

Polarcus UK Ltd

*Environmental Assessment Eastern Newfoundland 2D/3D/4D
Seismic Survey Program 2016 – 2022*

Addendum 3: Responses to comments received on October 18, 2018



Date: October 2018

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1 Introduction

Polarcus UK Ltd., is proposing to conduct two dimensional (2D), three dimensional (3D) and / or four dimensional (4D) seismic surveys in the Newfoundland Labrador Offshore Area (the Project). The Project area identified in Figure 1.1 is in Eastern Newfoundland. The project was scoped based on Polarcus conducting seismic surveys over one or more years between 2016 and 2022. As part of the required regulatory review, Polarcus submitted an Environmental statement on the 31st December 2016, in compliance with the EA requirements and processes of the C-NLOPB.

Comments from the Canada-Newfoundland & Labrador Offshore Petroleum Board (C-NLOPB) were received on the 30th June 2017. Following this an addendum document was submitted addressing those comments in February 2018.

Since that time, further comments from the C-NLOPB were received on 06th April 2018 (which were addressed in Addendum 2). Further comments have also been received on October 18, 2018. This Addendum document (Addendum 3) intends to address the latest comments that have been received from C-NLOPB on October 18, 2018.

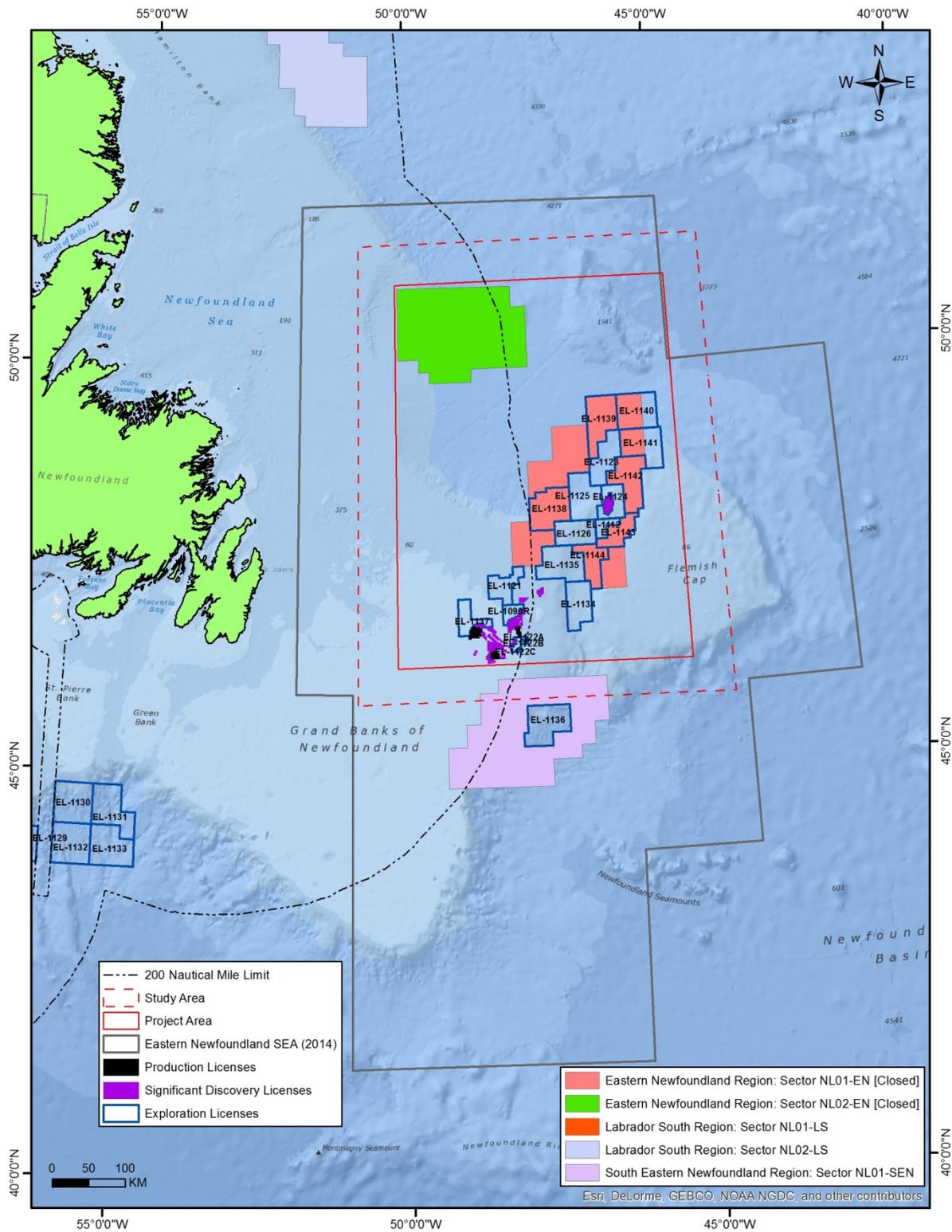


Figure 1.1. Eastern Newfoundland Project Area and Study Area

2 Specific Comments

2.1 Fisheries and Oceans Canada (DFO)

“Response to “Pages 3-17 and 3-20 of Addendum” (page 13 of Addendum 2) - Figure 3.5 in the Addendum includes “Frequency of Tropical Storm Systems” on the y-axis. Based on the proponent’s response, this label is incorrect. An appropriate y-axis label for Figure 3.5 should be provided”.

Response:

The y axis in Figure 3.5, EIA Addendum 1 and 2 should be labelled as per the below:

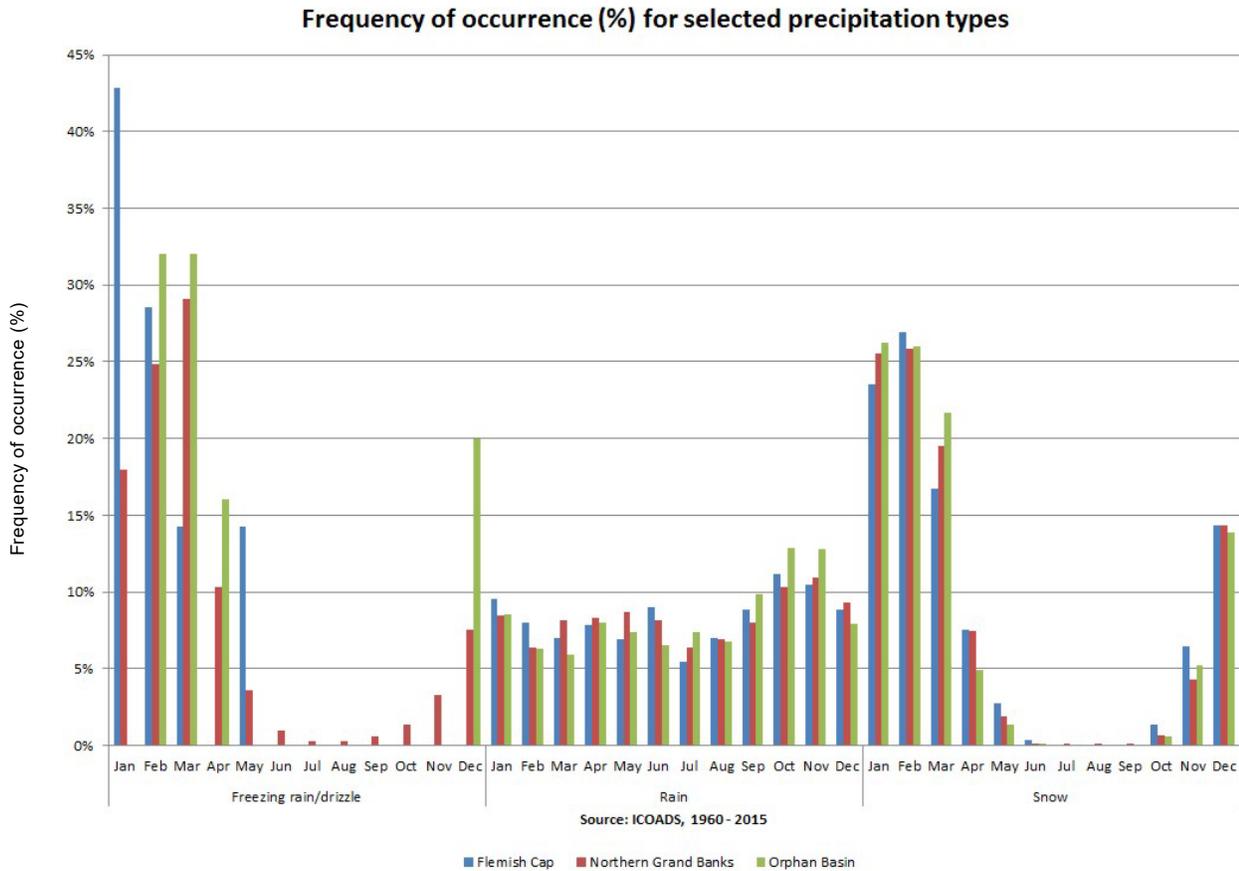


Figure 3.5: Frequency of Occurrence for Selected Precipitation Types within the Study Area (ICOADS, 1960 – 2015)

“Appropriate designations/listings should be provided throughout the document (see examples below):

- *Harbour Porpoise (Northwest Atlantic population) should be described as Special Concern under COSEWIC (Response to "Pages 3-32 to 3-39 of Addendum" (page 38 of Addendum 2)); because this population of Harbour Porpoise is not listed under SARA, it should be removed from the list of SARA species of relevance (Response to "Page 3-52 of the Addendum" (bullet 3, page 47 of Addendum 2)).*
- *Loggerhead Sea Turtle is listed as Endangered under Schedule 1 of SARA and should be included in the list of federally listed species on page 42 of Addendum 2 (paragraph 1) and page 47 of Addendum 2 (bullet 4). Its listing should also be corrected to Schedule 1 (paragraph 4, page 50 of Addendum 2)".*

Response:

The description of harbour porpoise (Northwest Atlantic Population) on pages 38 and 39 of Addendum 2 should be updated as follows (edited/changed text included in blue):

Harbour Porpoise (*Phocoena phocoena*)

The harbour porpoise is small compared to other cetaceans, growing to a length of 1.2 to 1.4 metres. The species is most commonly observed near the coast and will enter small bays and estuaries.

Harbour porpoise in the Northwest Atlantic population have been divided into three different subpopulations: The Bay of Fundy/Gulf of Maine, the Gulf of St. Lawrence and the Newfoundland populations. The boundaries between these sub-populations are not well defined as there is some genetic overlap.

Most mature females reproduce each year after they reach sexual maturity at 3.5 years old. The gestational period is 10 to 11 months. Harbour porpoises feed on small schooling fish. Harbour porpoise are found in shelf waters throughout the northern hemisphere, usually in waters colder than 17 degrees Celsius. They are usually seen in small groups of one to three animals often including at least one calf (C-NLOPB, 2014).

Harbour porpoise are present in northern coastal waters during the summer months. Off Eastern Newfoundland, harbour porpoises are most likely to be found in the shallower waters of inshore areas (C-NLOPB, 2014). Based on the aerial surveys conducted off the coast of Newfoundland and Labrador in 2007, abundance is estimated at 1,195 individuals. However again this estimate is considered preliminary as the estimates have not been corrected for perception limitations (Lawson and Gosselin, 2009, In: C-NLOPB, 2014). Although harbour porpoise is known to be more numerous inshore, they do have the potential to be present in the study area as the Fisheries and Oceans Canada Marine Mammals Sightings Database (2015) holds a number of records of the species in the wider area (Figure 4.30).

Harbour porpoise (Northwest Atlantic population) are of special concern under COSEWIC, but do not have formal protection under SARA Schedule 1; although the harbour porpoise is listed in Schedule 2 of SARA, the species is not subject to the same legal protections afforded to SARA Schedule 1 species.

Bullet 3 on page 47 of Addendum 2 should be amended to read:

- Blue whale, north Atlantic right whale, northern bottlenose whale, fin whale and Sowerby's beaked whale (Table 4.6); and

In addition, paragraph 4 on page 50 of Addendum 2 should be deleted.

Page 42 of Addendum 2 (paragraph 1) should be amended to read (blue text denotes edits/additions):

Within the Eastern Newfoundland Offshore Area, five marine mammal species are federally listed as being at risk (blue whale - Atlantic population, North Atlantic right whale, Sowerby's beaked whale, northern bottlenose whale (Scotian Shelf population), and fin whale (Atlantic population), as well as two sea turtle species (leatherback turtle - Atlantic population, and loggerhead turtle) (SARA, 2016). In addition to federal listing, COSEWIC has assessed four additional populations as being of conservation concern but with no formal protection under SARA (northern bottlenose whale - Davis Strait population, killer whale - Northwest Atlantic and Eastern Arctic populations, harbour porpoise - Northwest Atlantic population, and loggerhead sea turtle - Atlantic Ocean population). The harbour porpoise is listed on Schedule 2 of SARA but is not subject to the same legal protections as Schedule 1 species. The Kemp's ridley turtle species is not federally listed but is considered by the IUCN to be critically endangered.

Bullet 4 on page 47 of Addendum 2 should be amended to read (blue text denotes edits/additions):

- Leatherback turtle and loggerhead turtle (Table 4.6).

Paragraph 4 on page 50 of Addendum 2 should be amended to read (blue text denotes edits/additions):

The loggerhead turtle (Endangered under SARA schedule 1) is seldom found in nearshore waters in Eastern Canada. Off Newfoundland the greatest concentrations are found over the Grand Banks where they tend to prefer the warmer waters. Loggerhead turtles therefore have the potential to be present across the study area particularly in the south (although in limited numbers) and therefore have the potential to interact with the project activities.

“Accurate population names should be provided when describing species at risk throughout the document (see examples below):

- *Northern Bottlenose whale: Davis Strait-Baffin Bay-Labrador Sea population (paragraph 2, page 42 of Addendum 2).*
- *Fin Whale: Atlantic population (paragraph 1, page 43 of Addendum 2; bullet 3, page 47 of Addendum 2).*
- *Leatherback Sea Turtle: Atlantic population (paragraph 2, page 43 of Addendum 2; bullet 4, page 47 of Addendum 2).*
- *Northern Bottlenose Whale: Scotian Shelf population (bullet 3, page 47 of Addendum 2).*
- *Blue Whale: Atlantic population (bullet 3, page 47 of Addendum 2).*
- *White Shark: Atlantic population (bullet 1, page 47 of Addendum 2; paragraph 5, page 47 of Addendum 2)”.*

Response:

Paragraph 2, page 42 of Addendum 2 should be amended to read (blue text denotes edits/additions):

Within the Eastern Newfoundland Offshore Area, five marine mammal species are federally listed as being at risk (blue whale - Atlantic population, North Atlantic right whale, Sowerby’s beaked whale, northern bottlenose whale (Scotian Shelf population), and fin whale (Atlantic population), as well as one sea turtle species (leatherback turtle - Atlantic population) (SARA, 2016). In addition to federal listing, COSEWIC has assessed four additional populations as being of conservation concern but with no formal protection under SARA (northern bottlenose whale - Davis Strait-Baffin Bay-Labrador Sea population, killer whale - Northwest Atlantic and Eastern Arctic populations, harbour porpoise - Northwest Atlantic population, and loggerhead sea turtle - Atlantic Ocean population). The harbour porpoise is listed on Schedule 2 of SARA but is not subject to the same legal protections as Schedule 1 species. The Kemp’s ridley turtle species is not federally listed but is considered by the IUCN to be critically endangered.

Paragraph 1, page 43 of Addendum 2 should be amended to read (blue text denotes edits/additions):

A Management Plan for fin whale Atlantic population was brought into effect in 2017 (DFO 2017c). There are several factors noted within the Management Plan and those of most concern was related to noise pollution from seismic exploration and general navigation. The overall objective of the present management plan is to ensure that anthropogenic threats within Canadian waters do not cause a decline of the population or a reduction of the currently known distribution range in Canada. As mentioned above for Sowerby’s Beaked whale, mitigation measures for minimising disturbance from noise are given in section 5.6.5 of the EA report. The marine mammal observation programme coupled with the mitigation measures detailed within section 5.6.5 (based on the Statement of Canadian Practice with

respect to the Mitigation of Seismic Sound in the Marine Environment), will mitigate the risks to marine mammals from injury and disturbance to acceptable levels.

Paragraph 2, page 43 of Addendum 2 should be amended to read (blue text denotes edits/additions):

A Recovery Strategy for the leatherback sea turtle Atlantic population has been in effect since 2006 (*Atlantic Leatherback Turtle Recovery Team, 2006*). The recovery strategy identifies measures to be taken to promote the recovery of the Atlantic leatherback turtle populations. The ultimate recovery goal is to “*achieve the long-term viability of the leatherback turtle populations frequenting Atlantic Canadian waters*”. A key challenge in the recovery strategy of the leatherback turtle Atlantic population is lack of information regarding the species’ biology, distribution, habitat preferences and threats to the populations (*Atlantic Leatherback Turtle Recovery Team, 2006*).

Bullet 3, page 47 of Addendum 2 should be amended to read (blue text denotes edits/additions):

- Blue whale Atlantic population, north Atlantic right whale, northern bottlenose whale Scotian Shelf population, fin whale Atlantic population, Sowerby’s beaked whale, and harbour porpoise Northwest Atlantic population (Table 4.6); and

Bullet 4, page 47 of Addendum 2 should be amended to read (blue text denotes edits/additions):

- Leatherback turtle Atlantic population and loggerhead turtle (Table 4.6).

Bullet 1, page 47 of Addendum 2 should be amended to read (blue text denotes edits/additions):

- White shark Atlantic population, and northern, spotted, and Atlantic wolfish (Table 4.4);

Paragraphs 4 and 5 on page 47 of Addendum 2 and paragraph 1 of page 48 of Addendum 2 should be amended to read (blue text denotes edits/additions):

The potential environmental aspects of the project likely to interact with white shark Atlantic population and wolfish include underwater sound emissions from the airgun array, the seismic vessel itself, the supply and escort vessels, the echo sounder and the side scan sonar equipment. Other environmental aspects of the project like to impact this VEC include domestic waste, atmospheric emissions and accidental releases. Vessel lighting at night also has the potential to interact with the white shark Atlantic population.

Interaction with white shark Atlantic population, although possible, is unlikely as the species is not common in offshore Canadian waters, including the study area (*C-NLOPB, 2014*). Wolfish species all have the potential for presence over the Study Area and therefore have the potential to interact with the project, particularly through the effects of underwater

sound. The three species prefer a range of depths (*C-NLOPB, 2014*) so interactions with the species at various depths in the water column is possible.

As per the detailed effects assessment in Section 5.8.1, physical effects of the Project on the various life stages of wolf-fishes and the white shark Atlantic population will range from negligible to low over a duration of less than one month, within an area of <1 square kilometre and are predicted to be not significant (Table 5.14). The mitigation measures employed as part of the project (described in section 5.6.5 of the EA) of ramp-up/soft start of the airgun array (over a minimum 20 min period) are expected to minimize the potential for impacts on wolffish and the white shark Atlantic population.

“Response to “Page 3-40 of Addendum” (pages 42-43 of Addendum 2) - Recovery Strategies are available for the North Atlantic Right Whale, Northern Bottlenose Whale (Scotian Shelf population), and Blue Whale (Atlantic population), and should be described”.

Response:

Pages 42-43 of Addendum 2 should be revised as follows (blue text denotes edits/additions):

4.6.3 Species at Risk

Within the Eastern Newfoundland Offshore Area, five marine mammal species are federally listed as being at risk (blue whale - Atlantic population, North Atlantic right whale, Sowerby’s beaked whale, northern bottlenose whale (Scotian Shelf population), and fin whale (Atlantic population), as well as one sea turtle species (leatherback turtle - Atlantic population) (SARA, 2016). In addition to federal listing, COSEWIC has assessed four additional populations as being of conservation concern but with no formal protection under SARA (northern bottlenose whale - Davis Strait population, killer whale - Northwest Atlantic and Eastern Arctic populations, harbour porpoise - Northwest Atlantic population, and loggerhead sea turtle - Atlantic Ocean population). The harbour porpoise is listed on Schedule 2 of SARA but is not subject to the same legal protections as Schedule 1 species. The Kemp’s ridley turtle species is not federally listed but is considered by the IUCN to be critically endangered.

A recovery strategy for the North Atlantic Right Whale is in force (*Species at Risk Public Registry, 2014*). The recovery strategy defines the key objectives of the strategy as the reduction of mortality and injury due to vessel strikes and fishing gear interactions, to reduce injury and disturbance as a result of vessel presence or exposure to contaminants and other forms of habitat degradation, to monitor populations and threats, to increase understanding of life history characteristics, low reproductive rate, habitat and threats to recovery, to support and promote collaboration and recovery and finally to develop and implement education and stewardship activities that promote recovery (*Species at Risk Public Registry, 2014*). An Action Plan for the North Atlantic Right Whale came into effect in 2016 (DFO, 2016). The Action Plan sets out to contribute to the recovery goals for the species (as set out in the recovery strategy: *“To achieve an increasing trend in population abundance over three generations”*). For the North Atlantic right whale, the two most important threats were recognised as vessel strikes and entanglement in fishing gear. The Action Plan places a priority on addressing objective 2 of the recovery strategy; *“Reduce mortality and injury as a result of fishing gear interactions”* (DFO, 2016).

A Management Plan for the Sowerby’s beaked whale is also now in effect (DFO, 2017a). The management plan describes several anthropogenic threats to Sowerby’s Beaked whale of which exposure to acute noise is recognised as the most significant due to the potential for physiological harm and potential for behavioural disturbance. The main two objectives of the Management Plan for Sowerby’s beaked whale are to: 1) Maintain a stable Sowerby’s beaked whale population throughout its range in Atlantic Canadian waters and 2): Quantify and mitigate the effects of identified threats on the population. The objectives are to be achieved via three conservation measures: 1) Research and monitoring, 2) Management and 3) Engagement and public outreach (DFO, 2017a). Mitigation measures for Marine Mammal and Wildlife Protection, including the measures to be taken to minimise disturbance from noise are described in Section 5.6.5 of the EA report. Polarcus’ full commitment to the marine

mammal observation programme also described in section 5.6.5 of the EA will add to the knowledge base of marine mammal sightings data in the area, which will contribute to conservation measure 1 of the Management Plan for Sowerby's Beaked whale.

A recovery strategy for the northern bottlenose whale Scotian Shelf population has been in force since 2010 (*Species at Risk Public Registry, 2010*). The key objectives of this strategy are: to improve understanding of northern bottlenose whale ecology, including critical habitat requirements, carrying capacity, breeding, trophic interactions, links with other populations and sources of mortality; to improve understanding of the population size, trend and distribution; to improve understanding of and monitor anthropogenic threats, including fishing gear interactions, petroleum development, noise, and contaminants, and develop management measures to reduce threats where necessary; and to engage with stakeholder and the public in recovery action through education and stewardship (*Species at Risk Public Registry, 2010*). An Action Plan for the northern bottlenose whale Scotian Shelf population (under the Species at Risk Act), has been produced (*DFO, 2017b*) and implements the recovery strategy. The Action Plan sets out to achieve recovery of the population and “to achieve a stable or increasing population and to maintain, at a minimum, current distribution”. The Action Plan goes on to define a series of 24 recovery measures to fulfil the objectives of the recovery strategy (*DFO, 2017b*).

A Management Plan for fin whale was brought into effect in 2017 (*DFO, 2017c*). There are several factors noted within the Management Plan and those of most concern was related to noise pollution from seismic exploration and general navigation. The overall objective of the present management plan is to ensure that anthropogenic threats within Canadian waters do not cause a decline of the population or a reduction of the currently known distribution range in Canada. As mentioned above for Sowerby's Beaked whale, mitigation measures for minimising disturbance from noise are given in section 5.6.5 of the EA report. The marine mammal observation programme coupled with the mitigation measures detailed within section 5.6.5 (based on the Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment), will mitigate the risks to marine mammals from injury and disturbance to acceptable levels.

A recovery strategy for the blue whale north-west Atlantic population has been in place since 2009 (*DFO, 2009*). The overall goal of the recovery strategy is to achieve a population level of 1,000 mature individuals. Three main objectives are identified in the recovery strategy: to undertake a long term assessment of the species to better understand their population structure, their range and critical habitat; implementing control and follow up measures for activities that could disrupt recovery, including the reduction of anthropogenic noise, protecting food resources, reducing disturbance from anthropogenic activities, reducing collision risk and toxic contamination; and finally to increase the knowledge of threats to recovery of the blue whale in Canadian waters in order to determine the true impact of the threats and identify effective mitigation measures (*DFO, 2009*). The recovery strategy states that an action plan will also be developed for the species, which is currently out for consultation and introduces a series of 36 measures to achieve the recovery objectives (*Species at Risk Public Registry, 2018*).

A Recovery Strategy for the leatherback sea turtle has been in effect since 2006 (*Atlantic Leatherback Turtle Recovery Team, 2006*). The recovery strategy identifies measures to be

taken to promote the recovery of the Atlantic leatherback turtle populations. The ultimate recovery goal is to “achieve the long-term viability of the leatherback turtle populations frequenting Atlantic Canadian waters”. A key challenge in the recovery strategy of the Atlantic leatherback turtle is lack of information regarding the species’ biology, distribution, habitat preferences and threats to the populations (*Atlantic Leatherback Turtle Recovery Team, 2006*).

Marine mammal and turtle species at risk which may occur within the Study Area are summarized in Table 4.6.

References

Atlantic Leatherback Turtle Recovery Team (2006), Recovery Strategy for Leatherback Turtle (Dermochelys coriacea) in Atlantic Canada. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada, Ottawa, vi + 45 pp.

Fisheries and Oceans Canada (DFO) (2009), Recovery strategy for the blue whale (Balaenoptera musculus), Northwest Atlantic population, in Canada. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada, Ottawa, 62 pp.

Fisheries and Oceans Canada (DFO) (2016), Action Plan for the North Atlantic Right Whale (Eubalaena glacialis) in Canada: Fishery Interactions [Proposed]. Species at Risk Act Action Plan Series. Fisheries and Oceans Canada, Ottawa. v + 35 pp.

Fisheries and Oceans Canada (DFO) (2017a), Management Plan for the Sowerby’s Beaked Whale (Mesoplodon bidens) in Canada. Species at Risk Act Management Plan Series. Fisheries and Oceans Canada, Ottawa. iv + 46 pp.

Fisheries and Oceans Canada (DFO) (2017b), Action Plan for the Northern Bottlenose Whale (Hyperoodon ampullatus), Scotian Shelf population, in Atlantic Canadian waters. Species at Risk Act Action Plan Series. Fisheries and Oceans Canada, Ottawa. iv + 37 pp.

Fisheries and Oceans Canada (DFO) (2017c), Management Plan for the fin whale (Balaenoptera physalus), Atlantic population in Canada, Species at Risk Act Management Plan Series, DFO, Ottawa, iv +38 p.

Species at Risk Public Registry (2010), Recovery Strategy for the Northern Bottlenose Whale (Hyperoodon ampullatus), Scotian Shelf population, in Atlantic Canadian Waters, [Internet, available: <http://www.registrelep-sararegistry.gc.ca/document/doc1863f/ind_e.cfm>].

Species at Risk Public Registry (2014), Recovery Strategy for the North Atlantic Right Whale (Eubalaena glacialis) in Canadian Waters, [Internet, available: <<http://www.sararegistry.gc.ca/default.asp?lang=en&n=717856D0-1>>].

Species at Risk Public Registry (2018), Action plan for the Blue Whale (Balaenoptera musculus), Northwest Atlantic population, in Canada (Proposed), [Internet, available: <https://www.registrelep-sararegistry.gc.ca/document/default_e.cfm?documentID=3332>].

“Response to “Page 3-52 of the Addendum” (Marine Mammals and Sea Turtles VEC, pages 49-50 of Addendum 2) - Leatherback Sea Turtle (Atlantic population) should be described as it is listed as Endangered under Schedule 1 of SARA”.

Response:

The paragraphs under Marine Mammals and Sea Turtles VEC on pages 49-50 of Addendum 2 should be amended as follows (blue text denotes edits/additions):

Marine Mammals and Sea Turtles VEC

The potential interactions with the project with marine mammal species and sea turtles include interactions with sound; interactions with sound from the airgun array, seismic vessel itself, supply and escort vessels, echosounder and side scan sonar equipment are all possible. There are also potential interactions with domestic waste, atmospheric emissions, helicopter presences and accidental releases from the project.

The Blue whale Atlantic population (Endangered under SARA schedule 1) is widely distributed throughout the world’s oceans, although sightings across the Study Area are non-existent, with sightings recorded further inshore (there is one sightings record approximately 100 kilometres to the west of the Study Area). There is the potential for presence of this species across the Study Area and hence the potential for interaction, however given that there are no previous sightings over the Study Area, it is considered that the potential for interaction is low.

North Atlantic Right whale (Endangered under SARA schedule 1) are known to occur in Canada in the Bay of Fundy from June to November and the Roseway Basin from July to November; both areas lie to the south of Newfoundland. There is only one previous sighting over the Study Area of this species. Although interaction is considered unlikely due to the limited number of individuals, the species does have the potential to be present and interact with the project.

The Northern bottlenose whale (Davis Strait-Baffin Bay-Labrador Sea population of Special Concern under COSEWIC; Scotian Shelf Populations Endangered under SARA schedule 1). There are two previous sightings of Northern bottlenose whale within the Study Area. Gillis (2016) also reports the finding of a potential third population of the species at Sackville Spur bordering the Flemish pass. The species does have the potential to be located within the Study Area and therefore has the potential to interact with the project activities.

The Fin whale Atlantic population (Special Concern under SARA schedule 1) is known to occur around the Gulf of St. Lawrence and the nearshore and offshore waters of Newfoundland and Labrador. There have been sightings throughout the year of fin whale off Nova Scotia and Newfoundland. Although sightings records of the species are far more numerous further inshore, there are sightings records of the species across the Study Area. The species is potentially present across the Study Area and therefor has the potential to interact with the project.

There is relatively little known about the Sowerby’s beaked whale (Special Concern under SARA) and they are rarely seen. There is no data on seasonal movements of the species and the social structure is poorly understood. Sightings and stranding have been of small groups

of fewer than ten individuals (*C-NLOPB, 2014*). Sowerby's Beaked whale is known to prefer deeper waters (over 1,000 m) and therefore has potential presence across the study area. Although there are no previous sightings, a lack of sightings data does not directly translate into a lack of presence and therefore the species is potentially present across the Study Area, although in limited numbers. This species therefore has the potential to interact with the project.

The harbour porpoise (Threatened under SARA schedule 2) Northwest Atlantic population have been divided into three different subpopulations: The Bay of Fundy/Gulf of Maine, the Gulf of St. Lawrence and the Newfoundland populations. Although harbour porpoise is much more numerous inshore (sightings records are much more abundant over inshore waters) they do have the potential to be present in the Study Area as there are several records of the species in the wider area. Harbour porpoise therefore have the potential to interact with the project.

The loggerhead turtle (Endangered under SARA schedule 1) is seldom found in nearshore waters in Eastern Canada. Off Newfoundland the greatest concentrations are found over the Grand Banks where they tend to prefer the warmer waters. Loggerhead turtles therefore have the potential to be present across the study area particularly in the south (although in limited numbers) and therefore have the potential to interact with the project activities.

The leatherback sea turtle Atlantic population (Endangered under Schedule 1 of SARA) are a regular but uncommon part of the Newfoundland marine fauna in the summer and fall, and although there are no specific population data for Atlantic Canadian waters, the sightings data suggest that the population maybe in the thousands. The population estimates for the north Atlantic as a whole range from 34,000 to 94,000 individuals. It is possible therefore that leatherback turtle may be encountered across the project area, although not in significant numbers.

As per the detailed effects assessment in Section 5.8.4, the predicted effect of the Project on marine mammals and sea turtles is not significant. The mitigation measures employed as part of the project (described in section 5.6.5 of the EA) of ramp-up/soft start of the airgun array (over a minimum 20 min period) is expected to minimize the potential for impacts on these marine mammals and turtles, along with the Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment (refer to section 5.6.5).

A summary of the predicted (residual) environmental effects of the Project on the Species at Risk VEC is provided in Table 5-14.

“Response to “Pages 3-21 and 3-22 of Addendum” (page 13 of Addendum 2) – It is assumed that the significant wave height corresponds to the traditional definition by Holthuijsen et al. 2007. If this assumption is correct, no response is required”.

Response:

This assumption is correct.

“Response to “Page 3-26 of Addendum” (page 15 of Addendum 2) - Figure 3.7 is located in the original EA Report and not the Addendum”.

Response:

Acknowledged.

“Response to “Page 3-31 of Addendum” (paragraph 2, page 18 of Addendum 2) - Incorrect page numbers are provided about a previous response. Although the referenced response lists data gaps and indicates that they are considered for level of confidence, additional details on data gaps and how they were considered could have been provided. These comments also apply to the Response to “Page 3-31 of Addendum” (page 28 of Addendum 2) and Response to “Page 3-40 of Addendum” (page 43 of Addendum 2)”.

Response:

Acknowledged.

“Response to “Page 3-45 of Addendum” (page 44 of Addendum 2) – Information pertaining to Traditional and Aboriginal Fisheries is not entirely accurate. No response is required, as adequate information is provided in DFO's initial comment”.

Response:

Acknowledged.