

Eastern Newfoundland Offshore Geophysical, Geochemical, Environmental and Geotechnical Programs 2015-2024

Environmental Assessment Addendum and Amendment

FINAL REPORT

Submitted by:

ExxonMobil Canada Ltd.
100 New Gower Street, Suite 1000
St. John's, Newfoundland and Labrador
Canada A1C 6K3

Prepared by:

Amec Foster Wheeler Environment & Infrastructure
A Division of Amec Foster Wheeler Americas Limited
133 Crosbie Road, PO Box 13216
St. John's, Newfoundland and Labrador
Canada A1B 4A5

Amec Fw TF1575214

May 2016

TABLE OF CONTENTS

		Page No.
1	INTRODUCTION	3
2	RESPONSES TO REVIEW COMMENTS ON EA REPORT (JULY 2015)	5
2.1	General Comments	5
2.1.1	Environment Canada (EC)	5
2.1.2	Fish, Food and Allied Workers (FFAW-Unifor)	5
2.2	Specific Comments	7
2.2.1	Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB)	7
2.2.2	Environment Canada (EC)	13
2.2.3	Fisheries and Oceans Canada (DFO)	13
2.2.4	Fish, Food and Allied Workers (FFAW-Unifor)	25
2.2.5	Department of National Defence (DND)	29
3	PROPOSED PROJECT AREA AMENDMENT	31
3.1	Rationale and Description	31
3.2	Marine Fish and Fish Habitat (including Species at Risk)	35
3.3	Marine / Migratory Birds (including Species at Risk)	35
3.4	Marine Mammals and Sea Turtles (including Species at Risk)	36
3.5	Protected and Sensitive Areas	37
3.6	Marine Fisheries and Other Activities	37
4	CONCLUSION.....	39

LIST OF TABLES

	Page No.
Table 2.1 Study Area Coordinates (Original)	7
Table 3.1 Project and Study Area Coordinates (Amended)	34

LIST OF FIGURES

	Page No.
Figure 2.1 Study Area Coordinates (Original)	8
Figure 3.1 Proposed Amendments to the Project and Study Areas	32
Figure 3.2 Project and Study Area Coordinates (Amended)	33

1 INTRODUCTION

ExxonMobil Canada Ltd. (ExxonMobil) has proposed to undertake a marine petroleum exploration program, including geophysical, geochemical, environmental and geotechnical survey activities, between 2015 and 2024 in the eastern portion of the Newfoundland and Labrador Offshore Area (hereinafter also referred to as the Project). These exploration activities may include two-dimensional (2D) and three-dimensional (3D) seismic data acquisition in 2016 and beyond.

The proposed Project will require authorizations from the Canada – Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), pursuant to Section 138 (1)(b) of the *Canada – Newfoundland Atlantic Accord Implementation Act* and Section 134(1)(b) of the *Canada – Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* (the *Accord Acts*).

As part of the required regulatory review and approval processes for the Project, ExxonMobil filed an Environmental Assessment (EA) in relation to the proposed marine exploration program in July 2015. This assessment was planned, prepared and submitted in compliance with the associated EA requirements and processes of the C-NLOPB, including the provisions of the C-NLOPB's Project-specific EA Scoping Document (March 2, 2015).

ExxonMobil's EA for the Project (*Eastern Newfoundland Offshore Geophysical, Geochemical, Environmental and Geotechnical Programs 2015-2024 Environmental Assessment*, prepared by Amec Foster Wheeler, July 2015) was submitted to the C-NLOPB on July 14, 2015 and published on the Board website for public and agency review and comment. The C-NLOPB invited comments on the EA until September 4, 2015, and on September 30, 2015 the C-NLOPB provided ExxonMobil with the consolidated comments received during the review. The C-NLOPB stated in its letter of transmittal that:

“The Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), in consultation with the Board’s fishery and environmental review agencies, have reviewed the above referenced environmental assessment (EA) report.

The EA report does not satisfy all of the information requirements outlined in the Scoping Document provided to ExxonMobil Canada Ltd. on March 2, 2015. In order to satisfy the requirements of the Canada-Newfoundland Atlantic Accord Implementation Act and the Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act and to complete a report on the C-NLOPB’s determination at the conclusion of the assessment, the attached comments should be addressed.”

In February 2016 ExxonMobil submitted an EA Addendum and Amendment, which was provided as a supplement to the original EA Report, and provided responses that address the various questions and associated requests for information and clarification that were submitted by government departments and agencies and other organizations as part of the EA review, as consolidated and provided to ExxonMobil by the C-NLOPB in September 2015. This document also provided an overview of a proposed modification to the Project, as compared to that which was described and assessed in the original (July 2015) EA Report. This involved a slight expansion of the northeastern portion of the proposed Project Area to account for changes in the identified Sectors (and thus possible future Call for Bids areas) that were defined by the C-NLOPB as of the time of initial Project planning at the beginning of 2015, as compared to those parcels that were included in the Board's eventual (March 2015) *Call for Bids No. NL-15-01EN – Eastern Newfoundland Region*. The C-NLOPB accepted work

commitment bids from ExxonMobil and its co-venturers for several of these parcels in November 2015, with Exploration Licences subsequently being issued on January 15, 2016. A further discussion of the nature of, and rationale for, this proposed extension to the Project Area is provided in Chapter 3. This also includes an analysis of any implications of the proposed Project Area expansion for the EA's predicted environmental effects, the mitigation measures that have been identified and proposed by ExxonMobil for the Project, and thus for the overall findings and conclusions of the original EA Report (July 2015).

The current (May 2016) document also includes responses to the various questions and associated requests for information and clarification that were submitted by government departments and agencies and other organizations as part of the review of the previous EA Addendum and Addendum, as consolidated and provided to ExxonMobil by the C-NLOPB in March 2016.

In order to help optimize utility and readability, and in keeping with other such documents prepared for recent projects and their assessments, the EA Addendum is presented in a "question and answer" format, organized according to the particular departments, agencies and organizations that provided the various questions and comments that are being responded to herein.

Following this **Introduction (Chapter 1)**, the remainder of this document is organized as follows:

Chapter 2: Responses to Review Comments on EA Report (July 2015)

a) General Comments

- 1) Environment Canada (EC)
- 2) Fish, Food and Allied Workers (FFAW-Unifor)

b) Specific Comments

- 3) Canada – Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB)
- 4) Environment Canada (EC)
- 5) Fisheries and Oceans Canada (DFO)
- 6) Fish, Food and Allied Workers (FFAW-Unifor)

Chapter 3: Proposed Project Area Amendment

Chapter 4: Conclusion

2 RESPONSES TO REVIEW COMMENTS ON EA REPORT (JULY 2015)

2.1 General Comments

2.1.1 Environment Canada (EC)

Previously submitted comments (sent on 19 February) are still applicable.

ExxonMobil Response: Reviewer commentary to C-NLOPB, no additional information or response required or requested from ExxonMobil. The original EA Report was completed in accordance with the EA Scoping Document prepared and issued by the C-NLOPB with the input of various agencies and organizations. Please note, however, that the Proponent and its EA Study Team did review the initial comments on the Scoping Document, as posted by the C-NLOPB, and these were considered in planning and completing the EA.

C-NLOPB Comment on ExxonMobil Response: For clarity, all comments on the Draft Scoping Document were transmitted by email, along with the Final Scoping Document, to ExxonMobil Canada Ltd. on March 2, 2015 and hard copies were mailed on March 4, 2015.

ExxonMobil Response: Reviewer commentary by C-NLOPB. No new questions or issues raised, nor additional information provided to or requested from ExxonMobil.

2.1.2 Fish, Food and Allied Workers (FFAW-Unifor)

At our initial consultation meeting with ExxonMobil in March 2015 our discussions were very general as this EA runs over an extensive time period and geographic area. Our ocean environment is constantly changing. As such, it is imperative that the proponent continue to engage FFAW-Unifor and its members throughout the life of this Environmental Assessment to ensure there is a thorough understanding of commercial fishing activities and trends as well as fisheries research survey endeavours from year to year. Consultations with fishing interests should be planned in the first quarter of the year, prior to the start of the typical fishing year.

Overall the document is very non-specific in terms of the actual project that is planned over a ten-year period. As such, it is challenging to comment how the work will impact commercial fishing or the environment over the timeframe.

It remains of utmost importance that the proponent keep FFAW-Unifor informed of its planned activities in the coming years. This recommendation extends to vendors that may be conducting work on behalf of the proponent.

ExxonMobil Response: The multi-year nature and overall duration of the proposed Project is recognized and acknowledged throughout the EA Report, including the fact that the specific characteristics and scope of the planned exploration activities are inevitably more well defined for the initial year(s) of the Project as compared to later phases and activities (see Chapter 2 of the EA Report). As referenced and requested in the above review comment, ExxonMobil has also made associated commitments throughout the EA Report that, for example:

There will be “[c]ommunications and coordination procedures with regulatory authorities, stakeholders and key ocean users will be used throughout the operational life of the Project [including]... regular communication of planned survey activities with key industry representatives, and on-going liaison with FFAW / One Ocean contacts” (Section 5.3);

“As part of the planning and implementation of its survey activities over the course of this Project, ExxonMobil will also continue to communicate and consult with relevant industry stakeholders” (Section 5.11);

“ExxonMobil will submit updates in relation to this multi-year program. These will describe the previous year’s activities, recent and on-going consultation activities and their outcomes, as well as outlining the proposed survey work for the coming year” (Section 5.12).

The nature and timing of these future communications and engagements will be determined with a view to optimizing their utility and effectiveness for all involved, in consultation and cooperation with the relevant group(s), including the FFAW-Unifor.

FFAW-Unifor Comment on ExxonMobil Response: While addressed in the comments, we would like to reiterate the importance of continued consultation and communication throughout the time frame of this project, and stress the importance of consultation during the first quarter. While comments have been acknowledged and consultation is referred to throughout the document, this suggested commitment for consultation during the first quarter of the year has not been agreed to explicitly.

ExxonMobil Response: The above referenced commitment to plan and undertake future Project-related consultations in discussion and cooperation with relevant groups (including the FFAW-Unifor) to ensure their effectiveness was intended to provide the requested assurances in that regard. If the first quarter of the year is the stated and preferred time for such consultations by this group, then they will be undertaken at that time.

There are several instances within the report that lump several NAFO Divisions together improperly. Divisions 3N, 3L, 3O and 3Ps would be abbreviated 3LNOPs as used by the fishing industry, not 3NLOPs.

ExxonMobil Response: This clarification is acknowledged, with thanks.

2.2 Specific Comments

2.2.1 Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB)

§2.3 Project Area, pg 9 – The coordinates for the corner points of the Study Area should be provided.

ExxonMobil Response: As described in Section 3.4.2 and illustrated in Figure 3.2 of the EA Report (July 2015), the Study Area comprises:

“...the area over which the Project and its potential emissions and other possible disturbances and environmental interactions may occur and extend, which for Environmental Assessment purposes is defined as an area that encompasses the Project Area plus appropriately 50 km”.

Corner points and their coordinates are provided for the proposed (original) Project Area in the EA Report (see EA Report Figure 2.1 and Table 2.1 which are reproduced below):

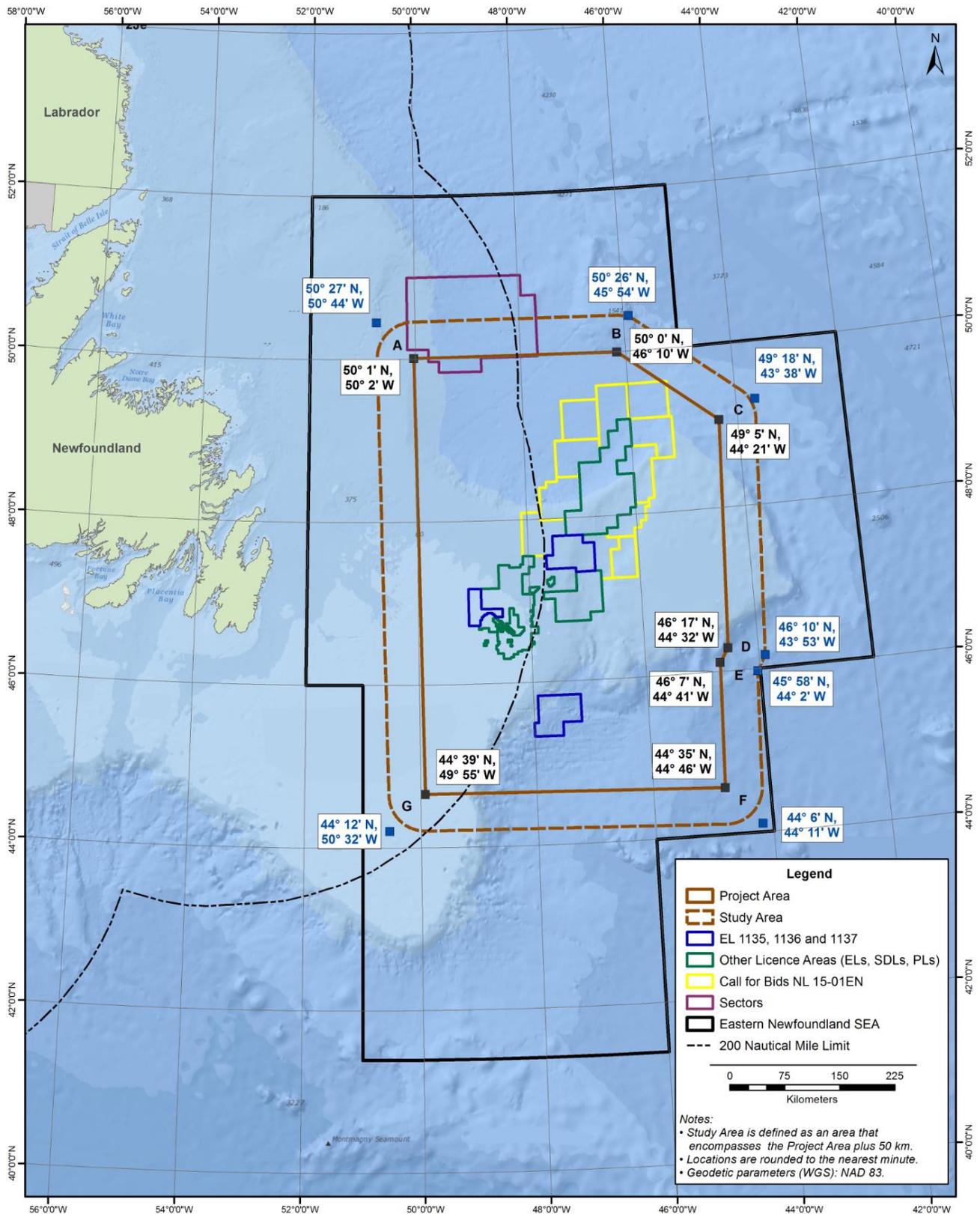
Corner Point ID *	Longitude	Latitude
A	50° 2' W	50° 1' N
B	46° 10' W	50° 0' N
C	44° 21' W	49° 5' N
D	44° 32' W	46° 17' N
E	44° 41' W	46° 7' N
F	44° 46' W	44° 35' N
G	49° 55' W	44° 39' N
* See Figure 2.1 Geodetic parameters (WGS): NAD 83		

Similar and specific “corner point” coordinates could not be provided for this EA Study Area itself, as the Study Area polygon does not, as illustrated in EA Report (Figures 1.1 and 3.2), have “corners”. However, Table 2.1 below provides coordinates for the centre points that would be formed if the sides of the (original) Study Area were extended (past the rounded arcs at each edge) to produce such corners. These are also shown in the associated Figure 2.1 below.

Table 2.1 Study Area Coordinates (Original)

Point / Label (as above)	Longitude	Latitude
A	50° 44' W	50° 27' N
B	45° 54' W	50° 26' N
C	43° 38' W	49° 18' N
D	43° 53' W	46° 10' N
E	44° 02' W	45° 58' N
F	44° 11' W	44° 06' N
G	50° 32' W	44° 12' N
Notes:		
<ul style="list-style-type: none"> • Study Area is defined as an area that encompasses the Project Area plus 50 km • Locations are rounded to the nearest minute. • Geodetic parameters (WGS): NAD 83 		

Figure 2.1 Study Area Coordinates (Original)



Coordinates for the currently proposed (expanded) Project and Study Areas are provided in Chapter 3 of this EA Addendum and Amendment, along with updated base map information illustrating the current Licences in this area.

§2.4.1 Seismic Surveys, pg 11-14 – *Gravity and magnetic data collection is an activity identified within the scope of the project. Please describe this activity and confirm that it has been included in the assessment of potential effects of the project, as proposed.*

ExxonMobil Response: As referenced in Section 2.4 (Project Equipment and Activities) of the EA Report, the Project equipment will include gravity and magnetic sensors, and the survey vessels “may also passively collect and record gravity and magnetic data at the same time, and will have an echosounder for depth soundings.”

Given that gravity and magnetic data will be obtained passively as part of the proposed survey program through the installation of the recording equipment on the seismic vessel(s), and because the planned use of this apparatus does not have environmental emissions or interactions associated with it, these data collection devices were not given separate treatment in the environmental effects assessments for each VEC (Chapter 5). They were therefore also not listed as separate Project components and activities in the environmental interactions or effects summary tables included in each VEC, although they are integrally included as part of the “Seabed and Environmental Sampling Activities” rows in the interactions Tables for each VEC.

For the purposes of completeness, however, the following sentence is added to Section 5.1 (Project Components, Activities and Key Environmental Considerations) of the EA Report:

“Gravity and magnetic data will be gathered passively as part of the proposed survey program. The use of this equipment will not result in environmental emissions or other disturbances, and therefore, these activities are not likely to interact with or otherwise adversely affect the VECs. No separate analysis or additional mitigation specific to this proposed Project activity is therefore required or proposed”.

§2.7.4 Potential Accidental Events and Malfunctions, pg 19 - §5.2.10 Accidental Events of the Scoping Document states that the “*Environmental effects of any accidental events arising from streamers or accidental releases from the seismic and/or support vessels (e.g., loss of product from streamers) Cumulative effects in consideration of other oil pollution events (e.g., illegal bilge disposal) should be included*”. This section does not meet this requirement.

ExxonMobil Response: The EA Report addresses each of the requirements of the C-NLOPB’s EA Scoping Document, including those listed above.

The section referenced by the reviewer (Section 2.7.4) is part of the *Project Description* Chapter of the EA Report, which (as per standard EA formats and practice) is intended to discuss the (proposed and possible unplanned) components and activities associated with the Project – including any possible accidental events and malfunctions – but this section does not assess the potential (project-specific and cumulative) environmental effects of same. Rather, the environmental effects assessment is provided in Chapter 5 (Environmental Effects Assessment), as described in the description of the EA Approach and Methods (see Section 3.4.6) and elsewhere (e.g., Section 5.1).

Each of the VEC-specific environmental effects analyses in Chapter 5 of the EA Report provides an assessment and evaluation of the potential effects of any such accidental events. Section 5.1, for example, identifies the potential for “potential accidental spills or the loss of equipment or other materials into the marine environment” as a key potential environmental issue and interaction, and the subsequent VEC-specific effects assessments discuss, for example, the fact that:

“Other potential environmental emissions from survey vessels and equipment relate to the possible release of environmental discharges such as deck drainage, liquid and solid wastes, air emissions from exhausts, and other possible sources of environmental discharges from offshore vessels. Any such potential discharges to the marine environment will be managed through strict adherence to applicable regulations and standards (Chapter 2), designed to prevent adverse effects to fish and their habitats. Gel filled or solid streamers eliminate the risk of fluid discharges into the marine environment during seismic survey programs” (Section 5.5.2.1).

The environmental effects of these and other possible accidental events and malfunctions are also assessed and evaluated in each of the associated “Residual Environmental Effects Assessment Summary” Tables for each VEC in Chapter 5.

Finally, the environmental effects of any “other oil pollution events” are integrally included and considered as part of the cumulative effects assessment (EA Report, Section 5.11), which states, for example, that:

“This includes possible injury, mortality or behavioural effects to fish, birds, mammals or turtles due to noise or other disturbances in the marine environment, possible contamination resulting from routine activities (discharges) or unplanned and accidental events (oil spills), and through the alteration of marine habitats.”.

The EA Report included a detailed Table of Concordance with the C-NLOPB’s EA Scoping Document as Appendix A, which indicates where and how all aspects of the Scoping Document (including these) have been addressed in the EA Report.

§2.4.1.1 2D Seismic Survey, pg 12 – Please confirm that the maximum amount of 2D line kilometers to be collected each year between 2015 and 2024 is 5,000 and that this is the number that has been used to assess this activity.

ExxonMobil Response: ExxonMobil’s current plans related to the collection of 2D seismic survey data as part of this Project would see the collection of up to 5,000 line kilometers of data each year. This figure is estimated based on the currently planned and proposed nature and scope of the Project, as presently defined and to the degree to which these parameters can be precisely and definitively predicted at this stage of Project planning and design.

The environmental effects assessment was planned and conducted to incorporate and encompass this type and scale of 2D activity per year, and in most cases the associated effects analysis and the identification and proposal of mitigation was conservative in nature and would therefore be applicable to an even higher level of activity within the Project Area. If, however, the future design and implementation of the Project requires that ExxonMobil consider collecting

more than 5,000 line kilometres of 2D data in any single year, the Proponent recognizes that this will be required to be reported to the C-NLOPB, such as through future EA Updates and/or other appropriate means.

§2.4.1.1 2D Seismic Surveys, pg 12 and §2.4.1.2 3D Seismic Surveys, pg 13 – *It is stated in both sections that operating pressures of the source array will be approximately 1,800-2,000 psi. The project description stated that operating pressures of the source array will be approximately 1,800-2,500 psi. This should be clarified to avoid any future issues.*

ExxonMobil Response: The various characteristics and parameters associated with the proposed Project which are indicated in ExxonMobil's EA documentation and regulatory filings to date, reflect the most accurate and current details that are available as of the timing of their development and submission. As with any such proposed activity - especially given the relatively early stage of project planning and design at which EA review is initiated and carried out, and in this case, the multi-year nature of the proposed exploration program – these parameters are subject to on-going definition and evolution as Project planning and design continue to progress.

At the time of preparation and submission of the EA Report (July 2015), ExxonMobil's planning and analysis suggested that the required operating pressure of the source array would not likely be required to reach the 2,500 psi levels indicated in the original EA Project Description (February 2015), and so the EA Report indicated that levels of up to 2,000 psi would likely be required and used. As Project planning, design and (if approved) eventual implementation progress, however, it is conceivable that the required operating pressure of the source array may increase slightly, based on site and survey specific characteristics and in order to optimize data collection and quality, up to say 2,100 psi at times. This (up to 2,100 psi, should it be required) operating pressure would be well covered within the scope and findings of the EA, especially in terms of the environmental effects assessed and evaluated and the mitigations proposed by ExxonMobil.

Should, however, technical or other factors require that the operating pressure of the source arrays extend above the 2,000 to 2,100 psi range, ExxonMobil will again report this to the C-NLOPB through future EA Updates and/or address this change through other appropriate means with the regulator.

§ 4 Existing Environment, pgs 35 – 247 - *The Eastern Newfoundland Strategic Environmental Assessment (SEA) (August 2014) provides information on the eastern Newfoundland offshore physical, biological, and socioeconomic environments. This SEA, as well as recent EAs in the area, provides descriptions of: marine birds; fish and fish habitat; marine mammals and sea turtles; species at risk; sensitive areas; and human activities, including marine fisheries. As per the Scoping Document (C-NLOPB March 2, 2015), only relevant new information for the Study Area that has become available since the publication of the above noted documents should be provided in the EA.*

ExxonMobil Response: As noted, the *Eastern Newfoundland Strategic Environmental Assessment* (AMEC 2014) provides a great deal of relevant and useful information on the existing environment of the Project Area and Study Area for this EA. The description of the existing environment, and the associated identification of key environmental issues and interactions and the selection of mitigation for this EA has therefore drawn from, and been informed and influenced by, the SEA.

Although the C-NLOPB's project-specific EA Scoping Documents do state that "only relevant new information for the Study Area that has become available since the publication of the above noted documents should be provided in the EA", it is typically not possible or particularly meaningful to provide only individual and separate "snippets" of new data in an isolated and out of context manner. This would, for example, require the reader to try and review this new information against the overall SEA documentation, and to themselves attempt to merge and reconcile the previous (SEA) information and any newer data presented in the EA Report. Moreover, much of the information and analysis provided in the SEA is for its own, overall Study Area, whereas most subsequent projects and their EAs (including this one) have different locations, sizes and shapes of study areas. This means that the overall environmental baseline information provided in the SEA is not always directly relevant to the Project-specific EA Study Area (for example, fisheries statistics and mapping in many cases cover different NAFO Unit Areas, individually and in total, that those addressed in the SEA).

Therefore, the approach taken for this EA Report has been to present a full and complete overview of the existing biophysical and socioeconomic environments that is relevant to this Project and its EA, but also to organize and structure this description (Chapter 4) in a way that allows the reader to quickly and efficiently identify and focus in on the issues and information that they see as important and relevant (including that which is new) for this Project. It should also be noted that for certain environmental components and parameters (e.g., the physical environment) this EA Report provides a much more concise and abridged environmental description as compared to that which was included in the SEA, especially for those environmental components that are of somewhat less relevance than others to this Project and the scope of its environmental effects analysis.

§4.3.1.2 Commercial Fisheries, 1st para, line 2, pg 204 – *The text states the "May to December" period, however the Figures, although not referenced by number, state "May to November". Please clarify. The figures do not appear to be properly referenced in the text.*

ExxonMobil Response: The referenced text in Section 4.3.1.2 should say "May to November". The Figure references that are given in the text are correct, although it should be noted that not all individual Figures are discussed (and therefore, referenced) separately and specifically in the text.

§5.1 Project Components, Activities and Key Environmental Considerations, pg 248 – *Confirm that activities are to take place within the May 1 to November 30 period, as stated in Section 2.6, and not generally within the May to November timeframe as stated in various locations throughout the report.*

ExxonMobil Response: As noted in Section 2.6 (Project Schedule) "The proposed Project activities will occur within the May 1 to November 30 period for each and all years of the proposed exploration program, which will potentially extend from 2015 to 2024". The term "generally" has been used to indicate that while these are the overall temporal boundaries for Project activities annually, these will not necessarily occur for this full duration (seven months) every year.

§5.3 Environmental Planning, Management and Mitigation, pg 252 – *Although a number of mitigation measures are listed in this section, it should be confirmed by ExxonMobil that all applicable mitigation requirements, as outlined in the Geophysical, Geological, Environmental and Geotechnical Program Guidelines (C-NLOPB), will be met.*

ExxonMobil Response: These Guidelines and their applicability to the Project (and thus, the required and planned adherence to these) are referenced and confirmed in the EA Report (e.g., various places in Sections 1.3 and 5.3). ExxonMobil again hereby confirms its intent to adhere to the requirements of these Guidelines in planning and implementing the proposed Project.

2.2.2 Environment Canada (EC)

§5.12 Environmental Monitoring and Follow-up, pg 300 - “ExxonMobil will develop and implement an operational monitoring program for marine birds and mammals throughout the course of the Project. A qualified and experienced Environmental Observer will be onboard the seismic vessel(s) to record marine bird and marine mammal sightings during Project operations, which will be undertaken in accordance with applicable requirements and guidelines. Reports from these monitoring programs will be submitted to the relevant government authorities on a regular basis.”

EC-CWS has developed a pelagic seabird monitoring protocol (attached) that is recommended for use by experienced observers on all offshore projects. A guide for pelagic seabirds of Atlantic Canada is also attached, for assistance in identifying pelagic seabirds in the area. A report of the seabird monitoring program, together with any recommended changes, is to be submitted to EC-CWS on a yearly basis. In an effort to expedite the process of data exchange, EC-CWS recommends that the data (as it relate to migratory birds or Species at Risk) collected from the monitoring program be forwarded in digital format to the EC-CWS office following completion of the study.

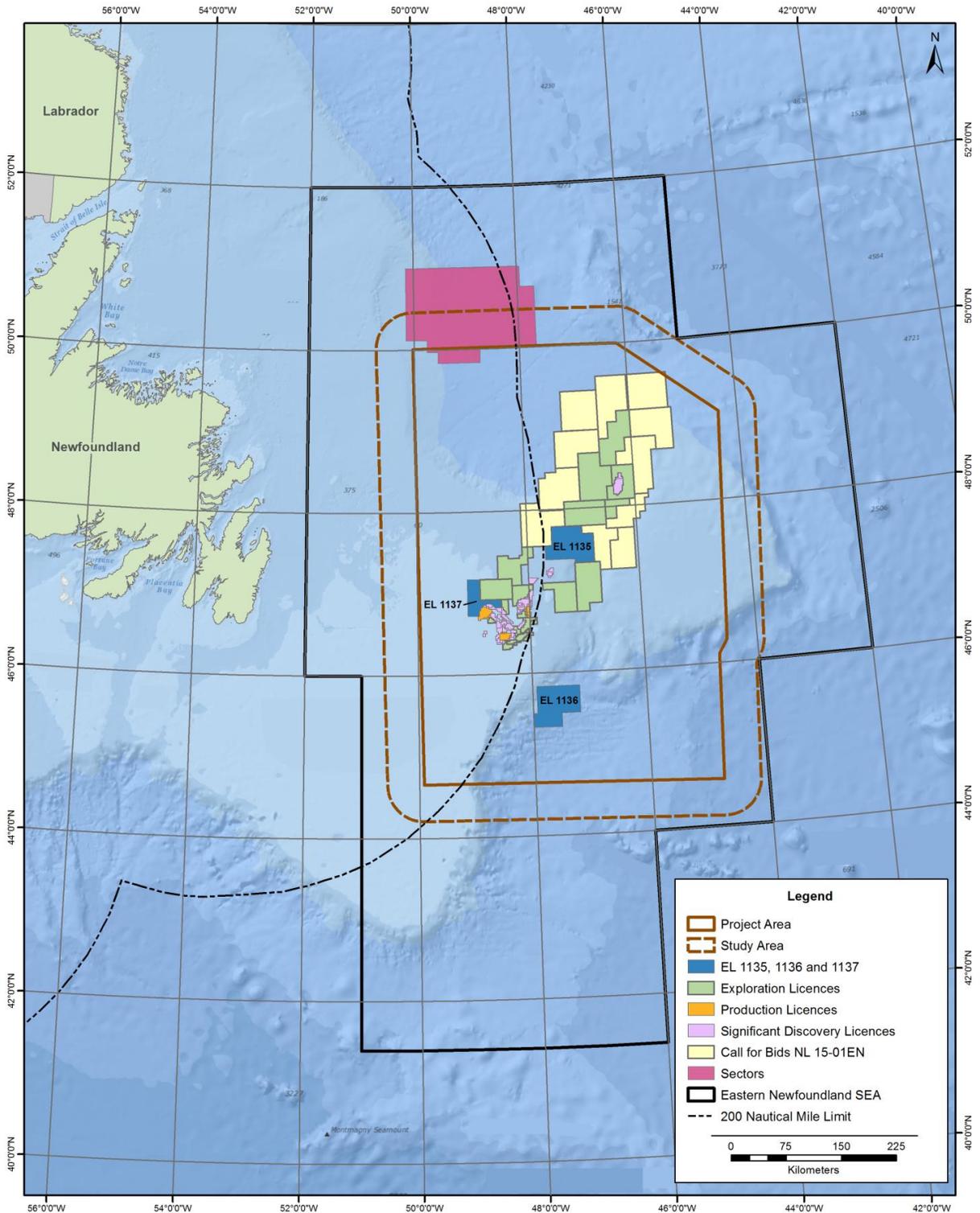
ExxonMobil Response: These details and attached supporting documents are acknowledged and appreciated. The operational monitoring program for marine birds and mammals referenced above and in the EA Report will be designed, conducted and reported upon in accordance with this guidance documentation and any such requirements, including the provision of the associated digital data to CWS in the specified format.

2.2.3 Fisheries and Oceans Canada (DFO)

Figure 1.1 (page 2), Figure 2.1 (page 10) and Figure 3.2 (page 28) - While these figures (and other similar figures in the EA) show a polygon labelled “Sectors” located immediately outside the NW boundary of the Project Area it is not clear what this area represents as it has not been defined or referenced within the EA. This should be clarified and an indication provided as to the nature of this area and its relationship to the activities undergoing EA.

ExxonMobil Response: The Figures throughout the EA Report use a common base map and scale to optimize the utility and comparability of the associated mapping and the Project and environmental baseline information illustrated therein. This has included, for general reference, all of the various licences, calls for bids areas and other regulatory boundaries that are relevant to the offshore oil and gas industry within the Study Area (as administered by the C-NLOPB) as of the time of EA Report writing. This includes licences and other areas and boundaries which are not necessarily directly relevant to the Project itself, as illustrated in Figure 1.1 of the EA Report (reproduced below, for reference).

EA Report, Figure 1.1: ExxonMobil Eastern Newfoundland Offshore Geophysical, Geochemical, Environmental and Geotechnical Programs, 2015-2024 (NOTE: Original Project and Study Areas and base map / licencing information)



Under the C-NLOPB's current Land Rights issuance process for the NL Offshore Area, "Sectors" are described as follows:

"Sectors represent the geographic area for which a call for bids will take place in the scheduled land tenure system. Sectors will be identified at the beginning of the scheduled land tenure process, such that industry will have a known call for bids area with a long lead schedule, allowing additional time for exploration assessment. A sector will be posted via a Sector Identification announcement.

Sectors will be configured by the C-NLOPB, based upon the Area of Interest nominations received from industry and assessment of lands by the Exploration Department. The C-NLOPB has considered the appropriate size of potential sectors, given the goals and process of the scheduled land tenure system. The size of a sector will be approximately 2 million hectares (ha) or 20 000 km² and therefore will accommodate roughly nine, 800 section exploration licences (ELs) (the maximum EL size offered by the C-NLOPB). As such, sectors will be large relative to exploration prospects, existing fields and exploration licences. They will be designed to allow for multiple play and prospect types over an extensive geographical area. Sector boundaries will be considered "flexible" for the purpose of parcel design; such that parcels can extend beyond the edge of a sector to properly contain geological features in the subsurface."

The information cited above is sourced from the applicable section of the C-NLOPB website (<http://www.cnlopb.ca/exploration/issuance.php#asector>) where up-to-date information on the associated land rights processes and on currently active and closed Sectors can be found. The "Sector" labelled in the common base map is in reference to NL02-EN. Further information or clarification on this or other Sectors should be obtained directly from the C-NLOPB.

There is no direct relationship between this Project and the Sector (NL02-EN) identified immediately outside the NW boundary of the Project Area on the various Figures in the EA Report, and this information has again been provided for context only.

§2.4.1.1 2D Seismic Surveys and §2.4.1.2 3D Seismic Surveys, pgs 12 and 13 - *The sound levels anticipated for both 2D and 3D seismic surveys are presented in terms of volume 3000 – 5000 in³, pressure 1800 – 2000 psi and peak to peak pressure 100 – 180 bar-meters. It is not clear what these values represent in terms of decibels (dB). This should be clarified.*

ExxonMobil Response: For comparison and context, 100 bar-m is equal to 260 dB re 1 uPa-m and 180 bar-m is equal to 265 dB re 1uPa-m.

§4.2.1.1 Approach, Key Data Sources and Administrative Considerations, pg 53 - *Since the proposed exploration program is planned to continue into 2024 and the Environmental Assessment (EA) report utilizes commercial fishing data up to 2013, it would be prudent to periodically revisit the potential impacts on commercial fisheries if fishing activity or the planned exploration survey activities vary significantly from that described in this EA report.*

ExxonMobil Response: This comment and suggestion is acknowledged. The 2013 fisheries data were the most current available from DFO as of the time of EA Report preparation (to July 2015), and remained so as of the time of writing of this EA Addendum (DFO Statistical Services, pers. comm. November 18, 2015).

As noted in Section 5.12 of the EA Report, “ExxonMobil will submit updates in relation to this multi-year program” for which, based on current practice, it is anticipated there will be a requirement to obtain, analyse, consider and present any updated fisheries information that has become available since the original EA Report was prepared.

The Proponent has recently requested the 2014 fisheries data from DFO, and once received and analysed this updated information will be included in any upcoming EA Updates for this Project.

§4.2.1.6 Marine Fish – Fish Species at Risk and Otherwise of Special Conservation Concern Table 4.6, pgs 112 and 113

- The information in the “Population” column refers to the species range (i.e. Atlantic Ocean (AO) and Newfoundland and Labrador (NL)) and not the applicable population name. The heading should be changed to reflect the information in the column, or the information in the column changed.
- When referring to SARA listed or COSEWIC assessed species it is important to include the applicable population names. For example the population names for the following species are:
 - o White shark - Atlantic population
 - o Smooth Skate - Funk Island Deep population
 - o Acadian Redfish - Atlantic population
 - o Deepwater Redfish - Northern population
 - o Short fin Mako Shark - Atlantic population
 - o Spiny Dogfish - Atlantic population
- Spiny dogfish is assessed by COSEWIC as “Special Concern”, and not as “Threatened”, this should be corrected.

ExxonMobil Response: The comments, corrections and suggestions provided above in relation to Table 4.6 of the EA Report are addressed in the replacement Table provided below. Items that have been updated or otherwise revised are shown in grey shading.

Table 4.6 Fish Species at Risk or Otherwise of Special Conservation Concern

Family	Species		Status / Designation ^{1,2}				Relevant Population (Where Applicable)
	Common Name	Scientific Name	NL ESA	SARA Status	COSEWIC Designation	IUCN	
Anarhichadidae	Atlantic wolffish	<i>Anarhichas lupus</i>		SC	SC		
Anarhichadidae	Northern wolffish	<i>Anarhichas denticulatus</i>		T	T		
Anarhichadidae	Spotted wolffish	<i>Anarhichas minor</i>		T	T		
Anguillidae	American eel	<i>Anguilla rostrata</i>	V		T		
Carcharhinidae	Blue shark	<i>Prionace glauca</i>			SC	NT	Atlantic (COSEWIC)
Cetorhinidae	Basking shark	<i>Cetorhinus maximus</i>			SC	V	Atlantic (COSEWIC); Global (IUCN)

Family	Species		Status / Designation ^{1,2}				Relevant Population (Where Applicable)
	Common Name	Scientific Name	NL ESA	SARA Status	COSEWIC Designation	IUCN	
Gadidae	Atlantic cod	<i>Gadus morhua</i>			E	V	Newfoundland and Labrador (COSEWIC)
Gadidae	Cusk	<i>Brosme</i>			E		
Lamnidae	Porbeagle	<i>Lamna nasus</i>			E	V	Global (IUCN)
Lamnidae	Shortfin mako	<i>Isurus oxyrinchus</i>			T	V	Atlantic (COSEWIC); Global (IUCN)
Lamnidae	White shark	<i>Carcharodon carcharias</i>		E	E	V	Atlantic (COSEWIC/SARA)
Macrouridae	Roughhead grenadier	<i>Macrourus berglax</i>			SC		
Macrouridae	Roundnose grenadier	<i>Coryphaenoides rupestris</i>			E		
Pleuronectidae	American plaice	<i>Hippoglossoides platessoides</i>			T		Newfoundland and Labrador (COSEWIC)
Rajidae	Barndoor skate	<i>Dipturus laevis</i>				E	
Rajidae	Smooth skate	<i>Malacoraja senta</i>			E	E	Funk Island Deep (COSEWIC); Canada, Global (IUCN)
Rajidae	Spinytail skate	<i>Bathyraja spinicauda</i>				NT, V	Global, Northwest Atlantic (IUCN)
Rajidae	Thorny skate	<i>Amblyraja radiata</i>			SC	V	Canada (IUCN)
Rajidae	Winter skate	<i>Leucoraja ocellata</i>			E	E	Eastern Scotian Shelf-Newfoundland Population (COSEWIC); Global (IUCN)
Salmonidae	Atlantic salmon	<i>Salmo salar</i>			E, T, SC	LC	South Newfoundland, Gaspé-Southern Gulf of St. Lawrence, Eastern Cape Breton, Nova Scotia Southern Upland (COSEWIC)

Family	Species		Status / Designation ^{1,2}				Relevant Population (Where Applicable)
	Common Name	Scientific Name	NL ESA	SARA Status	COSEWIC Designation	IUCN	
Scombridae	Albacore tuna	<i>Thunnus alalunga</i>				NT	
Scombridae	Bigeye tuna	<i>Thunnus obesus</i>				V	
Scombridae	Bluefin tuna	<i>Thunnus thynnus</i>			E	E	
Scorpaenidae	Acadian redfish	<i>Sebastes fasciatus</i>			T	E	Atlantic (COSEWIC)
Scorpaenidae	Deepwater redfish	<i>Sebastes mentella</i>			T	LC	Northern, (COSEWIC)
Squalidae	Spiny dogfish	<i>Squalus acanthias</i>			SC	V	Atlantic (COSEWIC)

¹ Least Concern (LC), Vulnerable (V), Near Threatened (NT), Special Concern (SC), Threatened (T), Endangered (E)

² Multiple designations refer to multiple populations or sub-populations

§4.2.3.1 Mysticetes Table 4.14, pg 171 - There is no designated population name for North Atlantic Right Whale; the population name “Western North Atlantic” should be removed.

ExxonMobil Response: Acknowledged. The stated population name for North Atlantic Right Whale is removed from the relevant row of Table 4.14, as follows:

North Atlantic Right Whale (<i>Eubalaena glacialis</i>)	<p>Status</p> <p>Endangered (SARA Schedule 1 and COSEWIC). Estimated at about 468 animals in 2010 (COSEWIC 2013). Only rarely sighted in the Study Area; none were observed during aerial surveys conducted in 2007 off of Eastern and Southern Newfoundland (Brown et al 2009; Lawson and Gosselin 2009).</p>
	<p>Biology and Ecology</p> <ul style="list-style-type: none"> • Usually found in waters 100 – 200 m deep with surface temperatures between 8 and 15°C (Kenney 2001). The species was formerly distributed throughout the North Atlantic; however, it appears to be extinct in the eastern North Atlantic (Reilly et al 2012). • Known to aggregate in five seasonal habitat areas along the east coast of North America, all of which are south of Newfoundland. Within their range, distribution can shift dramatically with prey distribution and abundance. Calving takes place in the winter in the waters off of Georgia south to Florida; winter distribution of males and non-calving females is poorly known, but they are thought to be scattered along the waters off the eastern US as far north as Cape Cod Bay (Winn et al 1986). • Sexual maturity at approximately 10 years of age. Gestation approximately 12 months, and inter-calving interval is 3 - 5 years (COSEWIC 2013). • Feed on plankton, primarily copepods, with a typical dive depth of around 150 m (Kenney 2001, Baumgartner and Mate 2003).

	Environmental Preferences		
	Present: Jun-Sep	150	Open Ocean
	<i>Seasonal Presence</i>	<i>Foraging Depth (m)</i>	<i>Marine Habitat</i>

§4.2.3.2 Odontocetes Table 4.15, pgs 173 to 179

- *There is no population name designated for Sowerby’s Beaked Whale; the population name “Atlantic Ocean” should be removed.*

ExxonMobil Response: Acknowledged. The stated population name for Sowerby’s Beaked Whale is removed from the relevant row of Table 4.15, as follows:

Sowerby’s Beaked Whale (<i>Mesoplodon bidens</i>)	Status		
	Special Concern (SARA Schedule 1 and COSEWIC). No population estimate exists (COSEWIC 2006c; Taylor et al 2008b).		
	Biology and Ecology		
	<ul style="list-style-type: none"> • Generally found in deep water environments (550 m to over 1500 m), including continental shelf edges and slopes. Distribution is limited to the colder waters of the North Atlantic; in North America, they occur from Massachusetts north to Labrador (Taylor et al 2008b). • Seasonal movements unknown; all confirmed sightings off Newfoundland have been in the summer months, but this may be due to the relatively higher search effort relative to other times of the year (COSEWIC 2006c), but a stranded female was reported in February 2015 at Point Lance, near Cape St. Mary’s (CBC 2015). • Most sightings and strandings are of groups of 3 - 10 individuals. • Life history poorly understood; females attain sexual maturity upon reaching a length of between 4.6 and 4.8 m, while males are apparently sexually mature at 5.0 m (COSEWIC 2006c). • Feed on squid and fish, including cod (Ostrom et al 1993). 		
	Environmental Preferences		
	Present: Year round	1,000	Open Ocean
	<i>Seasonal Presence</i>	<i>Foraging Depth (m)</i>	<i>Marine Habitat</i>

- *The population name for Harbour Porpoise is Northwest Atlantic population, this should be corrected.*

ExxonMobil Response: Acknowledged. The population name for Harbour Porpoise is corrected in the relevant row of Table 4.15, as follows:

Harbour Porpoise (<i>Phocoena phocoena</i>)	Population		
	Northwest Atlantic Population		
	Status		
	Special Concern (COSEWIC); Threatened (SARA Schedule 2). Fairly common in the Study Area; abundance estimate in Southern and Eastern Newfoundland is 1,195 individuals (95 percent confidence limits: 639 - 1,195) based on 2007 surveys. Estimate is considered by the authors to be		

	preliminary, as it has not been corrected for perception biases (Lawson and Gosselin 2009).		
	Biology and Ecology		
	<ul style="list-style-type: none"> Occurs in cold temperate to sub-polar waters in the northern hemisphere, usually in coastal shelf waters in shallow bays and estuaries less than 200 m in depth, although occasionally offshore (Hammond et al 2008d). Movements of porpoises in the waters off Newfoundland are poorly known (COSEWIC 2006c). Usually observed in groups of 1 - 3 individuals, often including at least one calf (COSEWIC 2006c). Reach sexual maturity at 3 - 4 years, and gestation is 10 - 11 months (ACS 2006). Intercalving interval of 1 - 2 years (COSEWIC 2006c; ACS 2006). Feed on small schooling fishes and cephalopods (Hammond et al 2008d). 		
	Environmental Preferences		
	Present: Year round	40	Coastal/Estuarine
	<i>Seasonal Presence</i>	<i>Foraging Depth (m)</i>	<i>Marine Habitat</i>

§4.2.3.5. Species at Risk and Otherwise of Special Conservation Concern Table 4.18, pg 186 - The population name for Harbour Porpoise - Northwest Atlantic population, should be included.

ExxonMobil Response: Acknowledged. The population name for Harbour Porpoise is included in the relevant row of Table 4.18, as follows:

Harbour Porpoise (Northwest Atlantic Population)	none	Special Concern	<ul style="list-style-type: none"> Coastal shelf, bays and estuaries; occasionally offshore (Hammond et al 2008d). Found in cold waters throughout the northern hemisphere (Hammond et al 2008d). Seasonal movements poorly known. 	Fairly common in the Study Area, possibly present year round.
---	------	-----------------	---	---

§4.2.3.6 Key Areas and Times for Marine Mammals and Sea Turtles, pg 188 - This section should also make reference to Figure 4.68 Protected and Special Areas (page 195) as it depicts areas that are described in this section - see Table 4.19.

ExxonMobil Response: Acknowledged. The following sentence is added to the text at the end of this section:

“Please see also the later Figure 4.68, which illustrates a number of relevant protected and special areas that are referenced herein and in Table 4.19 below.”

§4.3.1.6 Recreational Fishing and Other Activities, pg 242 - Aboriginal communal commercial fishing licenses for both the Qalipu First Nation Band, (shrimp, snow crab and groundfish in NAFO 3K) and Innu Nation (groundfish in NAFO 3LMNO, shrimp in NAFO 3K and 3L) are factored into the Commercial Fishery statistics. As such the last sentence of this section i.e. “There are no known Aboriginal interests or associated resource use activities...” should be revised to indicate “...There are no known aboriginal food, social or ceremonial fishing activities...”

ExxonMobil Response: Acknowledged. As requested, this sentence in Section 4.3.1.6 of the EA Report is revised as follows:

“There are no known Aboriginal food, social or ceremonial fishing activities that occur within the Study Area.”

§5.3 Environmental Planning, Management and Mitigation, pgs 251 to 254 - *It should be noted (most likely within this Section of the EA report) that the Marine Mammal Regulations (MMR) under the Fisheries Act is currently undergoing amendment. While public consultation on proposed amendments have only just recently ended it should be noted that Schedule 11 of the proposed amended MMR provide approach distances for marine mammals based on species, vehicle (vessel, aircraft, etc), area and timing. Given that the proposed exploration survey is planned to continue into 2024 it is recommended that the proponent be aware of potential implications that may arise if proposed amendments to MMR are accepted during the timeframe covered by the proposed survey program.*

ExxonMobil Response: Acknowledged and appreciated. ExxonMobil continues to monitor applicable environmental legislation and regulations that are relevant to its activities, and will plan and implement the various components and activities that are associated with this Project in compliance with the relevant provisions of the *Fisheries Act* and *Marine Mammal Regulations* as current at the time.

§5.5.1 Potential Environmental Issues Interactions and Existing Knowledge - Table 5.2, pgs 258 to 262 - *As noted earlier in relation to seismic sound levels the EA report should provide an indication of the anticipated and likely level of seismic sound in terms of decibels (dB), especially so since all the information presented in Table 5.2 is relative to seismic sound in terms of decibels (dBs). It is not clear how the likely / probable levels of seismic sound during 2D/3D seismic surveys as provided on page 13 relate to, or compare to, the levels presented within Table 5.2 and the subsequent analysis of potential effects of seismic sound. This should be clarified.*

ExxonMobil Response: As described in Section 2.4.1 of the EA Report, the seismic source towed array operates on compressed air at pressures of approximately 1,800 - 2,000 pounds per square inch (psi), and produce approximate peak-to-peak pressures of 100 to 180 bar-metres (bar-m). As noted in an earlier response, for comparison and context, 100 bar-m is equal to 260 dB re 1 uPa-m and 180 bar-m is equal to 265 dB re 1uPa-m.

The literature reviews presented in Chapter 5 of the EA Report (and particularly, in Table 5.2 – Marine Fish and Fish Habitat and Table 5.8 – Marine Mammals and Sea Turtles) summarize the results of a variety of previous, representative studies on the observed effects of seismic sound (of various types and intensities) on marine biota. Where specific sound levels are given, these are primarily in the units of dB. The summary bullets provided immediately above Table 5.2 (Section 5.5.1), for example, state that “Behavioural responses of fish typically begin to occur at sound levels above 155 dB, whereas auditory damage starts at 180 dB, transient stunning at 192 dB and internal injuries may start to occur at 220 dB. Some invertebrate species show injury at levels as low as 217 dB while others can experience louder noises with no observable consequence”.

While the results of this literature review have been provided for general information, and have been used in informing the environmental effects assessment and associated identification of mitigation, the EA Report is also clear throughout that seismic sound energy levels in the marine environment decreases rapidly with distance from the source, and so the potential for any

associated physiological or behavioural effects will therefore depend greatly on the proximity of marine biota to the operating seismic arrays and other factors.

§5.5.2.1 Vessel and Equipment Use (Last sentence 1st paragraph Pg 264) and §5.9.2 Environmental Effects Assessment (Last sentence 1st paragraph pg 290) - Both of these sentences note that “Prior to undertaking seabed sampling in work areas that are protected and/or have been identified as having a high probability of occurrence of corals and sponges (see Section 4.2) a representative sea bed characterization (reconnaissance) drop camera/video system survey transect will be acquired to investigate the potential presence of these sensitive benthic organisms”. There is no indication what is proposed to happen if noted reconnaissance surveys confirm that such sensitive benthic organisms are present – would the area be sampled regardless or would the survey move to an adjacent area with no such organisms? This should be clarified.

ExxonMobil Response: Should the above referenced drop camera / video surveys indicate the presence of sensitive benthic organisms within a planned area of seabed sampling (i.e., only those areas identified in Figure 4.24 in the EA Report as high density areas and Protection Zones for corals, seamounts and sponges), the appropriate mitigative response to this finding will depend on a variety of factors, including: the type of organism(s) observed; their relative abundance and overall size of area occupied; the (relatively small) footprint of the seabed sampling equipment and the presence of suitable, alternative sampling locations nearby; the locational precision of the drop camera / video survey (due to water depths, currents, cable lengths and associated sway); and other factors. Should such organisms be observed on-site during the conduct of the field program, the relevant technical crew and ExxonMobil representatives will discuss to determine the appropriate mitigation approach. In any cases where sampling activities are planned to occur within identified high potential areas for the occurrence of such species, ExxonMobil will discuss this with relevant DFO representatives in advance of the survey mobilization to discuss and consider potential mitigation approaches in the event that such species are observed at planned sampling locations in the field.

§5.12 Environmental Monitoring and Follow-up, Pg 300

- *The last sentence of the 1st paragraph notes that the implementation and effectiveness (of the various mitigations committed to) will be “...directed, managed and tracked in accordance with ExxonMobil’s existing policies and procedures...”. It is assumed that this includes audits and monitoring reports describing compliance with, and the effectiveness of, the various mitigations committed to within the EA (e.g. CNLOPB Guidelines, Statement of Canadian Practice, etc...). This should be clarified and copies of existing policies and procedures provided – e.g. as an appendix to the EA.*

ExxonMobil Response: ExxonMobil uses a variety of tools to ensure that the environmental commitments and mitigations highlighted in this EA are communicated and followed during its operations. Some of these tools are already ingrained in the regulatory process. For example, the Environmental Protection Plan, part of the Operations Authorization Application, will be reviewed and cross-referenced with this EA by the Contractor when developing the plan, by ExxonMobil when reviewing the documents, and by the C-NLOPB for their ultimate review and sign off. Any Geophysical Program Authorization (GPA) application will again reiterate the same policies in both the Standard Operating Procedures (SOPs) and Certificate of Fitness.

In addition, ExxonMobil has a variety of environmental policies, plans and procedures in place that pertain to its various activities, including associated environmental management systems and other processes to ensure the effective and efficient implementation and monitoring of these. This includes generic policies, principles and corporate systems that relate to its overall operations worldwide (see, for example, <http://corporate.exxonmobil.com/en/>) and/or which relate to its activities in a particular jurisdiction or operating environment or on a project-specific basis.

Environmental management for this Project will be guided by ExxonMobil's Environment Policy, expectations from the "Protect Tomorrow. Today." initiative and management systems. These systems provide a systematic, structured and disciplined approach to environmental management.

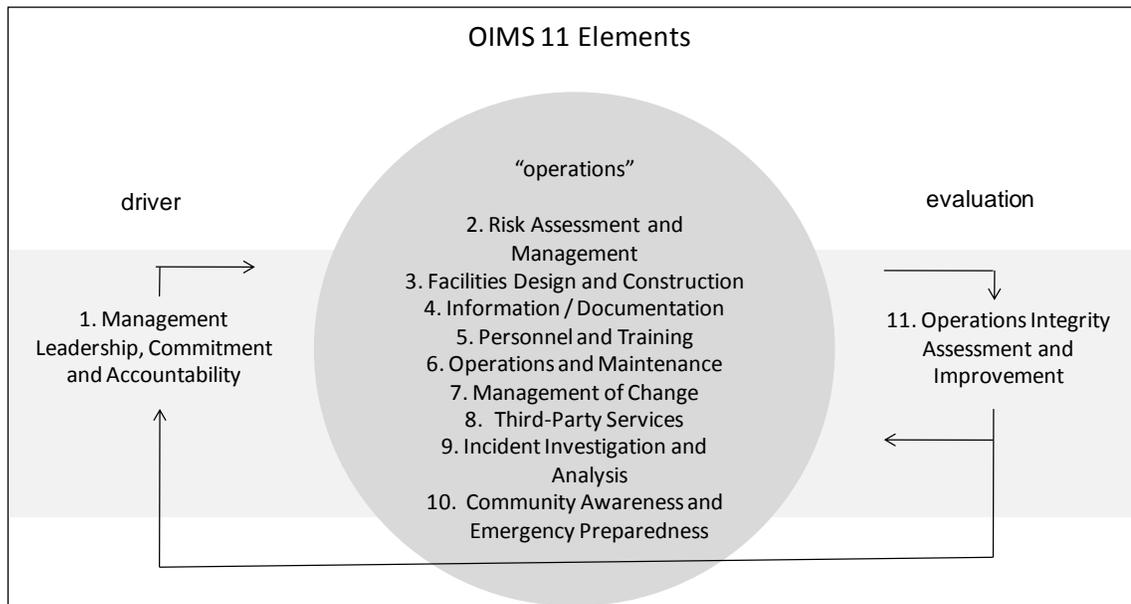
ExxonMobil's approach to environmental protection is guided by the ExxonMobil Corporation's Environment Policy, as shown below. ExxonMobil Canada has adopted those policies.

It is ExxonMobil Corporation's policy to conduct its business in a manner that is compatible with the balanced environmental and economic needs of the communities in which it operates. The Corporation is committed to continuous efforts to improve environmental performance throughout its operations.

Accordingly, the Corporation's policy is to:

- comply with all applicable environmental laws and regulations and apply responsible standards where laws and regulations do not exist;
- encourage concern and respect for the environment, emphasize every employee's responsibility in environmental performance, and foster appropriate operating practices and training;
- work with government and industry groups to foster timely development of effective environmental laws and regulations based on sound science and considering risks, costs, and benefits, including effects on energy and product supply;
- manage its business with the goal of preventing incidents and of controlling emissions and wastes to below harmful levels; design, operate, and maintain facilities to this end;
- respond quickly and effectively to incidents resulting from its operations, in cooperation with industry organizations and authorized government agencies;
- conduct and support research to improve understanding of the impact of its business on the environment, to improve methods of environmental protection and to enhance its capability to make operations and products compatible with the environment;
- communicate with the public on environmental matters and share its experience with others to facilitate improvements in industry performance;
- undertake appropriate reviews and evaluations of its operations to measure progress and to foster compliance with this policy.

ExxonMobil seeks to deliver superior environmental performance, and in this spirit, an Environmental Management Process has been developed, which is integrated with project design and operations processes and procedures and has been deployed consistently around the world (see diagram below). This process allows ExxonMobil to conduct its business in a manner that is compatible with the balanced environmental and economic needs of the communities in which it operates. ExxonMobil is committed to continuous efforts to improve environmental performance.



ExxonMobil's structured Environmental Management Process ensures that a variety of tools, plans and processes are in place to safeguard the environment - its biodiversity, cultural heritage and value. These features are a priority in business planning throughout a project's life cycle. The Environmental Management Process requires an early engagement approach to identifying environmental issues and alternatives, even before the project concept is determined. In the project's early stages, alternatives analyses guide project concepts and decisions as more knowledge about site characteristics and facility designs become known. Decisions early in a Project's life can lead to an overall reduced environmental footprint.

Detailed information on these and other aspects of ExxonMobil's environmental policy, plans and procedures can be found on the corporate website (<http://corporate.exxonmobil.com/en/>).

Notwithstanding these internal processes and requirements for managing, monitoring and reporting on its environmental performance, ExxonMobil will adhere to all of the applicable legislative and regulatory requirements that pertain to this Project, including any terms and conditions imposed as conditions of any associated EA approval for the Project, and will monitor and report on these in accordance with applicable C-NLOPB (such as through any required EA Updates) or other regulatory requirements.

- *2nd Paragraph – given that 2D / 3D seismic surveys will occur during periods of darkness it is felt that the noted "...operational monitoring program for marine mammals..." should / will describe measures to allow monitoring of marine mammals and sea turtles within the safety zone during periods of darkness and/or reduced visibility and that it would be adaptive from one year, or one survey, to another. This should be clarified and details of noted operational monitoring programs provided for review and information – e.g. as an appendix to this EA and subsequent EA updates.*

ExxonMobil Response: As noted throughout the EA Report, the proposed Project – including its operational monitoring program for marine mammals and sea turtles within the safety zone - will be planned and implemented in accordance with the C-NLOPB's *Geophysical, Geological, Environmental and Geotechnical Program Guidelines* (C-NLOPB 2012), including the relevant provisions related to operations in low visibility (see Appendix 2 of these Guidelines). The

specifics of the program design will be made available to the C-NLOPB and/or DFO once available, including in any subsequent EA Updates as noted by the reviewer.

2.2.4 Fish, Food and Allied Workers (FFAW-Unifor)

§ 4.2.1.2 The Offshore Marine Ecosystem, Ecological Regimes and Assemblages, Page 55 and § 4.2.1.5 Benthic Invertebrates, Snow Crab, page 68 – *Although the general trend indicates that snow crab stocks declining it is important to note that this does not appear to be the case in 3L, the NAFO Division where the bulk of the Study Area falls.*

ExxonMobil Response: This information and clarification from the FFAW-Unifor is acknowledged and appreciated (with no required, associated changes to the EA findings or conclusions).

§ 4.2.1.5 Benthic Invertebrates, Page 60 – *Qualifying the statement “benthic invertebrates are the biggest contributors to commercial landings” by adding “currently” is warranted.*

ExxonMobil Response: Acknowledged. The statement that “benthic invertebrates **are** the biggest contributors to commercial landings” (emphasis added) reflects that this statement refers to the current (baseline) condition of the existing environment (in this case, the fishery).

§ 4.3.1.2 Commercial Fisheries, Overview of Past Fisheries, Page 202 – *Please qualify the discussion on the cod moratorium. There are several commercial fisheries for the species in NL and it is an important component of many fishing enterprises. Additionally, groundfish stocks are increasing such that there will be larger-scale directed fisheries in the near future. Stating that the moratorium for cod is “still substantially in place” is misleading. The sentence following does not adequately capture the expected resurgence.*

ExxonMobil Response: The past and current importance of the cod fishery off Eastern Newfoundland and elsewhere is recognized and reflected in this section, as well as in the subsequent presentation and discussion of the current fisheries statistics and associated mapping in the EA Report.

In terms of the potential resurgence of the cod fishery in the future, this is likewise reflected in the subsection entitled “Potential Future Commercial Fisheries”, which states for example that “Oceans are predicted to continue to warm over the decades and as a result, some fishers are predicting that the groundfish fishery will become similar to the pre-moratoria times”. This section also references the Eastern Newfoundland SEA’s (AMEC 2014) findings in that regard.

In that same section, the EA Report also states that:

“The above sections provide an overview of recent fishing activity in and near the Study Area, based on existing and available information....Should, however, a new fishery or a currently closed fishery become active within the Study Area during the temporal scope of this Project, this will be identified in the on-going fishery information updates and analysis and considered in the annual EA Update that will be filed before ExxonMobil’s application for a GPA in any Project year”

§ 4.3.1.2 Commercial Fisheries, Overview of Past Fisheries, Page 202 – Please provide the reference for the inference that the downward trend in shrimp “could possibly be a result of the fisheries closure in Division 3M in 2010.”

ExxonMobil Response: There is no specific reference for this statement, as it is – as noted by the reviewer – an “inference”, which is made clear in its use of the qualifying phrase “could possibly be a result of..”. This inference is not, however, critical to the EA and its associated effects assessment and conclusions, and is therefore removed.

§ 4.3.1.2 Commercial Fisheries, Commercial Fish Harvests, Pages 204 and 205 – *There should be some indication in the text that the maps are displaying data from 3KLMN only. The text is misleading in that it states it is commercial fishing activity within and adjacent to the study area. However, 3Ps and 3O in particular are also adjacent to the study area.*

ExxonMobil Response: Section 4.3.1.1 and Figures 4.69 and 4.70 of the EA Report state specifically the various NAFO Divisions and Unit Areas that are included in the subsequent discussion and associated data tables and mapping.

This section of the EA Report presents fisheries data for those NAFO Unit Areas that overlap, in whole or in part, with the Study Area (see Section 4.3.1.1 and Figures 4.69 and 4.70). In this way “adjacent” to the Study Area simply means that a portion of the areas of (and thus, the fisheries landings information from) certain Unit Areas are not directly within the Study Area itself. That is not the case for 3Ps or 3O as neither of these overlap even in part with the Study Area, and so data from neither of these areas are included in the statistics (and totals) provided.

§ 4.3.2.1 Marine Transportation and Shipping, Page 244 - *MCTS Centres are located in Placentia, Port aux Basques and Goose Bay.*

ExxonMobil Response: This information and clarification is acknowledged and appreciated.

§ 5.3 Environmental Planning, management and Mitigation, Page 254 and § 5.10.2 Environmental Effects Assessment Page 295 – *The FLO onboard the seismic vessel is tasked with directly communicating with fish harvesters on the water. This is not the role of the crew of the standby or guard vessel.*

ExxonMobil Response: Understood and acknowledged, and reflected in the associated wording in this section of the EA Report, which states that “The FLO will be a FFAW – Unifor member, and will be responsible for communicating with fishing vessels at sea and relaying information to shore as needed. FLOs will serve as the primary at-sea liaison between the commercial fishing industry and the seismic survey program”.

§ 5.10.2 Pages 294 and 295 – *As the proponent is unsure of its detailed and specific operation plans for the proposed work it is critical in planning that consultation should be done in the first quarter of the year.*

ExxonMobil Response: As noted in Section 2.0 of this EA Addendum, the multi-year nature and overall duration of the proposed Project is recognized and acknowledged throughout the EA Report, including the fact that the specific characteristics and scope of the planned exploration activities are inevitably more well defined for the initial year(s) of the Project as compared to later phases and activities (see Chapter 2 of the EA Report).

As referenced and requested in the above review comment, ExxonMobil has also made associated commitments throughout the EA Report that, for example:

There will be “[c]ommunications and coordination procedures with regulatory authorities, stakeholders and key ocean users will be used throughout the operational life of the Project [including]... regular communication of planned survey activities with key industry representatives, and on-going liaison with FFAW / One Ocean contacts” (Section 5.3);

“As part of the planning and implementation of its survey activities over the course of this Project, ExxonMobil will also continue to communicate and consult with relevant industry stakeholders” (Section 5.11); and

“ExxonMobil will submit updates in relation to this multi-year program. These will describe the previous year’s activities, recent and on-going consultation activities and their outcomes, as well as outlining the proposed survey work for the coming year” (Section 5.12).

The nature and timing of these future communications and engagements will be determined with a view to optimizing their utility and effectiveness for all involved, in consultation and cooperation with the relevant group(s), including the FFAW-Unifor.

§ 5.10.2 Environmental Effects Assessment Page 295 – *The level of potential interaction or disturbance at any particular site and time may be minimal, as stated. However, it is highly dependent on the time of the year. The window of opportunity for exploratory oil and gas programs often coincides with peak fishing times. Avoiding active fishing areas is of utmost importance.*

ExxonMobil Response: ExxonMobil’s planned measures for seeking to avoid interactions with, and any negative effects upon, fishing activity in the Project Area as a result of this Project – particularly through on-going communications and cooperation between the Proponent and fishing industry representatives - are outlined in detail throughout the EA Report (and in particular, in Sections 5.3 and 5.10).

§ 5.10.2 Environmental Effects Assessment Page 296 – *Anecdotal reports from harvesters who have been actively fishing in areas where seismic surveys were being conducted would disagree that seismic sound would have no effect (N) on marine fisheries. As such, it is suggested that the magnitude reported in Table 5.17 should be low (L) or medium (M). It is reported as low (L) in Table 5.3 on page 265.*

ExxonMobil Response: In the EA Report, Table 5.3 summarizes the potential environmental (biophysical) effects of the Project on fish and fish habitat. Table 5.17 summarizes the potential environmental (socioeconomic) effects of the Project on marine fisheries and other activities. While there may indeed be some effect on fish behaviours and their associated distributions as a result of marine seismic sound, a key consideration in this regard is whether and to what degree this would then likely translate into a measurable, material effect on commercial fishing activity and associated economic returns.

The symbol “N” in Table 5.17 refers to either “no effect” or a “negligible effect” (see key in last row of the Table). As described in the EA Approach and Methods Chapter (and Section 3.4.6 in particular), environment effect magnitude for this VEC is defined as follows:

For the fisheries and other marine activities:

Low: Affects 0 to 5 percent of fishers / users in the Study Area

Medium: Affects 5 to 25 percent of fishers/ users in the Study Area

High: Affects over 25 percent of fishers / users in the Study Area

The EA Study Team does not consider, for example, that the presence of seismic sound energy in the marine environment and any associated (localized and short term) implications for individual fish behaviours as a result of the Project is likely to have a negative effect upon up to 5 percent (and certainly, not up to 25 percent) of the fishers within the Study Area, and especially, that it will result in a significant effect on marine fisheries, which was defined in the EA as “a detectable reduction in the overall economic returns generated from fisheries or other commercial activities within the Study Area over one or more years” (Section 5.4).

FFAW-Unifor Comment on ExxonMobil Response: As the effects of seismic sound on commercial species has not been concretely agreed upon and the literature is conflicting, we do not agree with ExxonMobil's response.

ExxonMobil Response: Reviewer commentary. No new questions or issues raised, nor has there been new or different information provided to (or requested from) ExxonMobil which would necessitate a revisiting or revision of the EA findings. While we acknowledge the FFAW-Unifor's reiterated views on this matter, ExxonMobil feels that the basis for its analysis, and the associated findings and conclusions of the EA in that regard, are accurate and appropriate and are supported by the literature and other available information as summarized in the EA Report.

2.2.5 Department of National Defence (DND)

ExxonMobil Note: The Proponent understands that the following items from DND were provided as part of its review of the EA Project Description at the commencement of the EA review for this Project (dated 18 February 2015). These items were not included or referenced in the Scoping Document issued by the C-NLOPB for this EA (dated March 2, 2015) and therefore not addressed individually or specifically in the EA Report itself. ExxonMobil also notes that on August 18, 2015, DND replied to the C-NLOPB that it had no comments on the EA Report, and so the Operator was not asked to respond to any of these items as part of the previously submitted version of the EA Addendum and Amendment (February 2016).

The following provides a brief response to each of these items.

- *With respect to possible UXO presence within the proposed ExxonMobil Eastern Newfoundland Offshore Geophysical, Geochemical, Environmental and Geotechnical Programs 2015-2024 project area:*
 - *Our records indicate there are two shipwrecks present within the immediate survey area, the U-658 shipwreck (50.00889N, 46.5333W) and the U-520 shipwreck (47.78334N, 49.8333W).*
 - *Given our understanding of the activities to be conducted and that there will be no interaction with the sea floor, the associated UXO risk is assessed as negligible. Nonetheless, due to the inherent dangers associated with UXO and the fact that the Northwest Atlantic Ocean was exposed to many naval engagements during WWII, should any suspected UXO be encountered during the course of the operations, the Proponent should not disturb/manipulate it. The Proponent should mark the location and immediately inform the Coast Guard. Additional information is available in the 2015 Annual Edition - Notices to Mariners, Section 37. Further UXO general information is available at our website at www.uxocanada.forces.gc.ca.*

ExxonMobil Response: This information on shipwrecks within the Project Area and associated mitigations and communications protocols is appreciated. These were noted and considered by ExxonMobil previously as part of the original posting of these comments on the Project Description (February 2015), and will continue to be considered and adhered to by ExxonMobil as part of its eventual Project activities in the field.

- *Please identify a specific individual or office to serve as a Point Of Contact (POC) for MARLANT queries and concerns;*

ExxonMobil Response: This requirement is recognized and acknowledged. A specific POC will be determined and identified to DND prior to the initiation of any in-field Project activities.

- *Please ensure the appropriate Notice to Mariners will be issued for all underwater activities and any significant surface ventures, such as use of flares, buoys, and unconventional night lighting;*

ExxonMobil Response: As noted in the original EA Report (e.g., Sections 5.3 and 5.10.2) ExxonMobil will ensure that Notice to Mariners and/or Notices to Shipping (as appropriate) are issued.

- *Please ensure the appropriate Notice to Airmen will be issued for all activities that could affect air safety, such as use of balloons, Unmanned Aerial Vehicles (UAVs) or tethered airborne devices; and*

ExxonMobil Response: No such activities are being proposed or planned as part of this Project.

- *Please ensure engagement of CTF 84, through Director General Naval Strategic Readiness (DGNSR), to ensure de-confliction with possible Allied submarine activities.*

ExxonMobil Response: ExxonMobil will inform Director General Naval Strategic Readiness (DGNSR) before Project-related activities are undertaken.

3 PROPOSED PROJECT AREA AMENDMENT

The following sections of this EA Addendum and Amendment also outline and address a proposed modification to the Project Area as compared to that which was described and assessed in the original EA Report.

3.1 Rationale and Description

As described in the original EA Report (July 2015), the proposed Project Area (and associated EA Study Area, as defined in the Environmental Project Description submitted to the C-NLOPB on February 2, 2015) for the planned exploration program that is the subject of this assessment was defined by ExxonMobil in late 2014 and early 2015, based on its plans to conduct a variety of survey activities over its existing licenses and other areas of interest off Eastern Newfoundland. The proposed Project Area therefore encompassed a number of existing Licence Areas, identified Sectors (see earlier definition in Section 2.2.3 of this document) and possible future Call for Bids areas, as defined by the C-NLOPB during the time of the initial Project planning and as of January 15, 2015.

In its eventual *Call for Bids No. NL-15-01EN – Eastern Newfoundland Region* (March 31, 2015) the C-NLOPB expanded the geographic extent of several of the offered parcels in the northeastern portion of the Study Area beyond that which was originally reflected in the Sectors identified and shown in the associated mapping that was available on January 15, 2015. Although the Figures included in the EA Report reflected the most recent mapping of these areas available from the C-NLOPB as of the date of EA submission (July 2015) the Project and Study Areas upon which the EA information and analysis was focussed was based on these (January 15, 2015) Licence Areas and Sectors. On November 12, 2015 the C-NLOPB released the results of the 2015 Call for Bids in the Eastern Newfoundland Region, in which the regulator accepted work commitment bids from ExxonMobil and its co-venturers on several parcels located in the northeastern portion of the EA Study Area (NL 15-01-05, NL 15-01-06, and NL 15-01-07). Following subsequent Ministerial approvals, the Board issued Exploration Licences for these areas (EL 1139, EL 1140, EL 1141) effective January 15, 2016.

As a result of the above described expansion of these areas in the northeastern portion of the Project and Study Areas, and thus the locations and geographic extent of the recently issued Exploration Licences, ExxonMobil is proposing to extend the northeastern part of the Project Area slightly to incorporate these areas (as illustrated in Figure 3.1) and is therefore seeking EA approval for this modified Project description. As noted in the 2015 EA Report, all Project survey activities and operations, including survey equipment deployment, use and recovery, testing, other data acquisition and seismic survey line turns will be completed within the identified (and proposed expanded) Project Area boundary. A key rationale for proposing the planned expansion to the Project Area is therefore to ensure that it allows for and fully encompasses the required seismic acquisition run-in / run-out and line turns that will be associated with the planned exploration program. As illustrated, the amended Project Area remains within the previously defined and considered EA Study Area (Figure 3.1) as well as that for the Eastern Newfoundland SEA (AMEC 2014).

This proposed modification to the Project Area will see its total size increasing by only approximately 1.5 percent (3,635 km²) over that which was illustrated in the original EA Report. Figure 3.2 and Table 3.1 below provide the “corner point” coordinates for these amended Project and Study Areas (see also the earlier Section 2.2.1).

Figure 3.1 Proposed Amendments to the Project and Study Areas

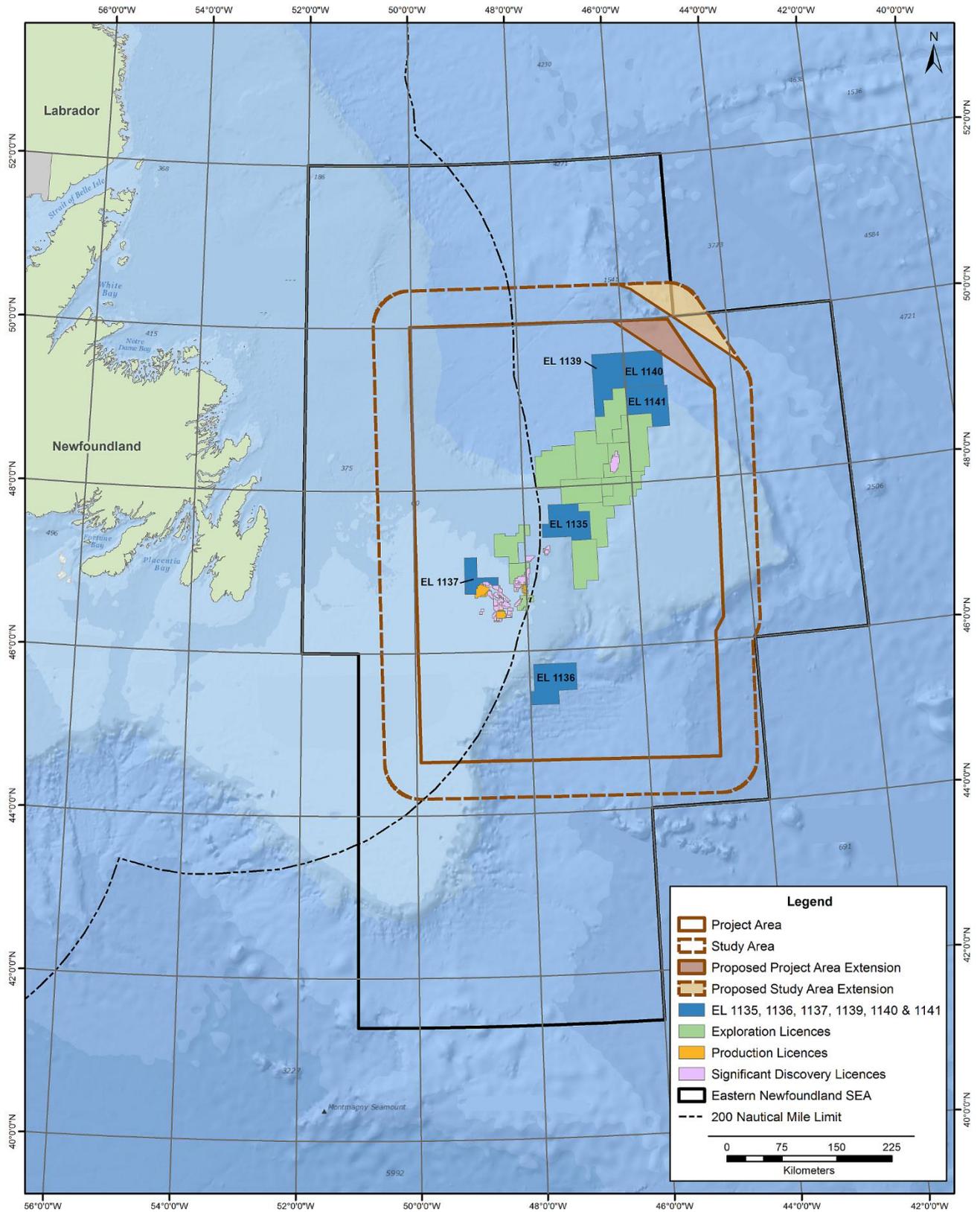


Figure 3.2 Project and Study Area Coordinates (Amended)

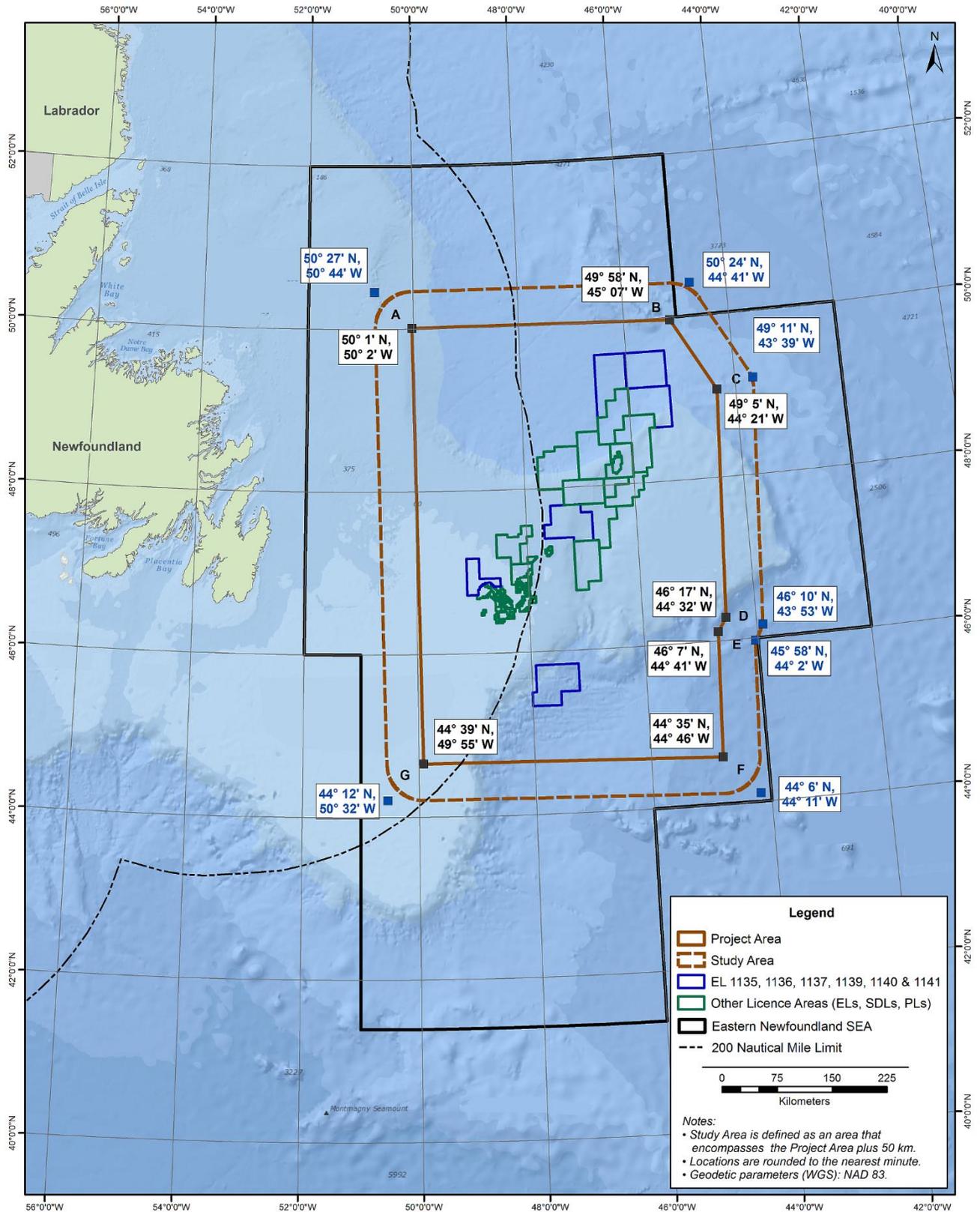


Table 3.1 Project and Study Area Coordinates (Amended)

Point / Label	Project Area		Study Area	
	Longitude	Latitude	Longitude	Latitude
A	50° 02' W	50° 01' N	50° 44' W	50° 27' N
B	45° 07' W	49° 58' N	44° 41' W	50° 24' N
C	44° 21' W	49° 05' N	43° 39' W	49° 11' N
D	44° 32' W	46° 17' N	43° 53' W	46° 10' N
E	44° 41' W	46° 07' N	44° 02' W	45° 58' N
F	44° 46' W	44° 35' N	44° 11' W	44° 06' N
G	49° 55' W	44° 39' N	50° 32' W	44° 12' N

Notes:

- Study Area is defined as an area that encompasses the Project Area plus 50 km
- Locations are rounded to the nearest minute.
- Geodetic parameters (WGS): NAD 83
- See earlier Section 2.2.1 for corner point coordinates for the original Project and Study Areas (which are now replaced by the new areas and coordinates described above)

With the exception of the above described Project Area expansion, no other aspect of the proposed Project is planned to change as compared to that which was described and assessed in the EA Report, including the overall nature, intensity and layout of survey activity, its temporal scope and operational schedule, survey vessels and equipment, logistics, personnel requirements or the nature and magnitude of any potential environmental emissions.

The following sections provide an overview of this proposed modification to the Project as originally described and assessed, including an analysis of any implications of the expanded Project Area for the EA's predicted environmental effects, the mitigation measures that have been identified and proposed by ExxonMobil for the Project, and thus for the overall findings and conclusions of the original EA Report (July 2015). This discussion is focussed on and structured according to the various Valued Environmental Components (VECs) that were considered and addressed in the original EA Report, namely:

- Marine Fish and Fish Habitat (including Species at Risk);
- Marine / Migratory Birds (including Species at Risk);
- Marine Mammals and Sea Turtles (including Species at Risk);
- Protected and Sensitive Areas; and
- Marine Fisheries and Other Activities

It should be noted that this component of the EA Amendment has been planned and is presented as a focused discussion and analysis of the proposed Project Area expansion. In the interests of efficiency and brevity it does not repeat all of the detailed environmental information and analysis provided in the original EA Report, which should therefore also be referred to as required and relevant.

3.2 Marine Fish and Fish Habitat (including Species at Risk)

Marine fish and their habitats are important considerations for proposed projects and activities that occur in the marine environment. The 2015 EA Report presents a detailed overview of fish and fish habitat within the overall Project and Study Areas, including plankton, algae, benthic invertebrates and fish, based on existing and applicable information. This includes information on a number of fish species at risk or which have otherwise been identified as being of special conservation concern that are known or likely to occur in the area, including several that are designated and formally protected under the federal *Species at Risk Act* and/or the Newfoundland and Labrador *Endangered Species Act*.

The proposed expansion to the Project Area is located in its extreme northeastern portion, overlapping with or adjacent to portions of the Orphan Knoll and Basin (see EA Report Figure 4.4), and remaining within the previously defined and considered EA Study Area as well as that for the Eastern Newfoundland SEA (AMEC 2014). While the marine area that is encompassed by the Project Area extension itself may be expected to contain fish species and habitats that are characteristic of its relative location within the overall EA Study Area (i.e., it is influenced by the cold Labrador Current and deep water areas of the shelf slope and beyond), it does not likely contain new or different species, habitats - and thus, potential environmental issues or interactions – that were not considered and addressed in the original EA. This includes no likely increases or other changes in the Project's potential to interact with, or have negative effects upon, key or particularly sensitive species (including any that are designated as being species at risk) or habitats. Although the modified Project Area does extend closer to the southeastern portion of an identified seamount / coral / sponge protection zone (see EA Report, Figure 4.24), which constitutes the "Orphan Knoll Seamount Fisheries Closure Area" (EA Report, Figure 4.46), it continues to not overlap directly with this area.

With the exception of the above described Project Area expansion, no other aspect of the proposed Project is planned to change as compared to that which was described and assessed in the original EA Report. Moreover, all of the mitigation measures and commitments outlined in the EA Report would remain applicable and will continue to be implemented and adhered to by ExxonMobil in planning and implementing this Project.

This proposed amendment (Project Area extension) therefore does not change the results of the original (2015) environmental effects assessment for this VEC, and the Project is still not likely to result in significant adverse environmental effects on Marine Fish and Fish Habitat.

3.3 Marine / Migratory Birds (including Species at Risk)

The 2015 EA Report also summarizes the distribution and abundance of marine and other migratory birds (including any avifauna species at risk) in the overall Study Area, and describes relevant life history characteristics and areas of particular significance to birds that are found within or in proximity to this region.

The proposed extension to the Project Area is again located in the extreme northeastern portion of the region, and is located beyond Canada's 200 nautical mile EEZ and hundreds of kilometers from any

coastline. The EA Report (Figures 4.51 to 4.63) illustrates the occurrence and seasonal distributions of seabird observations based on data (2006-2014) from the Eastern Canada Seabirds at Sea (ECSAS) program. Although a number of taxa have been observed to occur in the northeastern portion of the Study Area at least seasonally (such as large gulls, kittiwakes, dovekies, murre, and others) this slightly extended area is again not known or likely to be used by species or to contain particularly important or sensitive habitats that were not considered and addressed in the original EA. Many seabird groups such as cormorants and terns tend to have a more coastal distribution, and are therefore rarely observed this far offshore. Waterfowl occur in large numbers in marine habitats off Eastern Newfoundland, especially during the winter months, but they prefer open water in coastal areas and are thus not likely to frequent the northwestern portion of the Study Area. Due to the great distance between this area and the eastern coastline of the Island of Newfoundland, this area is unlikely to be utilized by most shorebirds or by migrating landbirds. Also, Important Bird Areas and breeding colonies are found in coastal areas and inland (see Figure 4.64 in the original EA Report), far from the offshore environment that is found within the extended Project Area.

Again, with the exception of the above described Project Area expansion, no other aspect of the proposed Project is planned to change as compared to that which was described and assessed in the EA Report. All of the mitigation measures and commitments outlined in the EA Report would remain applicable and will continue to be implemented and adhered to by ExxonMobil in planning and implementing this Project.

This proposed amendment (Project Area extension) therefore does not change the results of the original (2015) environmental effects assessment for this VEC, and the Project is still not likely to result in significant adverse environmental effects on Marine / Migratory Birds.

3.4 Marine Mammals and Sea Turtles (including Species at Risk)

The 2015 EA Report (Section 4.2.3) summarizes the distribution and abundance of marine mammals and sea turtles (including species at risk) in the overall Study Area, and describes these species' relevant life history characteristics. Although detailed species and site specific survey data are not available for the extended portion of the Project Area itself, and the available DFO sightings database does not include observations in this immediate area (see EA Report, Figures 4.65 to 4.67), it is likely that this general region is used by some marine mammals and/or sea turtles during parts of the year (see EA Report, Tables 4.14 to 4.17). Again, however, this extended area is not known or likely to be used by species (including those at risk) or contain particularly important or sensitive habitats that were not considered and addressed in the original EA, nor to increase the potential for or degree of any such environmental interactions and effects. It will therefore not result in any new or different interactions with, or increase the proximity of planned Project activities to, identified important areas and times for these species off Eastern Newfoundland (see EA Report Figure 4.47).

With the exception of the above described Project Area expansion, no other aspect of the proposed Project is planned to change as compared to that which was described and assessed in the EA Report. All of the mitigation measures and commitments outlined in the EA Report would remain applicable and

will continue to be implemented and adhered to by ExxonMobil in planning and implementing this Project.

This proposed amendment (Project Area extension) therefore does not change the results of the original (2015) environmental effects assessment for this VEC, and the Project is still not likely to result in significant adverse environmental effects on Marine Mammals and Sea Turtles.

3.5 Protected and Sensitive Areas

In marine, coastal and inland areas of Newfoundland and Labrador, as in the rest of Canada, unique or sensitive environments may be designated as protected through federal or provincial legislation or other means. These special places may be set aside to protect important or sensitive species and habitats, as representative natural areas, for cultural or historical reasons, or for human use and enjoyment. In other cases, areas have been identified as sensitive or otherwise important from an ecological and/or socioeconomic perspective, but do not currently have formal protection.

Identified protected and sensitive areas within and near the Study Area were identified, described and mapped in Section 4.2.4 of the original EA Report. As discussed in Section 5.9 of that document, the planned Project will occur in an offshore area that is located many kilometres from shore. Project activities will therefore not occur within, or otherwise interact directly with, any of the existing provincial or federal Parks, Ecological Reserves, Wildlife Reserves, Marine Protected Areas, Migratory Birds Sanctuaries, Important Birds Area or other locations that have been designated as protected on or around the Island of Newfoundland. The originally proposed Project and Study Areas do, however, overlap with a number of identified special or sensitive areas in the offshore environment (Fishery Closure Areas, Ecologically and Biologically Significant Areas, and a preliminary Representative Marine Area), for which there are no associated prohibitions of marine activities such as that being proposed as part of this Project, and with the Project having little or no potential to result in adverse environmental effects upon these areas (see Section 5.9.2 of the EA Report).

The proposed expansion to the northwestern boundary of the Project Area will not result in new or increased interactions with existing, identified protected and sensitive areas, nor (with the exception of the Orphan Knoll Seamount Fisheries Closure Area discussed previously in Section 3.1), the proximity of planned Project activities to such areas (see EA Report Figure 4.68).

This proposed amendment (Project Area extension) therefore does not change the results of the original (2015) environmental effects assessment for this VEC, and the Project is still not likely to result in significant adverse environmental effects on Protected and Sensitive Areas.

3.6 Marine Fisheries and Other Activities

The 2015 EA Report also provided an overview of the existing socioeconomic environment of the Study Area, including marine fisheries and a number of other anthropogenic components and activities that occur in the region and which may potentially interact with the proposed Project. This included a detailed description of commercial fisheries and related activities within and around the Study Area, as well as

any aquaculture, Aboriginal and recreational fishing activity and other types of marine activities and associated infrastructure in or near the region, based on existing and available information.

The planned area of expansion of the northeast corner of the Project Area is located almost entirely in NAFO Unit Area 3Kk (beyond the 200 nautical mile limit), and well outside the more intensive commercial fishing areas on the Banks and along the shelf (see fisheries maps in Section 4.3.1.2 of the original EA Report). It does not increase or otherwise change the nature or intensity of the Project's potential interaction with key fishing activities, locations and times (see EA Report, Figures 4.79 to 4.86), its proximity to the "NAFO Fisheries Footprint" area to the south (Figure 4.104), or to the established survey locations for the Industry-DFO collaborative post-season snow crab survey (Figure 4.105). Given its location far offshore, this proposed expansion of the northeastern portion of the Project Area likewise does not result in new or increased potential interactions with other marine activities in or near the region, including sealing areas, aquaculture operations, recreational fishing locations, unexploded ordnances and legacy sites, and others (EA Report, Section 4.3).

As noted in the original EA, on-going coordination and effective and timely communication between offshore oil and gas operators and the fishing industry and other marine interests, through the various processes and measures described and committed to in the EA Report, remains the best means for ensuring that such activities are carried out in a safe and environmentally responsible manner, avoiding or reducing potential adverse interactions between offshore exploration programs and other users of the marine environment. With the exception of the above described Project Area expansion, no other aspect of the proposed Project is planned to change as compared to that which was described and assessed in the EA Report. All of the mitigation measures and commitments outlined in the EA Report related to this VEC remain applicable and would continue to be implemented and adhered to by ExxonMobil.

This proposed amendment (Project Area extension) therefore does not change the results of the original (2015) environmental effects assessment for this VEC, and the Project is still not likely to result in significant adverse environmental effects on Marine Fisheries and Other Activities.

4 CONCLUSION

ExxonMobil is planning to undertake a marine petroleum exploration program, including geophysical, geochemical, environmental and geotechnical survey activities, in the eastern portion of the Newfoundland and Labrador Offshore Area. As part of the required regulatory review and approval processes for the Project, ExxonMobil filed an EA in relation to the proposed marine exploration program in July 2015.

This EA Addendum and Amendment has been provided as a supplement to the original EA Report, and provides responses that address the various questions and associated requests for information and clarification that were submitted by government departments and agencies and other organizations as part of the EA review, as consolidated and provided to ExxonMobil by the C-NLOPB in September 2015 and March 2016. It also provides an overview and analysis of a proposed modification to the Project as compared to that which was described and assessed in the original (July 2015) EA Report, which involves a slight expansion of the northeastern portion of the proposed Project Area.

As noted in the original EA Report, each of the potential environmental issues and effects that could be associated with the proposed Project can be avoided or otherwise mitigated through the use of good planning and proven operational practices and procedures, supported by Project-specific and industry standard mitigations that are well established and outlined in relevant regulatory procedures and guidelines, and which have been identified by ExxonMobil as part of the EA. Overall, the proposed Project will entail a very localized, short-term and transient disturbance in the marine environment at any one location and time throughout the operational life of the exploration program. It is therefore not anticipated to displace or otherwise affect marine fish, birds, mammals, turtles, fisheries or other marine activities in such a way that causes negative and detectable effects to populations, species at risk or human activities in the region.

The additional information and clarifications provided through this EA Addendum, and the proposed expansion of the northeastern portion of the Project Area, do not result in any changes in the original environmental effects predictions, required mitigation or associated determinations related to environmental effects significance for any component of the environment. The proposed Project is therefore not likely to result in significant adverse environmental effects.