



Scoping Document for the Environmental Assessment
Statoil Waverley 3D Seismic Survey
Exploration Licenses 2435 and 2436

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CANADA-NOVA SCOTIA
OFFSHORE PETROLEUM BOARD

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1.0 Purpose

The CNSOPB has a responsibility to conduct an environmental assessment (EA) of offshore seismic programs for which an authorization is issued under paragraph 142(1)(b) of the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*. Statoil has submitted a [Project Description](#) for a 3D seismic program to be conducted over and adjacent to ELs 2435 and 2436 (the Waverley seismic program). This document provides a description of the scope of the program that will be assessed, the factors to be considered, and the scope of those factors to be taken into account within the environmental assessment.

This document has been prepared by the Canada Nova Scotia Offshore Petroleum Board (CNSOPB), in consultation with Fisheries and Oceans Canada and Environment and Climate Change Canada.

2.0 Regulatory Considerations

The CNSOPB has determined that an EA for this project is required to determine whether the project may result in significant adverse environmental effects before issuing an authorization. This program will also be subject to regulatory review under the federal *Fisheries Act*, the *Species at Risk Act*, the *Migratory Bird Convention Act 1994*, and the *Canadian Environmental Protection Act*. The CNSOPB will delegate the preparation of the EA to the proponent and will make a determination of the potential for significant adverse environmental effects following review of the EA.

3.0 Scope of the Project

Statoil, herein referred to as “the proponent”, is proposing to conduct the Waverley seismic program either as a single-vessel 3D program or multi-vessel wide azimuth program. This survey will take place in the marine waters of the Scotian Slope over and adjacent to ELs 2435 and 2436. The program will not enter the Georges Bank Moratorium Area. A map identifying the project location is provided in Figure 1.1 of the [Project Description](#). The ELs are located approximately 350km southwest of Halifax. Water depths range from approximately 1500m to 3500m. At the present time, the proponent is planning to begin the program in 2018 but it may occur in a subsequent year. The program will be conducted over one season, will take between one and three months, and seismic surveying will be conducted between the months of April and October.

4.0 Factors to be Considered

The EA shall include a consideration of the following factors:

- the potential environmental effects of the project, including the potential environmental effects resulting from malfunctions or accidental events that may occur in connection with the project, and any cumulative environmental effects that may result from the project activities in combination with other projects or activities that have been, or will be, carried out;
- the significance of the environmental effects;
- any comments on the project that are received; and

- measures that are technically and economically feasible which could mitigate any significant adverse environmental effects of the project.

A project file has been posted on the [CNSOPB Environmental Assessment Public Registry](#) which includes, or will include, the Project Description, this Scoping Document, the EA (draft and final; when completed), correspondence with Government Departments, comments from aboriginal communities, comments from the public, and any follow-up information related to the EA. There will be a 30 day public comment period (date to be determined) on the draft EA.

5.0 Scope of the Factors to be Considered in the Environmental Assessment

Based on information within previous EAs involving similar surveying and data collection methods, Strategic Environmental Assessment (SEA) results, and other local and scientific knowledge related to the program area, the scope of the factors to be considered shall be environmental components that have the potential to experience significant adverse environmental effects. This scope includes consideration of the regulations, guidelines, and mitigation to be followed in order to reduce or eliminate the potential occurrence of significant adverse environmental effects.

Section 6 of this document outlines the valued components (VCs) that shall be assessed in the EA, and includes discussion of the rationale for the inclusion of each of these VCs. The EA must include assessment of effects on species of special status, special areas, and other ocean users. The EA must also include an assessment of the potential for spills caused by malfunctions and accidental events, as well as an assessment of cumulative effects of the project.

Detailed descriptions of all species that may occur in the project area, including marine mammals, sea turtles, birds, marine benthos and fish, as well as when they are likely to occur, are available within the [Strategic Environmental Assessment for Offshore Petroleum Exploration Activities – Western Scotian Slope](#) (the SEA) and this information should be summarized in the EA. The SEA document is to be referenced as appropriate, and the EA shall include any additional relevant information that is required for a complete assessment of potential effects.

Appendix A describes those factors that are considered not likely to cause significant adverse environmental effects as a result of the program. Rationale for the exclusion of these factors, including specific mitigation that must be implemented to allow for their exclusion, is discussed. Mitigation measures beyond standard mitigation are unlikely for the factors described in *Appendix A*. These excluded factors are considered outside the scope of the EA, and do not require assessment in the EA. If mitigation other than that indicated in *Appendix A* is to be used, further assessment may be required.

6.0 Valued Components

The assessment of potential environmental effects for the purposes of identifying mitigation measures shall be focused on the Valued Components (VCs) identified below.

6.1 Species of Special Status and Migratory Birds

The EA shall include assessment of all species of special status known to occur in the study area. Species of special status include the following species and their habitat (including SARA

designated Critical Habitat which may be present in the EA study area and could be affected by the program):

- species designated as at-risk under the *Species at Risk Act (SARA)*; and
- species assessed as endangered, threatened, or of special concern by the Committee on the Status of Endangered Wildlife of Canada (COSEWIC).

An assessment of the potential effects of the project on migratory birds protected by the *Migratory Birds Convention Act, 1994* is also required. The complete list of species under protection is available [online](#). It is the responsibility of the proponent to ensure that activities comply with the *MBCA* and regulations. Permits issued by Canadian Wildlife Service (CWS) may be required prior to deterring or relocating migratory birds and species at risk.

The EA shall identify all species listed on Schedule 1 of the *SARA* and the Critical Habitat of species that are Endangered or Threatened, all migratory birds, and all species assessed as endangered, threatened, or of special concern by the Committee on the Status of Endangered Wildlife of Canada (COSEWIC).

The EA shall then evaluate all environmental effects, including cumulative effects, of the project on species listed on Schedule 1 of the *SARA* as Threatened, Endangered or of Special Concern and Critical Habitat, and any migratory birds. This evaluation shall include consideration of aspects of the project that may interact with the species or its Critical Habitat in ways identified in relevant Recovery Strategies, Management Plans or Action Plans.

The EA shall include a summary of the spatial and temporal distribution of marine mammal, fish, sea turtle, and bird species at risk, and any migratory birds that may occur in the study area. This summary shall include a description of habitat requirements and use that overlap with the survey area and time of year.

The EA shall include an assessment of the potential for disturbance to/displacement of these species due to noise. Sound propagation modelling is required. The EA shall include a description of expected average and worse case sound exposure levels within the study area, and an assessment of any resultant potential effects on marine mammal, fish, sea turtle, and bird species at risk, and migratory birds. Modelling shall include spring, summer and fall scenarios.

The proponent shall assess the means by which potential adverse effects on species at risk and their Critical Habitat, and migratory birds, will be mitigated through design and/or operational procedures. This includes all mitigation listed in the *Statement of Canadian Practice with Respect to the Mitigation of Seismic Sound in the Marine Environment*. A commitment to adhere to the mitigation measure outlined in the *Statement of Canadian Practice with Respect to the Mitigation of Seismic Sound in the Marine Environment* is required **at minimum**. The proponent should also consider the *Canadian Science Advisory Secretariat Science Advisory Report 2015/005, Review of Mitigation and Monitoring Measures for seismic survey activities in and near the habitat of cetacean species at risk*. Additional mitigation measures identified shall be consistent with *SARA*

Recovery Strategies and/or Management or Action Plans that are in place for species at risk in the project area, as well as current scientific literature.

The EA shall include an assessment of the potential effects of project related vessel traffic and the possibility of ship strikes on species at risk. In 2017, an unprecedented number of North Atlantic Right Whales perished in the Gulf of St Lawrence. Risks of cumulative effects on this species should be elevated with consideration of recent losses. As the Statoil program will be near the Roseway Basin, a SARA designated area of Critical Habitat for this species, the EA shall also focus on mitigation related to vessel traffic, and ship strikes **in particular**, with respect to the assessment of potential effects on the North Atlantic Right Whale.

The proponent shall indicate whether the project will be in compliance with the SARA prohibitions (SARA Sections 32, 33 and 58) and shall identify whether any SARA Section 73 permits will be requested. Additional mitigation may be required should new species at risk be added the SARA Schedule 1 prior to the program start date.

6.2 Special Areas

Assessment of potential effects on specially designated areas that could be affected by seismic exploration activities shall be included in the EA.

Assessment of potential impacts on special areas shall include:

- vessel traffic and the potential for ship strikes;
- noise; and
- spills from malfunctions and/or accidental events.

The proponent is expected to review section 4 of the [Strategic Environmental Assessment for Offshore Petroleum Exploration Activities – Western Scotian Slope](#) (SEA) for additional guidance on special areas and provide updated information in the EA if necessary.

The proponent shall discuss the means by which design and/or operational procedures will be implemented to mitigate significant adverse effects on special areas.

6.3 Other Ocean Users

Commercial longline fisheries as well as some fisheries for groundfish and pelagics occur in the vicinity of the proposed program. This includes commercial, recreational and/or aboriginal fisheries. There is potential for interaction with marine shipping and scientific research vessels and subsea cable projects in the project area as well. The potential project interactions with DND training exercises may also exist in the area. Therefore, an assessment of the potential effects of the project on other ocean users in the project area shall be included in the EA. The proponent shall determine the potential for interactions with fisheries, marine shipping and subsea cables, and DND training exercises, and shall contact DFO to determine if any research survey vessels are expected to be in the project area at the time of the project. The proponent is expected to refer to the information provided on other oceans users in the SEA. The proponent is also expected to provide any new information related to other ocean user activity in the EA.

6.4 Malfunctions and Accidental Events

Accidental spills have the potential to affect the health and/or survival of plankton, fish eggs and larvae, juvenile and adult fish, marine mammals, marine birds, marine turtles and marine invertebrates in the project area. There have been hydrocarbon releases from seismic streamers on the Scotian Shelf in the past, and there is the possibility of light oil spills, such a fuel oil, from seismic vessels. Therefore, an assessment of the potential for, and potential effects of, accidental spills shall be included in the EA.

The proponent shall provide information on the sources and volumes of petroleum products expected to be on board all vessels to be used for the project. The proponent shall also be required to state the measures to be used to minimize the potential for accidental release of these materials into the environment. This includes a spill response plan specific to the project and/or survey vessel(s).

7.0 Cumulative Effects

The proponent is required to assess the potential cumulative effects of the activity with other significant sources of sound in the marine environment, such as other seismic programs and military exercises. The assessment shall address the potential for an increase in masking marine mammal vocalizations as a result of seismic sound and vessel noise originating from the project. The assessment shall address the cumulative effect of increased vessel presence/motion as a result of the project on the VCs. The assessment shall include the means by which design and/or operational procedures, including follow-up measures, will be implemented to mitigate the potential for significant adverse environmental effects as a result of cumulative effects.

8.0 Effects of the Environment on the Project

Weather in the Nova Scotia offshore can be harsh. Physical environmental conditions acting on the project that could have consequences for the environment (factors which could affect the project design or operation) include meteorology and oceanography. The proponent is required to monitor physical environmental conditions and develop a plan to avoid potential adverse effects on the environment as a result of environmental influences on the project. An Emergency Response Plan is required to be submitted to the CNSOPB prior to the commencement of operations.

9.0 Follow-Up Program

Details regarding follow-up monitoring, observation and reporting procedures shall be included in the EA. This includes a description of monitoring and observation procedures for marine mammals, sea turtles and seabirds. Observer reports detailing marine mammal, sea turtle and bird observations shall be submitted to the CNSOPB as follows:

- i) A summary of marine mammal and sea turtle observations and interactions, including indication of shut-downs, is to be submitted to the CNSOPB on a weekly basis. Any species at risk are to be identified as such in these reports.
- ii) Shut-downs due to wildlife interactions are to be reported within 24 hours of occurrence.

- iii) Copies of data collected on stranded birds and bird survey information shall be provided to Environment and Climate Change Canada following the program.
- iv) Copies of data collected on marine mammal and sea turtle observations shall be provided to Fisheries and Oceans Canada following the program.

Weekly and end-of-program observer reports will be posted on the CNSOPB public registry as it is considered follow-up information related to the EA.

10.0 Spatial and Temporal Boundaries

The proponent will clearly define and provide rationale for the spatial and temporal boundaries that are used in its environmental assessment. Boundaries should be flexible and adaptive to enable adjustment or alteration based on field data.

11.0 Significance of Environmental Effects

The proponent will clearly describe the criteria by which it proposes to define the term “significance” of any adverse effects (i.e. such as following the implementation of mitigation measures) that are predicted within the EA. Useful guidance is available in the [November 1994 CEA Agency reference guide: Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects](#).

12.0 Assessment Summary Section

The assessment will include a detailed summary of all mitigation, commitments and follow-up measures discussed in the EA. Adherence to mitigation measures, commitments and/or follow-up measures will be a condition of the Authorization.

Appendix A - Components and Activities Outside of the Scope

Detailed descriptions of which species are anticipated to occur and when they are likely to occur in the project area are available in the [Strategic Environmental Assessment for Offshore Petroleum Exploration Activities – Western Scotian Slope](#). A portion of the assessment must be dedicated to providing any additional information relevant to the project assessment which has not been covered within the SEA. The assessment of potential environmental effects for the purposes of identifying mitigation measures is to be focused on the VCs listed in Section 6. Mitigation measures beyond standard mitigation are not likely needed for species considered to be not ‘at-risk’, or needed for conventional areas within/near the study area. The following components are therefore considered to be outside the scope of the portion of the assessment focused on the potential for adverse environmental effects.

Air quality

The only emission sources from the proposed project are the seismic vessel(s) and any support vessels. It is expected that project emissions will not exceed applicable air quality standards or guidelines. There are limited emissions sources, and few receptors in the project area. Assessment of potential effects on air quality can be excluded from the EA, provided that the proponent adheres to MARPOL Annex VI, Regulations for the Prevention of Air Pollution from Ships.

Marine Birds - other than Species of Special Status or Migratory Birds

A description of marine birds reasonably expected to occur within the project area during project operations is provided in the aforementioned SEA. It is recognized that the attraction of any avian species to lights on vessels or discharge of food waste may cause collision or landing, and may disrupt migration. However, population level effects on marine birds are not anticipated.

No further assessment of effects on marine birds, other than species of special status and migratory birds, shall be required. Implementation of the Williams and Chardine handling protocol brochure entitled *The Leach’s Storm Petrel: General Information and Handling Instructions should birds land on vessels involved with the project* is required as appropriate. **A permit is required from the Canadian Wildlife Service of Environment and Climate Change Canada to implement this protocol.** Following the program, copies of data collected on stranded birds and bird survey information is to be provided to Environment and Climate Change Canada.

Marine Fish - other than Species of Special Status

A description of the fish populations reasonably expected to occur within the project area during project operations is provided in the SEA. The proponent must adhere to the mitigation measures outlined in the *Statement of Canadian Practice with Respect to the Mitigation of Seismic Sound in the Marine Environment*. The project area does not contain any known fish spawning grounds. An assessment of potential effects on any fish species classified at at-risk is required as stated in Section 6.1. An assessment of potential effects on fisheries resources and commercial fishing activities is required as stated in Section 6.3. With the implementation of these mitigation measures, population level effects on fish are not anticipated.

Marine Benthos

A description of marine benthos reasonably expected to occur within the project area during project operations is provided in the SEA. An assessment of potential effects on any special areas within the vicinity of the project area that may contain marine benthos requiring protection is required as stated in Section 6.2.

No known marine benthos species at risk occur in the study area, and there are no known shellfish spawning areas. The Corsair and Georges Canyon Conservation Area, as well as the Northeast Channel Coral Conservation Area are within the vicinity of the program. Mitigation for these areas may be appropriate for exploration drilling programs, but not for seismic programs.

Population level effects on marine benthos are therefore not anticipated.

Marine Mammals and Sea Turtles - other than Species of Special Status

A description of marine mammals and sea turtles that are reasonably expected to occur within the project area during project operations is provided in the SEA. The EA is required to provide an assessment of potential adverse effects on marine mammal and sea turtle species at risk, as outlined in Section 6.1, and special areas within the vicinity of the project area, as outlined in Section 6.2. Seismic operators are required to adhere to marine mammal observer protocols stated in the *Statement of Canadian Practice on the Mitigation of Seismic Sound in the Marine Environment* for the project. This includes protocols for night and poor weather detection. Provided that the proponent adheres to these mitigation measures, no further assessment is required of the potential effects of the project on populations of marine mammals and sea turtles that do not have no special status or official protections in place.

As stated in section 6.1, additional assessment may be required should new species at risk be added to SARA Schedule 1 prior to the program start date, or should mitigation measures be required which are not listed in the *Statement of Canadian Practice on the Mitigation of Seismic Sound in the Marine Environment*.

With the implementation of appropriate mitigation measures, population level effects are not anticipated for secure species of marine mammals and sea turtles.