

**Strategic Environmental Assessment Update
Western Newfoundland and Labrador Offshore Area
Scoping Document**

DRAFT

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The Canada-Newfoundland and Labrador
Offshore Petroleum Board**

December 21, 2011

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1.0 Introduction

This document describes the scope of a Strategic Environmental Assessment (SEA) of petroleum exploration activities in a portion of the Gulf of St. Lawrence offshore western Newfoundland. It outlines the factors to be considered in the SEA update, the scope of those factors and other guidelines for preparing the SEA update report.

The Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) has the responsibility pursuant to the *Canada-Newfoundland Atlantic Accord Implementation Act* and the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* (Accord Acts) to ensure that offshore oil and gas activities proceed in an environmentally responsible manner. The C-NLOPB decided in 2002 to conduct SEAs of portions of the Newfoundland and Labrador offshore area that may have the potential for offshore oil and gas exploration activity but that were not subject to recent SEA nor to recent and substantial site-specific assessments.

In December 2005, the C-NLOPB published an SEA for a portion of the Gulf of St. Lawrence offshore western Newfoundland and amended it in November 2007 to extend the geographic coverage to include additional lands southwest of the original 2005 SEA Area. This document describes a scope for the update of the “*Western Newfoundland and Labrador Offshore Area Strategic Environmental Assessment*” (LGL Limited December 2005) and the “*Western Newfoundland and Labrador Offshore Area Strategic Environmental Assessment Amendment*” (LGL Limited November 2007). This update to the 2005 and 2007 reports is in consideration of the elapsed time since the documents were published; SEAs are normally reviewed every five years to determine whether an update is required. In addition, the Minister of the Environment requested (http://www.cnlopb.nl.ca/pdfs/corridorresinc/letter_from_minister_en.pdf) that the Board update the 2007 SEA for the Western Newfoundland Offshore Area. The Board agreed to this request. Figure 1 depicts the proposed focus for the SEA Update (the SEA Update Area) but the report may include consideration of potential effects on Valued Ecosystem Components (VECs) in adjacent and expanded areas of interest.

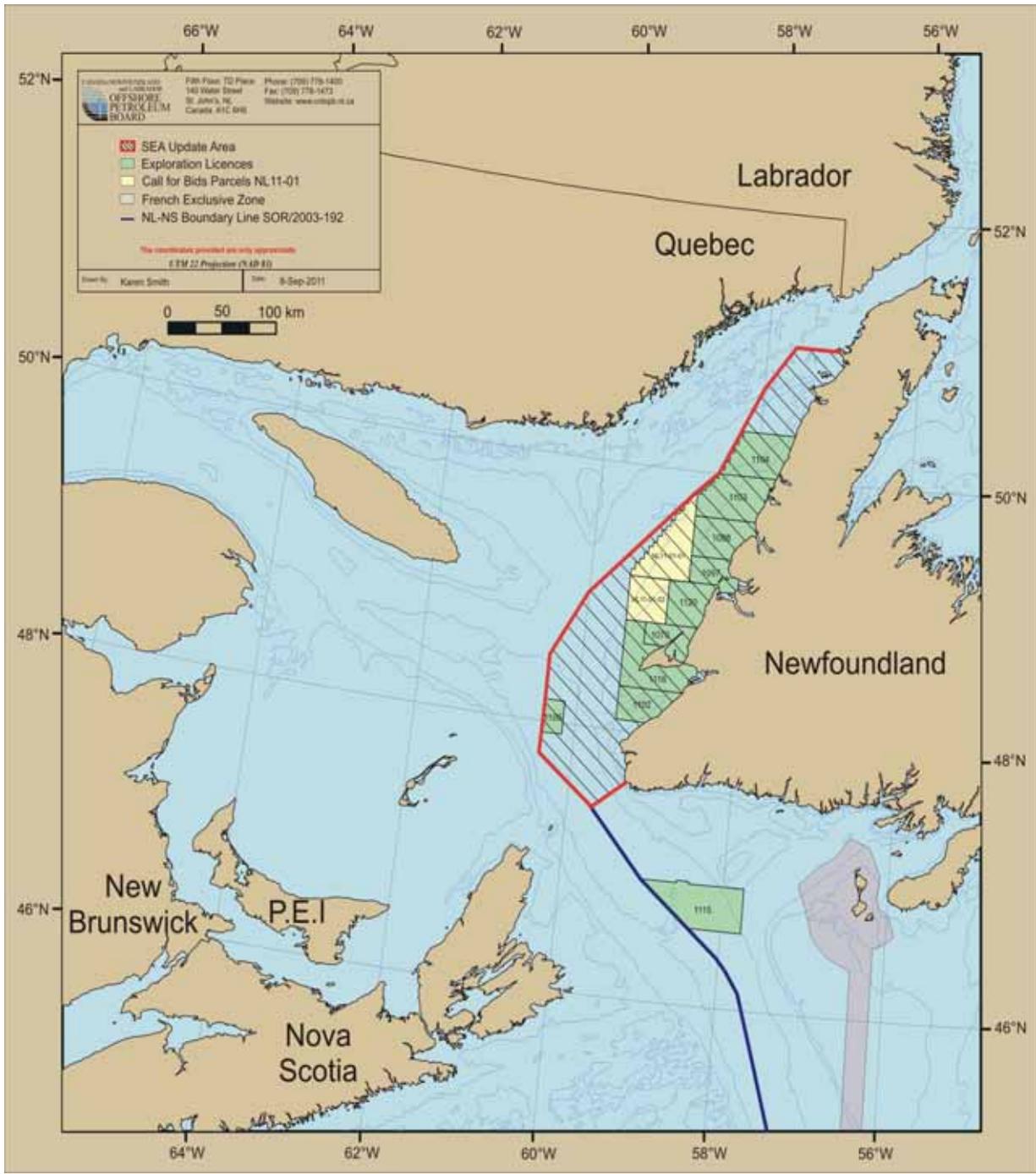


Figure 1 – Western Newfoundland and Labrador Offshore Area SEA Update Area

This scoping document was drafted by C-NLOPB staff with the assistance of a Working Group. The Working Group consists of 17 members representing federal and provincial government agencies and non-governmental organizations. The document will also be published for wider public comment prior to being finalized.

2.0 Background

Strategic environmental assessment is defined as “the systematic and comprehensive process of evaluating the environmental effects of a policy plan or program, and its alternatives” (Government of Canada Cabinet Directive, 1999). SEA incorporates a broad-based approach to environmental assessment (EA) that examines the environmental effects which may be associated with a plan, program or policy proposal and that allows for the incorporation of environmental considerations at the earliest stages of program planning. SEA typically involves a broader-scale environmental assessment that considers the larger ecological setting, rather than a project-specific environmental assessment that focuses on site-specific issues with defined boundaries. Additional information regarding SEA may be found on the Canadian Environmental Assessment Agency web site at <http://www.ceaa-acee.gc.ca>.

In this particular case, the strategic decision to be informed by the SEA is the potential future issuance by the C-NLOPB of one or more exploration licences pursuant to the Accord Acts, in the SEA Update Area, and consequent petroleum-related activities that may occur offshore. An exploration licence confers:

1. The right to explore for, and the exclusive right to drill and test for, petroleum;
2. The exclusive right to develop those portions of the offshore area in order to produce petroleum; and
3. The exclusive right, subject to compliance with the other provisions of the Accord Act, to apply for a production licence.

Activities associated with exploration licences may include conduct of seismic and other geophysical surveys, drilling of wells (either exploration or delineation) and well abandonment. If one or more exploratory drilling programs successfully identify petroleum deposits with commercial potential, production activities may follow. Production activities may involve drilling of wells (delineation, development/production, and injection wells), installation and operation of subsea equipment, installation and operation of production facilities, and production abandonment activities. However, the nature and scale of potential production activities usually is very difficult to predict in the early stages of exploration in an area, in any but the most general of terms.

Each of these activities requires the specific approval of the C-NLOPB, including a project-specific assessment of its associated environmental effects in accordance with the *Canadian Environmental Assessment Act* (CEA Act). The SEA will not replace this requirement for project-specific EA. The SEA will provide an overview of the existing environment, discuss in broader terms the potential environmental effects associated with offshore oil and gas activities in the SEA Update Area, identify knowledge and data gaps, highlight issues of concern and make recommendations for mitigation and planning. Information from the SEA will assist the

Board in determining whether exploration rights should be offered in whole or in part within the area and may identify general restrictive or mitigative measures that should be considered for application to exploration activities.

3.0 Objectives

The SEA Update will:

- Provide an overview of the existing environment in the SEA Update Area;
- Generally describe typical offshore oil and gas exploration activities;
- Generally describe typical offshore oil and gas production activities;
- Describe and evaluate potential environmental effects associated with offshore¹ oil and gas exploration activities;
- Consider the potential cumulative effects of typical offshore oil and gas activities with other potential activities;
- Identify knowledge and data gaps;
- Highlight issues of that may be of concern;
- Identify areas of interest, or sensitive areas;
- Make recommendations for general mitigative measures that should be employed during petroleum related activities;
- Identify general restrictive or monitoring measures, as appropriate, that may be required for future petroleum activities; and
- Assist the Board in determining whether exploration rights should be issued in whole or in part in the SEA Update Area.

4.0 Past and Present Oil and Gas Activities

Currently, there are nine (9) existing Exploration Licences (EL) in the SEA Update Area as shown in Figure 1. Past exploration activity has consisted of the drilling of eight (8) offshore wells. All the locations except for one were drilled from onshore locations. The latest well (Shoal Point 3K-39) was spudded on February 18, 2011 and is currently suspended. A total of 14,906 line km of seismic data has been acquired up to and including 2010. In 2008, Geophysical Services Inc. (GSI) acquired 2555 line km of 2D non-exclusive seismic data over ELs 1097, 1098 and 1103. During 2010, 148 line km of seismic data were acquired on EL 1105 in support of a well site survey.

¹ The terms 'offshore' or 'offshore area' refer to the jurisdictional area of the C-NLOPB, as defined in the *Canada-Newfoundland Atlantic Accord Implementation Act* to mean "those submarine areas lying seaward of the low water mark of the Province and extending, as any location as far as (a) any prescribed line, or (b) where no line is prescribed at that location, the outer edge of the continental margin or a distance of two hundred nautical miles from the baselines from which the breadth of the territorial sea of Canada is measured, whichever is greater."

On May 12, 2011, the C-NLOPB announced a Call for Bids, which includes two parcels in the Western Newfoundland and Labrador (NL) offshore area. The parcels included in the 2011 Call for Bids are shown in Figure 1 (NL 11-01-01 & NL 11-01-02), and are included in the SEA Update Area. The Call for Bids closed on November 15, 2011 and the bids were accepted. Subject to the bidders satisfying the requirements specified in the Call for Bids and upon receiving Ministerial approval, the Board will issue exploration licences for the parcels in January 2012.

5.0 Scope of SEA Update

The SEA Update will examine the project-environment interactions, associated with petroleum exploration activities that may occur within the SEA Update Area, for a portion of the western Newfoundland and Labrador Offshore Area as shown in Figure 1. The report may include consideration of potential project interactions with VECs in adjacent and expanded areas of interest. Exploration activities to be considered in the SEA Update include exploratory and delineation drilling and seismic survey activities (2D, 3D, vertical seismic profiling, geohazard surveys), and wellsite abandonment. The focus of the SEA Update will be on activity and interactions of those activities in the offshore area (see footnote 1 for a definition of offshore). However, in the coastal environment, project-environment interactions, and description of the coastal environment will be undertaken where information exists.

The extent of exploration activity will be estimated based on historical activity in the area and the potential for future exploration activity, to the degree that this can be foreseen. Generic types of production facilities that could be employed in the SEA Update Area also should be identified and their potential project-environment interactions briefly discussed. Predictions concerning likely numbers of production facilities in the SEA Update Area cannot presently be undertaken since no offshore discoveries have yet been made and the commercial resource potential of the area is currently unknown.

5.1 Spatial and Temporal Boundaries

The spatial boundary for petroleum related activities to be considered in the SEA Update is shown in Figure 1. The boundaries for the SEA Update Area were chosen based on historical activity in the area as well as a consideration of administrative boundaries.

The SEA Update will include the offshore petroleum exploration activities, as described in the preceding section, which may occur in the SEA Update Area within the next ten years. The SEA Update will be reviewed in at least five years to determine whether an update is required.

The area to be studied will not be confined to the SEA Update Area. For the purposes of the SEA Update, the area within which the environmental components that could potentially be affected by the potential exploration activities, including accidental events, will be considered.

5.2 Factors and Issues to be Considered

A “valued ecosystem component” (VEC) approach to focus the SEA Update will be used. A definition of each VEC (including components or subsets thereof) identified and the rationale for its selection will be provided. VECs will be determined based on consultations with interested stakeholders, the public and regulatory agencies. As a minimum, VECs will include Marine Birds, Fish and Fish Habitat (including benthic habitat), Commercial Fisheries, Marine Mammals and Sea Turtles, Species at Risk, and sensitive/important areas. Within each of these general categories, species of importance to the SEA Update Area (e.g., species-specific commercial fishery, species of ecological importance, etc.) will be emphasized. Where applicable, information may be summarized from the 2005 SEA and 2007 Amendment and from existing environmental assessment reports. Where information is summarized, the reports should be properly referenced, including reference to the section of the report. Where new information is available, the new information should be provided.

The SEA Update report will include the following:

- Historical overview of offshore petroleum exploration activity in the Western NL offshore area and a discussion of regional offshore oil and gas activities in the Newfoundland offshore area;
- Overview of typical offshore petroleum activities (well site surveys, vertical seismic profiling, 2D/3D seismic, exploration drilling (including onshore to offshore drilling); and well abandonment) including methods to carry out these activities;
- Brief discussion of production alternatives that could be employed in the Western NL offshore area;
- Description of the physical and biological environments based on existing information and data. Data gaps will be highlighted;
- Description of other marine activities in the SEA Update Area (e.g., commercial and recreational fisheries, aquaculture, marine transportation, marine-based tourism);
- Project-environment interactions of the VECs will be identified and qualitatively assessed;
- Identification of general mitigative measures and monitoring measures that might be considered for offshore activities. Specific or ‘non-typical’ mitigations that may be required to address specific concerns will be highlighted;
- Identification of areas requiring enhanced, or ‘non-typical’ mitigation measures;
- General discussion of effects and mitigation of potential accidental events, as well as malfunctions associated with offshore oil and gas exploration activity;

- General discussion of potential cumulative effects associated with multiple activities in the SEA Update Area based on an estimate of potential exploration activity derived from historical offshore petroleum activities in the SEA Update Area; and
- For each factor identified below, discuss potential planning implications/considerations which may have to be considered in site-specific EAs (e.g., need for additional data, special mitigations).

Detailed ‘effects assessment analyses’, including determinations of significance pursuant to the *Canadian Environmental Assessment Act*, will be determined at the project-specific environmental assessment phase and will not be undertaken in the SEA Update.

The SEA Update will consider the following environmental factors and issues, as a minimum, with an emphasis upon factors unique to the SEA Update Area. Sufficient supporting information will be provided, or referenced and summarized if it already exists, in publicly available publications, and substantive uncertainties or information gaps identified.

5.2.1 Physical Environment

A general description of physical environmental factors in the SEA Update Area will be presented, with emphasis upon the following:

- Meteorology and climatology (extreme events, means and seasonal variations);
- Geology (including a discussion of the potential for seismicity/geohazard events and their impacts on slope stability);
- Oceanography (current regime, wind, waves, extreme events); and
- Sea ice and iceberg conditions (historical overview, seasonal variability and current trends).

Where applicable, a description of data sources, whether modelled or measured, in-situ or satellite should be provided.

5.2.2 Biological Environment

An overview of the biological environment in the SEA Update Area will be presented, with emphasis upon identified VECs. This description will include but not be limited to fish and shellfish, commercial fisheries; marine mammals, sea turtles, waterbirds (including seabirds, waterfowl, and shorebirds), species at risk, and sensitive/special areas. Data gaps will be identified. The following list provides more detailed information that will be captured within the SEA Update.

- Coastal environmental overview:

- An overview of the coastal/shoreline environment in the SEA Update Area, with specific emphasis on special or unique habitats or places (e.g., parks, protected areas, fish spawning habitat; nursery and feeding habitat, important bird areas; shoreline sensitivity information).
- Plankton
- Benthic Invertebrates (including commercial shellfish species)
- Finfish and marine invertebrates:
 - the identification of important spawning, feeding, migratory and essential habitats, including coastal areas (where information exists);
 - Summaries of finfish and marine invertebrate habitat in the SEA Update Area particularly those supporting fisheries;
 - Historical, present and potential future commercial fisheries within the SEA Update Area, including and species under moratoria; and
 - Summaries of each species, including critical life stages.
- Commercial, Recreational and Aboriginal Fisheries:
 - Overview of historical, present and potential future commercial fisheries, including species under moratoria;
 - Description of commercial, recreational and aboriginal fisheries in;
 - General description of fishery activity including species, location, vessel size, gear type, timing; and
 - Aquaculture activities, if present, should be described.
- Water Birds
 - Overview of species present, including seabirds, waterfowl, and shorebirds, in the SEA Update Area and their distribution; discussion will include a description of critical life stages, lifestyles and life histories relevant to the SEA Update.
- Marine Mammals and Sea Turtles
 - General description of marine mammals and sea turtles that may be present in the SEA Update Area; and
 - Distribution of species, including life stages, life histories and important areas within the SEA Update Area.
- Species at Risk
 - Description of Species at Risk and their habitat (including proposed “critical habitat” for piping plover) as described in the *Species at Risk Act* and by COSEWIC, that have been identified, or are believed likely to be present, in the SEA Update Area.
- Special/Sensitive Areas

For the purposes of the SEA Update, the term **sensitive area** is defined as:

 - An area that is afforded some level of protection under federal or provincial legislation (i.e., National Parks, ecological reserves, Oceans Act Marine

- Protected Areas (MPAs), National Marine Conservation Areas (NMCAs), National Historic Sites, fishery management areas);
- An area that may be under consideration for such legislative protection (i.e., potential or proposed coastal or marine protected areas); and
 - An area that is known to have particular ecological or cultural importance and is not captured under federal or provincial regulatory frameworks (e.g., corals; spawning, nursery, rearing, or migratory areas; areas of high productivity, rare or unique habitats; Important bird Areas (IBAs); Ecologically and Biologically Significant Areas (EBSAs); areas of traditional harvesting activities).

The description of an area as a **sensitive area** within the SEA Update, in itself, does not automatically imply that this area will require the application of non-typical mitigations or restriction on activities. The timing, spatial extent, and nature of proposed oil and gas activities, in addition to mitigations prescribed by legislation, will determine the level of restriction or mitigation that will be required.

- Human Use
 - General overview of marine recreational and tourism activities in the SEA Update Area
 - Identify the presence of submarine/underwater cables.
- Marine Commercial Traffic
 - Overview of commercial traffic activity within and through the SEA Update Area
 - Potential for Canadian Naval exercises.

5.2.3 Project-Environment Interactions

For each of the identified VECs, a description of the interactions of petroleum exploration activity with the environment will be presented. Proposed activities include:

- Seismic data collection;
- Exploratory/delineation drilling (e.g., mobile offshore drilling unit (semi-submersible or jack-up rig; onshore to offshore drilling);
- Production activities (based on information provided as per Section 5.2 above);
- Vessel traffic (e.g., supply vessels, seismic vessels, helicopters, shuttle tankers (for production activities)); and
- Well abandonment operations.

Typical project-environment interactions associated with generic petroleum production activities will be briefly discussed for completeness. Potential project interactions include, but are not limited to the following:

- Noise/disturbance (seismic survey activities; noise from drilling installations, etc.) issues on marine mammals, sea turtles and sensitive life stages of commercial fish/shellfish species;
- Benthic habitat disturbance;
- Coastal interactions (including fish/bird habitats, sensitive areas, etc);
- Air quality issues;
- Operational discharges and impacts water and sediment quality;
- Accidental events – including offshore and coastal interactions; sensitive/special places; mitigations;
- Conflict with commercial, recreational, and aboriginal fisheries use of area and loss of access;
- Conflict with human use and marine commercial traffic of area;
- Attraction of seabirds to lights/flares on structures or vessels; and
- Consideration of potential conflict with project activities (including light and noise generated) with tourism operations and the aesthetic and cultural landscape.

Cumulative effects will be examined in consideration of the estimate of potential exploration activity in the SEA Update Area and mitigation measures identified. Planned and reasonably foreseeable exploration activities will be included in the cumulative effects and will also consider other non-petroleum activities ongoing in the SEA Update Area (such as commercial fishing, hunting, marine traffic, tourism operations, fisheries research surveys). Mitigation measures currently in practice to reduce or eliminate potential effects will be described for those activities that may affect the environment and VECs. Specific or ‘non-typical’ mitigations that may be required to address specific concerns will be highlighted, in particular, specific mitigations proposed for any special/sensitive areas identified within the SEA Update Area. Residual effects remaining after the application of routine mitigations also will be described.

Data gaps potentially affecting these descriptions will be identified and described.

The effects assessment will not determine likelihood of significance. Significance of effects will be determined during the project-specific environmental assessment process.

5.2.4 Environment-Project Interactions

For exploration activities identified, the SEA Update will include a discussion of the effects of the environment on project activities. These environmental factors may include:

- The occurrence of sea ice and icebergs;
- Temperature, precipitation, currents, storm events; and
- Severe winds and waves (extreme events).

The discussion may include the following:

- Occurrence of extended periods of reduced visibility due to fog or snow;
- Extended period of freezing precipitation or freezing spray;
- Extreme water levels due to combined tide, storm surge, and (near shore) wave set-up and urn-up;
- Local effects (e.g. down slope wind storm events); and
- Implication for seismic events (i.e. earthquakes, submarine landslides).

5.3 Conclusions and Recommendations

Based on the information presented in the physical and biological environment overview, the description of project-environment interactions and the application of mitigation measures, conclusions will be presented regarding recommended planning approaches for the C-NLOPB to consider in the issuance of exploration licences in the area. Data gaps with potential to affect the validity of these conclusions will be highlighted. Sensitive areas or areas of concerns identified during the SEA Update process will also be highlighted.

5.4 Consultations

Throughout the development of the SEA Update, the C-NLOPB and its contractor(s), with assistance by the Working Group, will consult with the provincial and federal government departments, communities, the fishing industry and local non-governmental organizations. Public consultation sessions will be held in communities in and around the Gulf of St. Lawrence region. These consultation sessions will be held in communities adjacent to the SEA Update Area and will be concurrent with the preparation of the SEA Update report. Information on the SEA process will be provided and people will be encouraged to discuss issues and concerns that are relevant to the SEA Update Area and SEA Update objectives. Issues and concerns within the scope of the report will be taken under consideration and incorporated into the draft SEA Update report if appropriate. This report will be made available to the public on the C-NLOPB website for comment.