosive charges will be limited during blasting activities. Three hours prior to any blasting, a visual reconnaissance of the area will be conducted to determine the presence of caribou; blasting will be delayed, where feasible, until caribou have left the area of their own accord.	C	Table 6.1.16
Access to Project-related roads and work areas will be restricted to site personnel, where feasible.	C	Table 6.1.16
Careful project planning and design will result in minimal changes in the ease of access to, and within, the Area of New Access. Maximum use of existing roads to gain access to the area, the routing of the transmission corridor through natural "break points" (major water crossings and steep rock slopes), coupled with limiting temporary construction trails, will reduce the potential for increased access and the attendant adverse effects on caribou arising from human interference.	P/D	Section 6.1.6
Follow-up and Monitoring		
All follow-up and monitoring for caribou undertaken by ENL will be developed collaboratively with the SDSS and Wildlife Division to determine the most effective and informative programs, as appropriate. This includes developing and refining proposed mitigation measures upon confirmation of the final routing of the transmission corridor.	P/D, C, O/M	Table 6.1.16
Analysis of caribou seasonal distribution following Project construction will be conducted to confirm predictions. Additional monitoring and follow-up activities could include continued collection and analysis of caribou distribution and movement data from telemetry collars, and aerial wildlife surveys of the Study Area following construction.	P/D, C, O/M	Table 6.1.16
SOCI		
Mitigation		
Detailed mapping, through the application of the ELC will be produced to identify the distribution and known locations of SOCI and associated habitat such that they can be considered during detailed design for avoidance during micrositing of Project routing, transmission tower and foundation placement, and timing of Project activities. Where ranges of mobile SOCI are known, (*e.g.*, Newfoundland marten), ENL will work with NLDEC and EC-CWS to plan appropriate routing through identified core areas and identified critical habitat within the Study Area.	C	Table 6.2.6
Reference will be made to the distribution of SOCI habitat when considering Project routing, transmission tower and foundation placement, and timing of Project activities. For example, various types of forested habitat have been identified as SOCI habitat for a number of SOCI that potentially exist within the Study Area—as a result, ENL will work to avoid identified SOCI habitat within the proposed alignment.	C	Table 6.2.6
Primary mitigation will be through project planning and scheduling of clearing activities, on a best effort basis, to avoid key migratory bird nesting periods. ENL recognizes that there are geographic differences in nesting periods over the length of the proposed transmission line and will request direction from regulatory agencies in this regard. Secondary mitigation will be the development and implementation of an avifauna management plan designed to reduce the likelihood of interaction; establish training protocols for personnel to identify active nests; and protocols for nesting surveys by trained ornithologists in advance of activities.	C	Table 6.2.6
The timing of any construction activities in the shoreline/intertidal zone will consider Harlequin Ducks, which may be found wintering near Cape Ray. Following confirmation of Project design and schedule, and in advance of construction activities, ENL will engage applicable regulatory departments to review final details and determine if specific mitigation programs are required.	C	Table 6.2.6
Allow establishment of shrub or scrub (*i.e.*, non-tree) vegetation in transmission corridors to the extent feasible, to promote their use by SOCI.	C	Table 6.2.6
Siting of landfall and grounding site to avoid bird SOCI nesting sites and fall migration feeding grounds.	C	Table 6.2.6
Only the amount of lighting required for safe operation of construction activities will be installed. Lights that are not necessary for a particular function will be turned off, and exterior lights will be shielded from above, where the need is identified. Minimal site security lighting will be maintained.	C	Table 6.2.6
Where feasible, watercourses will be avoided when planning transmission tower and foundation placement, and effective erosion and sedimentation controls will be used around all watercourses.	C	Table 6.2.6
The proposed alignment will avoid identified SOCI habitat, where possible. Where not possible, specialized considerations will be developed and implemented in accordance with regulatory requirements and in consultation with applicable regulatory agencies.	C	Section 6.2.4
Appropriate erosion and sedimentation controls will be implemented to stabilize the watercourse slopes/banks on either side and prevent sediment run-off into the watercourses.	C	Table 6.2.6
Clear vegetation in SOCI habitat by hand, and only remove trees in wetland habitats.	C	Table 6.2.6
Draw conductors in wetland habitats by hand or using light vehicles such as ATVs.	C	Table 6.2.6
Avian avoidance devices may be installed to minimize bird collisions with Project infrastructure in identified high risk areas.	C	Table 6.2.6
Adherence to the Project Environmental Management Plan (requirements of the EPP).	C	Table 6.2.6

Commitments	Timing of Implementation	EA Reference
Adherence to the Corporate EMS.	C, O/M	Table 6.2.6
Restrict use of herbicides in buffer areas around watercourses, and in areas where SOCI are known to occur. These areas will be considered as special management areas within the vegetation management plan.	O/M	Table 6.2.6
The transmission line will be routed through the Area of New Access to take account of natural "break points" (major water crossings and steep rock slopes). In addition, every effort will be made to use existing access roads and temporary transportation routes will be confined to the transmission corridor, where feasible.	P/D, C	Section 6.2.7
Possible cumulative effects on SOCI will be mitigated through compliance with provincial forestry guidelines, and by the natural regeneration of harvested areas in the vicinity of the Project.	C, O/M	Section 6.2.7
Follow-up and Monitoring		
ENL will implement a program to collect additional data on marten presence within the Project area using protocols developed by, and in consultation with, the Wildlife Division of NLDEC.	P/D, C, O/M	Table 6.2.6
Detailed mapping will be prepared using the ELC to identify the distribution and known locations of SOCI and associated habitat. This information will be utilized during detailed design to avoid sensitive areas and/or periods during micrositing of transmission infrastructure (*e.g* ., tower placement) to minimize interactions with SOCI. This information will be developed in consultation with the Wildlife Division of NLDEC and EC.	P/D, C	Table 6.2.6
Upon final selection of the grounding facility location, additional work will be undertaken to further characterize the sites.	P/D, C, O/M	Table 6.2.6
ENL will obtain all required permits for SOCI to construct and operate the Project.	P/D, C, O/M	Table 6.2.6
Socio-economic Environment		
Mitigation		
No treated wood poles will be used within known protected and unprotected water supply areas.	C, O/M	Table 6.3.11
Requirements laid out in the Policy for Land and Water Related Developments in Protected Public Water Supply Areas will be followed in protected and unprotected water supply areas.	C, O/M	Table 6.3.11
Where required, permits will be obtained under the Policy for Land and Water Related Developments in Protected Public Water Supply Areas, and all conditions of permits will be followed.	C, O/M	Table 6.3.11
If blasting is required in protected or unprotected water supply areas, a hydrological assessment will be carried out and mitigation and monitoring will be developed in consultation with NLDEC.	C	Table 6.3.11
A pre-blast survey of all structures (*e.g.,* homes, wells, etc.) will be completed within a radius of the blasting zone that is consistent with regulatory requirements. The survey will include, where applicable, analysis of well water quantity and quality (e.g., chemistry, bacteria).	P/D, C	Table 6.3.11
ENL will undertake a noise assessment where high-noise events and/or sustained noise-producing activities are planned (*e.g* ., converter stations, HDD locations). This assessment will identify noise receptors and quantify the potential effects of noise on those receptors.	P/D, C	Table 6.3.11
The protected and unprotected water supply areas will be considered no-herbicide zones and will be considered as special management areas in the vegetation management plan.	C, O/M	Table 6.3.11
Water supply wells will be avoided during final design and alignment if feasible.	P/D, C	Table 6.3.11
The EPP will contain a contingency plan for providing temporary water should a water supply well be affected.	C, O/M	Table 6.3.11
Standard mitigation described in Section 2.6.7 will be followed, including set-backs from bodies of water for materials storage, clearing, and groundbreaking activities, in addition to any mitigation prescribed by permits and policies regulating water supply areas. This mitigation will be applied to both protected and unprotected water supplies affected by the Project.	C, O/M	Section 6.3.8
The amount of new construction has been reduced in Project design by routing the Project adjacent to existing corridors (i.e., road and transmission) in many areas.	P/D	Section 6.3.8
Mitigation to protect private wells present within the Study Area will be in place, including contingency plans to provide temporary water and replace damaged wells, in the unlikely event that this should occur.	C, O/M	Section 6.3.8
Follow-up and Monitoring		
ENL will undertake a noise assessment where high-noise events and/or sustained noise-producing activities are planned (*e.g* ., converter stations, HDD locations). A plan will be developed and implemented to mitigate noise to the extent feasible (*e.g* ., installation of sound barriers, and/or timing restrictions on work).	P/D, C	Table 6.3.11
Archaeological and Heritage Resources		
Mitigation		
An archaeological assessment of the Project Study Area has been undertaken to determine areas of high archaeological potential.	P/D, C	Section 6.4.4
Avoidance of physical disturbance, where feasible, of areas of high archaeological potential and/or of known archaeological and heritage resources within the Study Area during final routing.	P/D, C	Table 6.4.5
Where avoidance of high potential areas for archaeological or heritage resources within the Project Study Area is not possible, archaeological testing will be undertaken to determine resources are present, in consultation with the Provincial Archaeology Office.	P/D, C	Table 6.4.5
Identified resources will be protected through avoidance, mitigation through archaeological recovery, or a combination of these measures. These activities will occur in advance of any Project-related ground disturbances, to the satisfaction of the Provincial Archaeology Office.	C	Table 6.4.5
Any excavations, or similarly invasive work, undertaken in areas of high potential will be completed with a qualified archaeologist present.	C	Table 6.4.5

Commitments	Timing of Implementation	EA Reference
The area of ground disturbance for the subsea cables will be assessed for archaeological resources using available geophysical data (e.g., side scan sonar, magnetometer), during final routing. Avoidance of potential marine archaeological resources is the primary form of mitigation for the Cabot Strait.	C	Table 6.4.5
Provide the Provincial Archaeology Office and/or the Provincial Museum palaeontological staff the opportunity to examine any newly exposed bedrock known or suspected to contain fossils.	C	Table 6.4.5
If unexpected archaeological and heritage resources are encountered during construction activities, the EPP will contain a contingency plan for this situation.	C	Table 6.4.5
The mitigation of any archaeological sites discovered through further field work will be carried out by a permitted professional archaeological team conducted under permit by the Provincial Archaeology Office.	P/D, C, O/M	Table 6.4.5
Follow-up and Monitoring		
The objective during Project planning is to avoid areas with known archaeological resources. Areas designated as "high potential" for archaeological resources through surveys completed to date will be avoided, where possible. If these areas cannot be avoided archaeological testing will be undertaken to determine if resources are present. Identified resources will be protected through avoidance and/or mitigation through archaeological recovery, in consultation with the PAO. Any excavations, or other similar disturbances, undertaken in areas of high potential, will be completed with a qualified archaeologist present. As required, protocols will be developed in Project EPPs to govern such undertakings.	P/D, C, O/M	Table 6.4.5
Upon final selection of the grounding facility location, an archaeological assessment will be undertaken to characterize the proposed site.	P/D, C, O/M	Table 6.4.5
CABOT STRAIT		
SOCI		
Mitigation		
Compliance to provincial and federal legislation, permits, approvals and guidelines.	C, O/M	Table 7.1.4
Adherence to the Project Environmental Management Plan (requirements of the EPP).	C, O/M	Table 7.1.4
Siting of landfall and grounding sites to avoid bird SOCI nesting sites and fall migration feeding grounds where feasible.	P/D, C	Table 7.1.4
Install only the amount of lighting required for safe operation of construction activities.	P/D, C	Table 7.1.4
Design of the grounding sites will consider ways to minimize the footprint of in-water structures such as the breakwater (*e.g.* , materials choice, construction methods).	P/D, C	Table 7.1.4
Use best management practices for reducing interaction with marine birds, including: o vessels travelling at reduced speeds to minimize underwater acoustic emissions and collision with marine mammals and marine reptiles; o restriction of boat traffic to construction zone where feasible; o minimizing the use of ship's whistles; and o restricting night lighting where practical and safe to do so.	C, O/M	Table 7.1.4
Vehicle bans (under the *Motorized Snow Vehicles and All-Terrain Vehicles Act* and Regulations) will be adhered to for the beaches in the Grand Bay West to Cheeseman Provincial Park Important Bird Area (IBA) to protect nesting Piping Plovers from disturbance and destruction.	C, O/M	Table 7.1.4
Vessel speeds should not exceed 26 km/hr (14 knots) where practical to reduce potential for collisions with marine mammals.	C, O/M	Table 7.1.4
The timing of any construction activities in the shoreline/intertidal zone will consider Harlequin Ducks, Barrow's Goldeneye, and Red Knot, which may be utilizing the area near Cape Ray for wintering or migratory stopover purposes. Following confirmation of Project design and schedule, and in advance of construction activities, ENL will engage applicable regulatory departments to review final details and determine if specific mitigation programs are required.	C, O/M	Section 7.3.4
Mitigation measures include prohibition of illegal dumping of bilge water/wastewater, and the rapid containment and cleanup of hydrocarbon spills.	C, O/M	Section 7.1.7
Discharges from the Project will comply with Annex 1 of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) and Pollution Prevention Regulations of the *Canada Shipping Act* .	C, O/M	Section 7.1.7
Follow-up and Monitoring		
Upon selection of the route of the subsea cable, ENL will further characterize the geophysical and biological environment potentially affected by cable laying activities to identify and minimize or avoid potential interactions with SOCI. This work will be conducted to support regulatory permit processes.	N/A	Table 7.1.4
Commercial Fisheries		
Mitigation		
Notice to Mariners and Notice to Shipping will be published to inform vessel operators of navigational hazards during construction and operations.	C, O/M	Table 7.2.5
Project vessels will comply with all applicable legislation, codes and standards of practice for safe navigation.	C, O/M	Table 7.2.5
ENL will maintain ongoing consultation with fish harvesters during all Project phases including cable laying operations to reduce conflict with fishing activities.	C, O/M	Table 7.2.5
Any Project-related loss or harmful alteration of fish habitat will be addressed through application under the *Fisheries Act* , as applicable, including the requirement to comply with no-net-loss provisions of DFO policy.	C	Section 7.2.7
The new cables will be buried or bermed in the relatively shallow waters that are routinely fished.	C, O/M	Section 7.2.7
The new Project-related subsea infrastructure will be located on marine charts thus allowing commercial fish harvesters to note any potential obstructions.	O/M	Section 7.2.7

Commitments	Timing of Implementation	EA Reference
Follow-up and Monitoring		
In consultation with local fish harvesters and DFO, and in NL with the Fisheries, Food and Allied Workers Union, ENL will implement a Fisheries Advisory Committee. This committee will assist in maintaining ongoing consultation with fish harvesters during all Project phases to avoid and/or minimize conflict with fishing activities and to communicate Project activities. Details regarding the Committee will be developed as the Project progresses.	P/D, C, O/M	Table 7.2.5
Follow-up and monitoring associated with the Marine Environment VEC, related to commercial fisheries, will be developed in consultation with the fisheries representatives.	P/D, C, O/M	Table 7.2.5
Marine Environment		
Mitigation		
Project components will be designed to minimize the area of disturbance to the extent feasible.	P/D, C	Table 7.3.4
HDD will be used to bury the subsea cables and thereby avoid mortality and disturbance in the nearshore marine environment at both landfall sites.		Table 7.3.4
Cable trenching depth will vary across the Cabot Strait but generally depth of cable laying has inherent magnetic field mitigation value by increasing the vertical distance between cable and seabed.	C	Table 7.3.4
Typical vessels utilized for cable laying activities have transit speeds of approximately 19 km/hr (10 knots) and cable laying speeds of approximately 0.5 km/hr (0.3 knots) which are slow and will result in minimizing underwater acoustic emissions and risk of collision with marine mammals and marine reptiles.	C	Table 7.3.4
If the leveling of the seabed or dredging and infilling (*i.e.* , rock berms at the grounding sites) activities constitute a HADD, pursuant to Section 35(2) of the *Fisheries Act* , a habitat compensation plan may need to be developed in accordance with the DFO *Policy for the Management of Fish Habitat* and the no-net-loss guiding principle.	C	Table 7.3.4
The Project will be designed such that GPR on the sea side of the rock berm during monopole operation for both grounding sites will be <1.25 V/m.	P/D	Section 7.3.4
Fill material for the rock berms to be free of fines, debris and any substances that would be deleterious to the marine environment.	C	Table 7.3.4
Silt curtains will be used during grounding site dredging and breakwater construction to minimize the transport of suspended sediments by water currents.	C	Table 7.3.4
Following detailed design of the HDD exit location (*i.e* . drill short or drill through), mitigations such as altering drilling mud composition and the use of divers and/or suction equipment may be option depending on geological conditions and appropriate safe work conditions. The primary mitigation is ensuring experienced control over the mud system and drill bit steering (telemetry system) allowing for proactive instead of reactive decisions.	C	Table 7.3.4
Compliance with stipulations in in the *Fisheries Act* authorizations for HADD and Section 32 approval. In particular, habitat compensation programs will be designed, if necessary, to comply with the DFO objective of no-net-loss of the productive capacity of fish habitat.	C	Table 7.3.4
Use best management practices for reducing interactions with marine populations, including: ● vessels travelling at reduced speeds to minimize underwater acoustic emissions and collision with marine mammals and marine reptiles. ● restriction of vessel traffic to construction zone where feasible. ● minimizing the use of ship's whistles; and ● restricting night lighting where practical and safe to do so.	C, O/M	Table 7.3.4
Project vessels will comply with applicable legislation, codes and standards of practice for shipping, including the Ballast Water Control and Management Regulations under the *Canada Shipping Act* to reduce risk of introduction of marine invasive species.	C, O/M	Table 7.3.4
Bury the subsea cables by trenching or rock berms, where feasible, to minimize marine species from encountering the strongest magnetic fields.	O/M	Table 7.3.4
Mitigation measures include prohibition of illegal dumping of the bilge water/wastewater, and the rapid containment and cleanup of hydrocarbon spills. Discharges from Project vessels will comply with Annex 1 of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) and Pollution Prevention Regulations of the *Canada Shipping Act* .	C, O/M	Section 7.3.7
Any HADD associated with the marine components of the Maritime Link will include compensation for no-net-loss of habitat.	C	Section 7.3.7
Follow-up and Monitoring		
ENL will develop a pre-construction study and monitoring program to verify potential effects of magnetic fields on migration of benthic organisms for relevant fisheries. An adaptive management approach will be taken to refine and optimize mitigation, if required.	P/D, O/M	Table 7.3.4
ENL will develop a pre-construction study and monitoring program to verify potential effects of emissions associated with the operation of grounding facilities. An adaptive management approach will be taken to refine and optimize mitigation, if required.	P/D, O/M	Table 7.3.4
Current Use of Lands and Resources for Traditional Purpose by the Mi'kmaq		
Mitigation		
As recommended in the Project-specific MEKS report, "the traditional use activities of the Mi'kmaq [will] be reflected upon in the overall environmental presentation."	P/D, C, O/M	Table 7.4.5
Mitigation associated with the following VECs will be implemented: • SOCI VEC (Section 7.1); • Commercial Fisheries VEC (Section 7.2); • Marine Environment VEC (Section 7.3); and • Archaeological and Heritage Resources (Section 8.3).	P/D, C, O/M	Table 7.4.5

Commitments	Timing of Implementation	EA Reference
Locations and activities of cable laying vessels will be identified and published by the Canadian Coast Guard through Notice to Shipping and Notice to Mariners.	O/M	Section 7.4.7
Any Project-related harmful loss or alteration of fish habitat will be addressed through application under the *Fisheries Act* , as applicable, including habitat compensation to comply with no-net-loss provisions of DFO policy.	C	Section 7.4.7
The new cables will be trenched or bermed in the relatively shallow waters that are routinely fished.	C, O/M	Section 7.4.7
The new Project-related subsea infrastructure will be located on marine charts thus allowing traditional fish harvesters to note any potential obstructions.	O/M	Section 7.4.7
Follow-up and Monitoring		
Upon final selection of the grounding facility location the MEKS will be amended to further characterize the sites.	P/D, C, O/M	Table 7.4.5
ENL will continue to engage with the Mi'kmaq of NS with respect to Mi'kmaq fisheries that interact with Project activities and components. Specifically, this could involve updating fisheries studies for the proposed grounding site in NS.	P/D, C, O/M	Table 7.4.5
NOVA SCOTIA		
SOCI		
Mitigation		
Detailed mapping, through the application of the ELC will be produced to identify the distribution and known locations of SOCI and associated habitat such that they can be considered during detailed design for avoidance during micrositing of Project routing, transmission tower and foundation placement, and timing of Project activities. Where ranges of mobile SOCI are known, ENL will work with NSDNR and EC-CWS to plan appropriate routing through identified core areas and identified critical habitat within the Study Area.	P/D, C	Table 8.1.6
Reference will be made to the distribution of SOCI habitat when considering Project routing, transmission tower and foundation placement, and timing of Project activities. For example, various types of forested habitat have been identified as SOCI habitat for a number of SOCI that potentially exist within the Study Area—as a result, ENL will work to avoid identified SOCI habitat within the proposed alignment.	P/D, C	Table 8.1.6
Primary mitigation will be through project planning and scheduling of clearing activities, on a best effort basis, to avoid key migratory bird nesting periods. ENL recognizes that there are geographic differences in nesting periods over the length of the proposed transmission line and will request direction from regulatory agencies in this regard. Secondary mitigation will be the development and implementation of an avifauna management plan designed to reduce the likelihood of interaction; establish training protocols for personnel to identify active nests; and protocols for nesting surveys by trained ornithologists in advance of activities.	C	Table 8.1.6
Develop a mitigation plan, in consultation with NSDNR to avoid disturbance to potential bat hibernacula.	C	Table 8.1.6
Allow establishment of shrub or scrub (*i.e.,* non-tree) vegetation in transmission corridors to the extent feasible, to promote their use by SOCI.	C, O/M	Table 8.1.6
Only the amount of lighting required for safe operation of construction and operations activities will be installed. Lights that are not necessary for a particular function will be turned off, and exterior lights will be shielded from above, where the need is identified. Minimal site security lighting will be maintained.	C, O/M	Table 8.1.6
Consider watercourse locations when planning transmission tower and foundation placement.	P/D, C	Table 8.1.6
Appropriate erosion and sedimentation controls will be implemented to stabilize the watercourse slopes/banks on either side and prevent sediment run-off into the watercourses.	C	Table 8.1.6
Avoid wetland habitats where feasible.	C	Table 8.1.6
Clear vegetation in SOCI habitat by hand, and only removie trees in wetland habitats.	C	Table 8.1.6
Draw conductors in wetland habitats by hand or using light vehicles such as ATVs.	C	Table 8.1.6
Avian avoidance devices may be installed to minimize bird collisions with Project infrastructure in identified high risk areas.	C	Table 8.1.6
Adherence to the Project Environmental Management Plan (requirements of the EPP).	C	Table 8.1.6
Adherence to the Corporate EMS.	O/M	Table 8.1.6
Restrict use of herbicides in buffer areas around watercourses, and in areas where SOCI are known to occur. These areas will be considered as special management areas within the vegetation management plan.	O/M	Table 8.1.6
Mitigation will be employed to reduce potential disturbance to marine and terrestrial SOCI species.	C, O/M	Section 8.1.7
Fragmentation can be mitigated through construction of fish passage structures, (*e.g.* , culverts), at road and highway watercourse crossings. Furthermore, transmission lines will typically span watercourses without the need for in-water work, thereby minimizing additional fish habitat fragmentation.	C, O/M	Section 8.1.7
Potential cumulative effects on SOCI will be mitigated as a result of compliance with provincial forestry guidelines, and by the natural regeneration of harvested areas in the vicinity of the Project.	C, O/M	Section 8.1.7
Follow-up and Monitoring		
Detailed mapping will be prepared using the ELC to identify the distribution and known locations of SOCI and associated habitat. This information will be utilized during detailed design to avoid sensitive areas and/or periods during micrositing of transmission infrastructure (*e.g.* , tower placement) to minimize interactions with SOCI. This information will be developed in consultation with NSDNR and EC.	N/A	Table 8.1.6
Upon final selection of the grounding facility location additional work will be undertaken to further characterize the sites.	N/A	Table 8.1.6
ENL will obtain all required permits for SOCI to construct and operate the Project.	N/A	Table 8.1.6

Commitments	Timing of Implementation	EA Reference
Socio-economic Environment		
Mitigation		
Work undertaken within the Pottle Lake Watershed Protected Water Area will be done in compliance with the requirements specified in the draft Pottle Lake Source Water Protection Plan (CBRM 2010). These requirements are based on the following documents: • Pottle Lake Watershed Protected Water Area Regulations; • Best Management Practices/Forest Planning in Municipal Drinking Water Supply Areas, Nova Scotia (NSE 2005); and • General Provisions for Pesticide Use in Nova Scotia. These documents contain best management practices to reduce potential environmental effects.	C	Section 8.2.3
In addition to the requirements of any permits, standard construction mitigation described in Section 2.6.7 will mitigate potential interactions with water supply areas. These include set backs from water bodies for clearing, groundbreaking activities, materials storage, and fuelling.	C	Section 8.2.3
The CBRM Planning and Development Department will be contacted as part of the planning process.	P/D	Section 8.2.3
Blasting will not be carried out within the Pottle Lake Watershed Protected Water Area.	C	Section 8.2.3
As noted in the draft Pottle Lake Source Water Protection Plan, ENL recognizes the Protected Water Area as a no-herbicide zone. This designation will be reflected in the EMP for the Project and the CBRM Planning and Development Department will be contacted before any work is planned in this area.	C, O/M	Section 8.2.3
Any work undertaken within the proposed EGSPA land parcel #222 that contains both the Little Lorraine and Big Lorraine grounding site options, will be contained within a small area and restricted to the southern-most corner of the parcel. All standard construction mitigation, described in Section 2.6.7, for wetlands, watercourses, and flora and fauna, including avifauna, will be implemented to reduce any potential environmental effects.	C	Section 8.2.3
Land parcel #222 is part of the 12 percent land review under EGSPA and may be designated in the future as a protected area. This potential designation will be reflected in the EMP for the Project and EGSPA will be contacted before any work is planned in this area.	C	Section 8.2.3
During Project construction, trails used by ATVs and snowmobiles may need to bypass active construction areas. ENL will work with the SANS to identify appropriate bypass routes, if required. Appropriate signage will be used to notify trail users of any detours.	C	Section 8.2.3
A plan will be developed and implemented to mitigate noise to comply with existing regulatory requirements. This plan may include the installation of sound barriers, and/or timing restrictions on work. As discussed in Section 2.6.7, mitigation best practices for noise during construction will be implemented.	C	Section 8.2.3
Project design will maximize use of existing roads and transmission lines thereby reducing the amount of additional land that will be disturbed.	P/D	Section 8.2.3
Harvesting timber on private lands will be subject to agreement of a legal interest in the land and/or a timber harvesting agreement.	C	Section 8.2.3
ENL will seek the appropriate development permit from the CBRM, and will follow requirements of that permit during Construction and Operations and Maintenance activities.	C, O/M	Section 8.2.3
A majority of the transmission route will be constructed parallel with, or adjacent to, existing transmission lines. In areas where transmissions lines converge ENL will continue to engage landowners to identify routing alternatives.	P/D, C	Section 8.2.3
Local suppliers of goods and services (*e.g.* , construction, accommodations, materials) will be provided with an opportunity to learn about the Project and register their interest for involvement at supplier information sessions.	P/D, C	Section 8.2.3
Infrastructure inspection and repair and vegetation management will be undertaken in accordance with mitigation described in Section 2.6.7 and the EPP.	O/M	Section 8.2.3
Follow-up and Monitoring		
ENL will undertake a noise assessment where high-noise events and/or sustained noise-producing activities are planned (*e.g.* , converter stations, HDD locations). A plan will be developed and implemented to mitigate noise to the extent feasible (e.g., installation of sound barriers, and/or timing restrictions on work). With the implementation of proposed mitigation described for the Socio-Economic Environment VEC, and in consideration of the residual environmental effects rating criteria, no additional monitoring is planned at this time. Additional work and/or monitoring may be required pending the results of mitigation required for the Project.	C	Section 8.2.6
Archaeological and Heritage Resources		
Mitigation		
An archaeological assessment of the Project Study Area has been undertaken to determine areas of high archaeological potential.	P/D	Table 8.3.5
Avoidance of physical disturbance, where feasible, of areas of high archaeological potential and/or of known archaeological and heritage resources within the Study Area during final routing	P/D, C	Table 8.3.5
Where avoidance of high potential areas for archaeological or heritage resources within the Project Study Area is not possible, archaeological testing will be undertaken to determine resources are present, in consultation with the Provincial Heritage Division.	P/D, C	Table 8.3.5
Identified resources will be protected through avoidance, mitigation through archaeological recovery, or a combination of these measures. These activities will occur in advance of any Project-related ground disturbances, to the satisfaction of the Provincial Heritage Division.	P/D, C	Table 8.3.5
Any excavations, or similarly invasive work, undertaken in areas of high potential will be completed with a qualified archaeologist present.	P/D, C, O/M	Table 8.3.5

Commitments	Timing of Implementation	EA Reference
The area of ground disturbance for the subsea cables will be assessed for archaeological resources using available geophysical data (*e.g.*, side scan sonar, magnetometer), during final routing. Avoidance of potential marine archaeological resources is the primary form of mitigation for the Cabot Strait.	P/D, C	Table 8.3.5
Provide the provide NSDNR and/or the Provincial Museum paleontological staff the opportunity to examine any newly exposed bedrock known or suspected to contain fossils.	C	Table 8.3.5
If unexpected archaeological and heritage resources are encountered during construction activities, the EPP will contain a contingency plan for this situation.	C	Table 8.3.5
Paleontological assessment will be completed prior to ground disturbance in areas of high fossil potential near Point Aconi.	P/D, C	Table 8.3.5
Follow-up and Monitoring		
The objective during Project planning is to avoid areas with known archaeological resources. Areas designated as "high potential" for archaeological resources through surveys completed to date will be avoided where possible. If these areas cannot be avoided archaeological testing will be undertaken to determine if resources are present. Identified resources will be protected through avoidance and/or mitigation through archaeological recovery, in consultation with the Provincial Heritage Division. Any excavations, or other similar disturbances, undertaken in areas of high potential will be completed with a qualified archaeologist present. As required, protocols will be developed in Project EPPs to govern such undertakings.	P/D, C, O/M	Table 8.3.5
Upon final selection of the grounding facility location, an archaeological assessment will be undertaken to characterize the proposed site.	P/D, C, O/M	Table 8.3.5
Current Use of Land and Resources for Traditional Purposes by the Mi'kmaq		
Mitigation		
As recommended in the Project-specific MEKS report, "the traditional use activities of the Mi'kmaq [will] be reflected upon in the overall environmental presentation".	P/D, C, O/M	Table 8.4.5
Mitigation measures associated with the following VECs will be implemented: • Commercial Fisheries (Section 7.2); • SOCI (Section 8.1); • Socio-economic Environment (Section 8.2); and • Archaeological and Heritage Resources (Section 8.3).	P/D, C, O/M	Table 8.4.5
The risk of habitat fragmentation and increased access are reduced to the extent that new infrastructure will be incorporated within, or run parallel with, existing developed corridors.	P/D, C	Section 8.4.7
Potential fragmentation of fish habitat associated with linear development is mitigated through construction of fish passage structures, *e.g.*, culverts, at road and highway watercourse crossings. These structures are installed and maintained in compliance with the terms and conditions of a provincial Watercourse Alteration Approval, as well as federal and provincial construction specifications and operational statements	C, O/M	Section 8.4.7
Transmission lines will typically span watercourses without the need for in-water work, thereby avoiding potential direct effects on fish, fish habitat, and fish passage. In addition, ENL will follow internal protocols (currently used by NSPI) designed to protect freshwater resources crossed by their power lines, including during clearing activities and regular maintenance.	C, O/M	Section 8.4.7
The Project will follow an existing transmission corridor between Point Aconi Generating Station and Woodbine, and an existing road RoW to the grounding facility.	P/D, C	Section 8.4.7
Potential forestry-related cumulative effects on Mi'kmaq land and resource use will, in essence, be mitigated through compliance with provincial forestry policy and regulations (including restrictions on clear cutting) and by the natural regeneration of harvested areas.	C, O/M	Section 8.4.7
Follow-up and Monitoring		
Upon final selection of the grounding facility location the MEKS will be amended to further characterize the sites.	P/D, C, O/M	Table 8.4.5
EFFECTS OF THE ENVIRONMENT ON THE PROJECT		
Geophysical Hazards		
Slope Instability		
Detailed geotechnical investigations and methods and materials to be used at each location.	P/D, C	Section 9.1.1.2
The construction of landslide barriers and catch ditches in unstable areas will be used so that debris is contained before impacting infrastructure.	C	Section 9.1.1.2
Geotechnical Considerations		
Detailed geotechnical investigations and assessments will be undertaken before construction to determine the stability and composition of the soil and underlying geology, the results of which will be factored into site-specific design and site preparation before construction commences.	P/D	Section 9.1.2.2
Construction may include additional stabilizing measures such as replacing in-situ materials to increase stability, sub-base preparation, and the use of guy-wires, as required.	C	Section 9.1.2.2
Karst Topography		
For most of the route the new transmission line will follow an existing transmission corridor.	C	Section 9.1.3.2
Detailed geotechnical investigations and assessments will be undertaken before construction to determine the stability and composition of the soil and underlying geology.	P/D	Section 9.1.3.2
NSDNR will be engaged to provide information on the known location of karst landforms that might need to be avoided or which would require specific mitigation measures.	P/D	Section 9.1.3.2
Seismic Events		
To reduce the impact on Project infrastructure, Project components will be designed and installed according to relevant CSA design and National Standards of Canada for local seismic risk (*e.g.*, CAN/CSA-S832-06 (R2011) - Seismic Risk Reduction of Operational and Functional Components (OFCs) of Buildings).	P/D, C	Section 9.1.4.2

Commitments	Timing of Implementation	EA Reference
Where required, the construction of landslide barriers and catch ditches in unstable areas will be used so that debris is contained before impacting infrastructure.	C	Section 9.1.4.2
Climate Effects		
Extreme Weather		
Project components will be designed and installed according to relevant CSA design standards and National Standards of Canada (e.g., CAN/CSA-C22.3 No. 1-10 - Overhead Systems and CAN/CSA-C22.3 No. 60826-10 - Design Criteria of Overhead Transmission Lines).	P/D, C	Section 9.2.1.2
Work risk assessments are conducted prior to the commencement of work. At-risk work will be suspended during weather events where lightning is a known possibility, and where risk to workers is identified.	P/D, C	Section 9.2.1.2
The design and installation of Project components will take into account the potential risk indicated by meteorological data (*e.g.* , tower cable sag allowance will consider typical ice loads).	P/D, C	Section 9.2.1.2
Rain is an expected work condition and the construction schedule will allow for reasonable rain delays for relevant work activities. The EMP will include provisions for site drainage; sedimentation and erosion control will be designed to withstand extreme rain so that facility structures are not put at risk.	C	Section 9.2.1.2
Erodible soils on the construction sites will be mitigated using appropriate site drainage and sedimentation control measures. Contractors will use the principles of erosion and sedimentation control detailed in Section 2.6.7 at all sites where soil or sub-soil has been exposed and there is potential for erosion.	C	Section 9.2.1.2
Climate Change		
Potential effects of climate change and sea level rise on construction and operation will be considered and incorporated in the planning and design of Project infrastructure to minimize the potential for long-term damage.	P/D	Section 9.2.2.2
Inspection and maintenance programs will prevent the deterioration of the infrastructure and will help to maintain it in compliance with applicable codes and standards.	O/M	Section 9.2.2.2
Infrastructure will be designed to a standard appropriate for the level of risk. Overland structures (*e.g.,* towers, grounding site breakwater) will be designed to a 1:50 year return period weather event with potential design enhancements in certain locations depending on climatic conditions (*e.g.* , ice loading, wind, etc.). In the marine environment, the subsea cable protection will be designed for a 1:1000 year contact rate with the potential for enhancements in specific locations depending on factors influencing contact risk (*e.g.* , iceberg, pack ice, local geology, *etc* .).	P/D	Section 9.2.2.2
Storm water infrastructure will be designed to withstand predicted increases in precipitation.	P/D	Section 9.2.2.2
The berms constructed as part of the grounding sites facilities will be designed to applicable standards for storm surge and coastal erosion.	P/D	Section 9.2.2.2
The ERP will include procedures for responding to extreme climate conditions such as storms and flooding to protect workers and the public as well as the security and integrity of infrastructure.	C, O/M	Section 9.2.2.2
Because the effects of climate change are difficult to predict in advance, an adaptive management program will be developed to monitor early warning signs for structural weakness or risk due to climate change and rising sea levels.	O/M	Section 9.2.2.2
Wild Fires		
The ERP will describe fire-related emergency response capability, emergency response plans, and required training. If fire were to break out in direct proximity to the Project, emergency measures would be in place to protect workers and the public and quickly control and extinguish the flames. Work sites and Project facilities will be supplied with fire suppression equipment including water-packs and shovels. If a fire occurs the appropriate personnel and agencies will be notified immediately. Depending on the nature of the fire, site evacuation may be required.	C, O/M	Section 9.3.1.2
Marine Hazards		
Icebergs/Pack Ice		
The results of a Project-specific iceberg/pack ice study that investigated and modelled potential risks will be considered in Project design and construction. Recommendations of the report will continue to influence various aspects of Project planning and design; for example the cable landfall (HDD), and cable protection (two counter-helical armour layers of galvanized steel wires wrapped in polypropylene or polyethylene for further protection from abrasion). Grounding site equipment will be installed inside protective berms and subsea cables will be buried in areas of potential ice scour as a primary means of protection. The cable design will also incorporate a protective wire outer sheath.	P/D	Section 9.4.1.2
Ocean Currents		
Subsea infrastructure will be built to withstand ocean currents and storm events typically found within the region.	P/D	Section 9.4.2.2
In the nearshore areas in water depths up to 200 m cables will be buried below the seabed to avoid interaction with pack ice. This burial will have a secondary benefit of avoiding scour of supporting materials under the cable due to sediment transfer from strong ocean currents.	C, O/M	Section 9.4.2.2
In water depths up to 20 m, the cable will be routed through conduits installed in boreholes that will be drilled out into the seabed from the landfall locations by HDD.	C, O/M	Section 9.4.2.2
After cable placement, subsea video inspection with ROVs will be conducted at prescribed intervals to monitor the installation conditions and to determine any maintenance that may be required.	C, O/M	Section 9.4.2.2
Seismic Activity and Tsunamis and Barotropic Waves		
Project design and construction will consider the risks and potential for seismic events, rogue waves, and/or tsunami events through a review of available information and modeling.	P/D	Section 9.4.3.2
Project infrastructure will be designed to withstand seismic events; rogue waves, and/ or tsunami events as prescribed through industry standards.	P/D	Section 9.4.3.2

Commitments	Timing of Implementation	EA Reference
Seabed Physiography and Geology		
The results of the detailed marine survey completed in 2011 will be used to select a route for the cable to avoid any potentially problematic seabed features.	P/D	Section 9.4.4.2
A sediment transport study was completed and results will provide information on the location of physiographic formations within the Study Area. These have been characterized with respect to the potential location (placement and depth) and design of the subsea cables.	P/D	Section 9.4.4.2
ACCIDENTS AND MALFUNCTIONS		
Health, Safety and Security Management Plan		
ENL believes sound health and safety performance is fundamental to successful business performance. It is therefore the requirement and expectation of the ENL Project Management Team that all personnel associated with the Project shall play an integral part in the full implementation of the health and safety management strategy, performing at the highest possible levels and fostering a focus on continuous improvement in health and safety.	C, O/M	Section 10.2
Electrical Hazards		
Project Design and Mitigation to Minimize Risk		
Emera's downed tower response procedures will be included in the ERP.	C, O/M	Section 10.3.2
Transmission towers will be designed and installed according to CSA standards and National Standards of Canada (e.g., CAN/CSA-C22.3 No. 1-10 - Overhead Systems and CAN/CSA-C22.3 No. 60826-10 - Design Criteria of Overhead Transmission Lines).	P/D, C	Section 10.3.2
Project components will be maintained and potential issues will be identified.	O/M	Section 10.3.2
Safe operating procedures will be established for work activities.	C, O/M	Section 10.3.2
ENL's safety and environmental policies will be followed.	C, O/M	Section 10.3.2
Proper signage and public warning will be installed around project components/facilities (*e.g.,* "High Voltage", "No Anchoring").	C, O/M	Section 10.3.2
Overhead wire markers will be installed across major water crossings.	O/M	Section 10.3.2
Physical safeguards will be implemented such as security fences surrounding facilities.	O/M	Section 10.3.2
Access to facilities will be restricted to authorized personnel only.	O/M	Section 10.3.2
The use of lighting will be incorporated around Project components (*e.g.* , converter stations and grounding sites) to discourage vandalism and loitering.	O/M	Section 10.3.2
The location of cables will be authorized through Transport Canada's Navigable Waters Protection Program. Marine Charts will also be updated to indicate the location of cables.	C, O/M	Section 10.3.2
A Notice to Mariners will be issued to publish the location of the subsea cables.	O/M	Section 10.3.2
Subsea cables will be protected to mitigate potential contact.	O/M	Section 10.3.2
HVdc and HVac conductor separation distance will be sufficient to prevent accidental electrocution to perching avifauna.	O/M	Section 10.3.2
Emergency Response		
If an electrical hazard is discovered, the appropriate personnel, authorities and ENL will be notified immediately.	C, O/M	Section 10.3.3
Construction and operational staff will be trained in the proper procedures to manage an electrical hazard.	C, O/M	Section 10.3.3
The necessary personal protective equipment will be used when managing an electrical hazard.	C, O/M	Section 10.3.3
A downed live wire will be de-energized until the threat of electrocution is eliminated.	C, O/M	Section 10.3.3
Protocols for dealing with downed conductors and live wires will be included in the ERP.	C, O/M	Section 10.3.3
Tower Failure		
Project Design and Mitigation to Minimize Risk		
Downed tower response procedures are included in Emera's existing procedures and will be included the Project ERP.	C, O/M	Section 10.4.2
Infrastructure will be designed to a standard appropriate for the level of risk. Overland structures (e.g., towers, grounding site breakwater) will be designed to a 1:50 year return period weather event with potential enhancements in certain locations depending on climatic conditions (e.g., ice loading, wind, etc.).	P/D	Section 10.4.2
Towers will be designed, built, and installed by experienced and trained industry contractors.		Section 10.4.2
The EPP will detail the procedures to be followed in case of an accident and will include staff and contractor training requirements as well as emergency contact numbers, including fire responders.	C, O/M	Section 10.4.2
Emergency Response		
If an electrical hazard is discovered the appropriate personnel, authorities and ENL will be notified immediately.	C, O/M	Section 10.4.3
Relevant construction and operational staff will be trained in the proper procedures to manage a tower failure.	C, O/M	Section 10.4.3
The necessary personal protective equipment will be used when managing an electrical hazard.	C, O/M	Section 10.4.3
A downed live wire will be de-energized until the threat of electrocution is eliminated.	C, O/M	Section 10.4.3
Protocols for downed conductors and live wires will be developed for the ERP.	C, O/M	Section 10.4.3
Hazardous Material Spills		
Project Design and Mitigation to Minimize Risk		
Terrestrial Spills		
Fuels and lubricants will be stored in approved containers in designated areas, located at least 100 m from known watercourses, wetlands, and water supply areas (including the known location of private wells).	C, O/M	Section 10.5.2.1

Commitments	Timing of Implementation	EA Reference
Where feasible, refueling in the field will not occur within 30 m of watercourses and water supply areas (including the known location of private wells). Where equipment is located near a wetland and must be refueled at that location, special precautions will be used to prevent spilled fuel from entering any sensitive receptors.	C, O/M	Section 10.5.2.1
Permanent storage areas for containers or drums will be clearly identified.	C, O/M	Section 10.5.2.1
Storage areas will have secondary containment as required by regulation.	C, O/M	Section 10.5.2.1
Storage of hazardous materials will comply with WHMIS requirements. Appropriate material safety data sheets (MSDS) will be located at the storage site.	C, O/M	Section 10.5.2.1
Transportation of dangerous goods will comply with Transport Canada's Transportation of Dangerous Goods Act.	C, O/M	Section 10.5.2.1
Equipment will be kept in good working order, inspected regularly, and leaks will be repaired promptly.	C, O/M	Section 10.5.2.1
Spill containment equipment (e.g., spill kits) will be available to construction crews and, in the event of an accident, will be put in place to attempt to prevent the spill from spreading to other environmental receptors.	C, O/M	Section 10.5.2.1
The ERP will include spill prevention and emergency response protocols as well as staff and contractor training requirements.	C, O/M	Section 10.5.2.1
ENL's Emergency Notification Plan will support notification of appropriate personnel and agencies.	C, O/M	Section 10.5.2.1
Depending on the nature of the spill, it may be a requirement to secure and evacuate the site (e.g., in case of risk of ignition).	C, O/M	Section 10.5.2.1
Depending on the nature and location of the spill, there may be a requirement to develop ongoing mitigation and remediation measures.		Section 10.5.2.1
Marine Spills		
Vessels used for major Project construction activities will be subject to a pre-mobilization inspection program.	C	Section 10.5.2.2
All vessels will carry an Oil Pollution Emergency Plan, as required by the International Convention for the Prevention of Pollution from Ships (MARPOL).	C, O/M	Section 10.5.2.2
Storage of hazardous materials on vessels will be in accordance with applicable regulation.	C, O/M	Section 10.5.2.2
Equipment will be kept in good working order, inspected regularly, and leaks will be repaired.	C, O/M	Section 10.5.2.2
The ERP will require contractors to provide for spill prevention and emergency response protocols. It also includes personnel training requirements.	C, O/M	Section 10.5.2.2
The ERP will require contractor's vessels to have emergency response equipment onboard.	C, O/M	Section 10.5.2.2
All marine spills will be reported to the Canadian Coast Guard.	C, O/M	Section 10.5.2.2
Depending on the nature of the spill, it may be a requirement to secure and evacuate the site (*e.g.*, in case of risk of ignition).	C, O/M	Section 10.5.2.2
Emergency Response		
Terrestrial Spills		
Should a hydrocarbon spill occur, all efforts will be made to ensure the safety of onsite workers and to contain the spilled material.	C, O/M	Section 10.5.3.1
The containment and/or remediation of spills or releases that occur on the Project site will be managed under the Project ERP which will include, but not be limited to, the following aspects: training, prevention measures, resources, emergency notifications, and spill response equipment.	C, O/M	Section 10.5.3.1
Marine Spills		
Any incident involving the spillage of oil or petroleum lubricating products into the marine environment must be reported immediately to the 24-hour Spill Report Centre (1-800-565-1633).	C, O/M	Section 10.5.3.2
All Project-related vessels will have a shipboard Oil Pollution Emergency Plan (OPEP) and the capability to respond to small spills. The OPEP will identify the person authorized to implement the plan and will also confirm that the vessel has an arrangement with a response organization certified by the Canadian Coast Guard.	C, O/M	Section 10.5.3.2
Should a hydrocarbon spill occur, the primary goal is to safety and, if safe to do so, contain the spilled material. If a hydrocarbon spill from a Project vessel is detected, emergency response and clean-up will be implemented as per the OPEP. Oil spill response and clean-up procedures will be developed in consideration of EC's CWS Oil Response Procedures Manual and Oil Response Plan (CWS 1999).	C, O/M	Section 10.5.3.2
Following initial response and spill containment, clean-up and reclamation tasks will be undertaken as necessary to restore damaged habitats. Habitat compensation works will be implemented for all harmful loss or alteration to fish habitat, where required. An on-site monitor will be present during all clean-up and reclamation work to monitor the success of any clean-up and reclamation work.	C, O/M	Section 10.5.3.2
Vehicle/Vessel/Aircraft Accidents		
Project Design and Mitigation to Minimize Risk		
Access routes will be identified prior to construction.	C, O/M	Section 10.6.2
Site access routes including structures (bridges, culverts, etc.) and baseline traffic levels will be reviewed, identifying areas with a high risk for accidents (*e.g.,* due to reduced sight lines).	P/D	Section 10.6.2
Signage identifying areas as 'high risk' will be implemented.	C, O/M	Section 10.6.2
Signage to delineate work areas will be implemented.	C, O/M	Section 10.6.2
A communications plan for engagement with communities impacted by traffic will be developed and implemented.	C, O/M	Section 10.6.2
Project-related equipment will follow traffic regulations and posted speed limits.	C, O/M	Section 10.6.2
Speed in construction areas will be limited based on site conditions.	C, O/M	Section 10.6.2
Aircraft will meet the ENL requirements for fixed wing planes and helicopters.	C	Section 10.6.2

Commitments	Timing of Implementation	EA Reference
Helicopter contractors will be required to have and implement an aviation safety plan, a health and environmental safety plan, and to be ISO 9001 certified.	C	Section 10.6.2
Vehicle accident reporting will follow ENL Incident Reporting System (including near misses).	C, O/M	Section 10.6.2
Wildlife sightings close to roads will be reported and mitigation will be implemented in high risk areas (e.g., signage, lower speed limits).	C, O/M	Section 10.6.2
Each work site will have staff trained in First Aid.	C, O/M	Section 10.6.2
Only trained and licenced individuals will operate equipment.	C, O/M	Section 10.6.2
For marine work, Transport Canada's Notice to Shipping offices will be notified of work activity and duration.	C, O/M	Section 10.6.2
Transport Canada and Marine Atlantic will be notified of any work conducted in the marine environment.	C, O/M	Section 10.6.2
A communication plan for notification of commercial fish harvesters will be developed.	C, O/M	Section 10.6.2
Emergency Response		
Local emergency and response officials will attend to any traffic accident to provide emergency and first aid response as required. ENL will cooperate with local officials in any incident investigation and conduct an internal incident investigation for any Project-related accident. Remedial action will be taken by ENL in accord with the results of the investigations.	C, O/M	Section 10.6.3
If a Project vessel is disabled or grounded, emergency response procedures will be implemented as per the ERP. Following initial response, reclamation tasks will be undertaken as necessary to restore damaged habitats. Habitat compensation works will be implemented for all harmful loss or alteration to fish habitat, where required.	C, O/M	Section 10.6.3
Unexploded Ordnance		
Project Design and Mitigation to Minimize Risk		
Pre-construction surveys will provide detailed information about the subsea route.	P/D	Section 10.7.2
Reference to Department of National Defence (DND) UXO database when planning the marine corridor; DND to advise if a site specific risk assessment is required.	P/D	Section 10.7.2
Avoidance of obstacles (e.g., shipwrecks potentially including UXOs).	C, O/M	Section 10.7.2
The ERP will include emergency response protocols and worker training requirements.	C, O/M	Section 10.7.2
Site evacuation plans will be initiated if required (e.g., in case of risk of explosion).	C, O/M	Section 10.7.2
Emergency Response		
If UXOs are encountered, emergency response procedures will be implemented as per the ERP, including notification of appropriate personnel and agencies (*e.g.* , Coast Guard, DND).	C, O/M	Section 10.7.3
Unplanned Releases from HDD		
Project Design and Mitigation to Minimize Risk		
Geotechnical assessments to inform HDD borehole design will be conducted prior to drilling.	P/D	Section 10.8.2
The use of specialized trucks at the entry borehole to vacuum the drilling fluid from the drilled hole, thereby preventing a release of drilling muds into the marine environment.	C	Section 10.8.2
An emergency frac-out response plan which outlines the protocol to monitor, contain, and clean-up spills will be developed and implemented.	C	Section 10.8.2
The conditions laid out in the DFO Statement 'High-Pressure Directional Drilling' to protect fish and fish habitat, will be followed.	C	Section 10.8.2
Emergency Response		
If a frac-out occurs, emergency response procedures will be implemented as per the ERP. Following initial response, reclamation will be undertaken as necessary to restore damaged habitats. In particular, benthic surveys will be conducted to determine the extent of spilled drill fluid in the marine environments. Habitat compensation works will be implemented for all harmful loss or alteration to fish habitat where required.	C	Section 10.8.3
Key P/D = Preconstruction/Design C = Construction O/M = Operation and Maintenance		