Data Acquisition and Seabed Sampling for Basin Modelling, Labrador Offshore to the Jeanne d'Arc Basin (2015 to 2024) – Environmental Assessment Addendum

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Appendix A Seabirds Observed During August and September in the 2015 to 2024 Study Area

1.0 GENERAL COMMENTS

1.1 Environment Canada

Please note that EC's previous comments on the scoping document and project description (submitted to you on 27 April 2015) are still applicable to the project as described in the EA report with the exception of the following advisory from the Canadian Wildlife Service of Environment Canada (EC-CWS).

> *Seabird data was requested from Environment Canada; they were received after submission of the Environmental Assessment. Seabirds observed in the 2015 to 2024 Study Area in August and September (annual survey period) are illustrated in figures provided in Appendix A. The data provided were for the area between latitudes 45 and 61, and longitudes -35 and -70. The data include only those birds observed in transect and not "following" the vessel. The densities calculated are relative densities, and not corrected for differences in detectability. The densities are therefore underestimates, as not all birds are observed within the 300 m transect width (Environment Canada 2015a).*

EC-CWS is providing additional information that was not available at the time of the review of the project description. A new draft document for handling stranded birds is now available that replaces the above Williams and Chardine protocol, and is attached below. The document is entitled "Best practices for standard birds encountered offshore - Atlantic Canada", and is dated April 2015. The document is still in development and a final version will be provided when available.

> Thank you. The new protocol will be implemented should any birds be encountered in the offshore during the program.
>
> In addition, Section 2.7 (11th bullet) is revised as follows:
>
> - *Data collection will occur over a 24-hour period; therefore, lighting is required at night for safety purposes. As there is potential for marine and migratory birds to be attracted to the vessel at night, the vessel crew will conduct routine checks for stranded birds and release of stranded birds per* ***new draft Best Practices for Stranded Birds Encountered Offshore Atlantic Canada (Environment Canada 2015b)****. The 2015 program will be conducted from mid-August to mid-September. MG3 will implement the suggested beneficial management practices that do not unduly impede the safe execution of the coring program.*

And Section 6.1 is revised as follows

As the data collection will occur over a 24-hour period, there is potential for marine and migratory birds to be attracted to the vessel at night, potentially resulting in stranding on the vessel. MG3 will implement a program to conduct a routine check for stranded birds on the research vessel and will release stranded birds per the ***new draft Best Practices for Stranded Birds Encountered Offshore Atlantic Canada (Environment Canada 2015b)****. Dead birds are occasionally found on ships. If more than 10 birds are found dead in the same event* ***(or species-at-risk, or oiled)****, they will be collected as per* ***Section 3.1 (Method A (preferred)) of the new draft Best Practices for Stranded Birds Encountered Offshore Atlantic Canada (Environment Canada 2015b)****. MG3 will obtain the necessary permit prior to operations.*

1.2 Fish, Food and Allied Workers (FFAW/Unifor)

It is paramount that MG3 ensures that the equipment used for seabed sampling is safely secured. Failure to do so and losing the equipment would result in a hazard for fishing vessel towing gear on the seabed.

MG3's unique launch and recovery system (LARS) and Core Control (CC-5000) with integrated load cells and tension monitoring will be used to collect the core. The system has been successfully deployed hundreds of times without loss of the coring barrel.

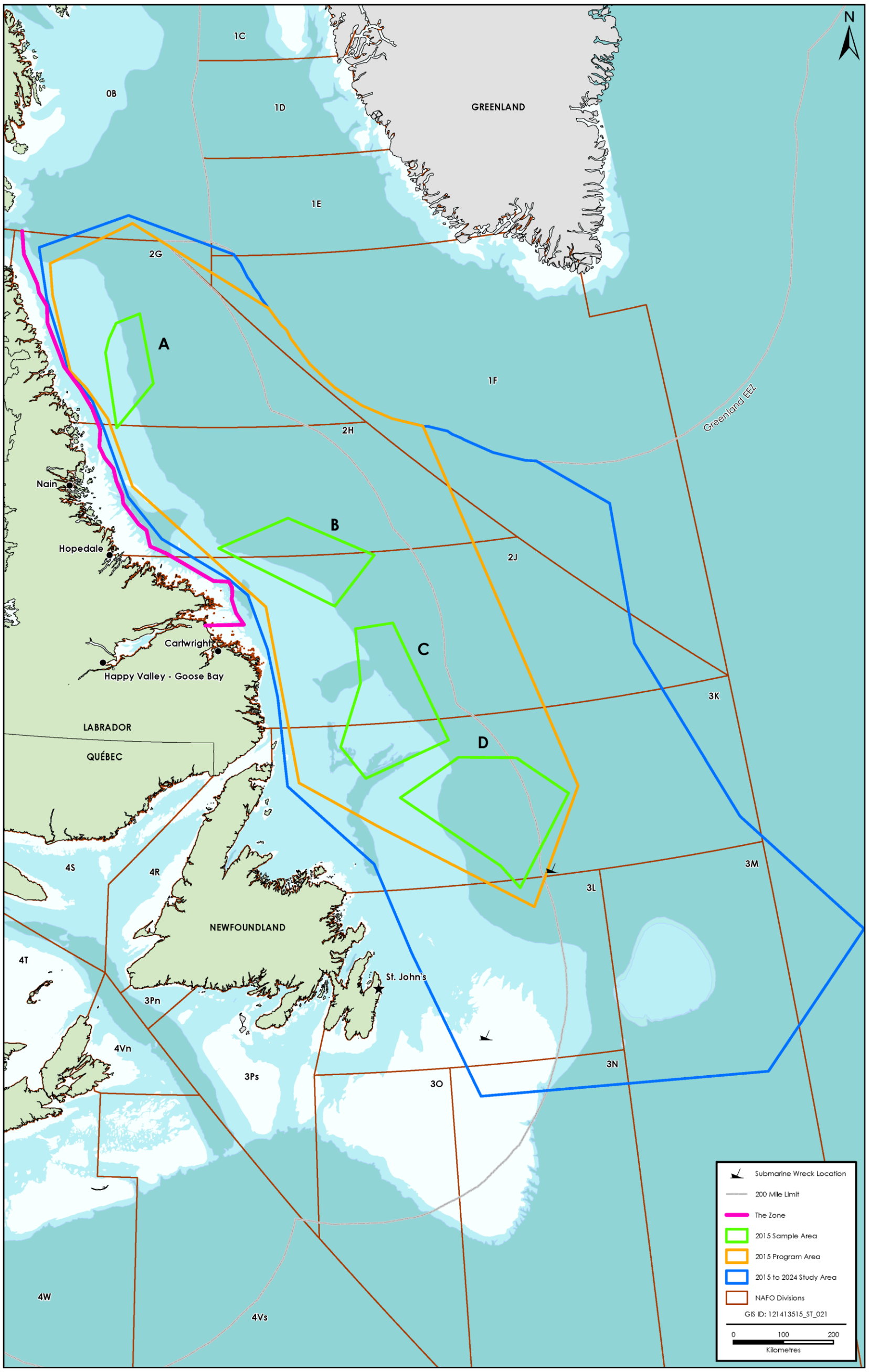
2.0 C-NLOPB COMMENTS

Section 2.2 Project Area and Figure 2-1 2015 to 2024 Study Area and 2015 Project Area, pgs 3 and 4 – It should be made clear, both on Figures as well as in the text of the Environmental Assessment Report, that the "Project Area", where all project activities between 2014 and 2019 are proposed, is the larger "Study/Project/Assessment Area" outlined in blue and not the smaller "2015 Project Area" outlined in green and orange. The "2015 Project Area" could be referred to as the "2015 Operating Area" or "2015 Program Area".

Section 2.2 is revised as follows:

The Project is a multi-year program (2015 to 2024) to be conducted within the 2015 to 2024 Study Area/2015 ***Program*** *Area illustrated in Figure 2-1. Corner coordinates are provided in Tables 2.1 (2015 to 2024 Study Area), Table 2.2 (2015* ***Program*** *Area) and Table 2.3 (2015 Sampling Areas) in both UTM and latitude / longitude format.*

Figure 2.1 is revised to indicate that the orange polygon is the "2015 Program Area".



Note: "The Zone" refers to the tidal waters of the Labrador Inuit Settlement Area.
While the overall environmental assessment is aimed at a 10-year temporal scale, MG3 recognizes the sensitivity to this time line in the areas covered by the Nunatsiavut Government (predominantly Areas A and B), and therefore agree to a review of the environmental assessment (and additional consultations) after 2017.

Figure 2.1 2015 to 2024 Study Area and 2015 Program Area

Table 2.2 is revised to 2015 Program Area as follows:

Table 2.2 2015 Program Area Corner Coordinates (NAD 83, Zone 22)

Easting	Northing	Long_DD	Lat_DD	Long_DMS	Lat_DMS
265573.350	6635969.463	-55.17888513	59.79495559	-55° 10' 43.986"	59° 47' 41.840"
286921.164	6601155.084	-54.76420616	59.49453818	-54° 45' 51.142"	59° 29' 40.337"
297499.251	6589213.343	-54.56647122	59.39274975	-54° 33' 59.296"	59° 23' 33.899"
304261.170	6571999.208	-54.43202826	59.24163902	-54° 25' 55.302"	59° 14' 29.900"
337981.524	6516886.244	-53.80122623	58.76153084	-53° 48' 4.414"	58° 45' 41.511"
380747.898	6468476.258	-53.03707819	58.34096174	-53° 2' 13.481"	58° 20' 27.462"
381802.830	6467636.361	-53.01864052	58.33370824	-53° 1' 7.106"	58° 20' 1.350"
383108.751	6466156.81	-52.99560409	58.32077729	-52° 59' 44.175"	58° 19' 14.798"
433617.933	6425903.332	-52.12212902	57.96983873	-52° 7' 19.664"	57° 58' 11.419"
435170.061	6425059.11	-52.09566594	57.96248599	-52° 5' 44.397"	57° 57' 44.950"
435196.308	6425038.172	-52.09521671	57.96230178	-52° 5' 42.780"	57° 57' 44.286"
491920.714	6394148.137	-51.13551303	57.68948185	-51° 8' 7.847"	57° 41' 22.135"
551730.991	6374025.927	-50.13667012	57.50585114	-50° 8' 12.012"	57° 30' 21.064"
798519.869	5634067.506	-46.76483436	50.78136964	-46° 45' 53.404"	50° 46' 52.931"
692686.324	5401233.707	-48.37939699	48.73430481	-48° 22' 45.829"	48° 44' 3.497"
394330.000	5586102.011	-52.4874062	50.41743578	-52° 29' 14.662"	50° 25' 2.769"
244643.030	5685109.98	-54.66017359	51.26005096	-54° 39' 36.625"	51° 15' 36.183"
207850.043	6041330.489	-55.5055792	54.43550763	-55° 30' 20.085"	54° 26' 7.827"
-37364.898	6304494.904	-59.75992345	56.57521368	-59° 45' 35.724"	56° 34' 30.769"
-74352.059	6443526.11	-60.67314831	57.76334031	-60° 40' 23.334"	57° 45' 48.025"
-111676.073	6508560.377	-61.45857754	58.28878509	-61° 27' 30.879"	58° 17' 19.626"
-141102.672	6546309.65	-62.05648672	58.57983614	-62° 3' 23.352"	58° 34' 47.410"
-163020.318	6701599.158	-62.89864014	59.91285742	-62° 53' 55.104"	59° 54' 46.287"
-161919.552	6765163.518	-63.08589086	60.47292356	-63° 5' 9.207"	60° 28' 22.525"
10059.959	6829986.564	-60.16428132	61.29379742	-60° 9' 51.413"	61° 17' 37.671"
DD = Decimal Degrees; DMS = Degrees, Minutes, Seconds					

C-NLOPB Comments
August 11, 2015

Section 2.5 Schedule, pg 11 – The Temporal Scope should identify the months that activities are proposed, not just "ice-free season".

Section 2.5 is revised as follows:

The 2015 program focuses on the Labrador offshore area, specifically the Hopedale Basin, Saglek Basin, St. Anthony Basin and Orphan Basin. MG3 are proposing to conduct the natural seabed seep sample collection, heat probe and gravity core sample collection components of the research program in August/September of 2015. Data collection will occur over a 24-hour period. The program is anticipated to require 21 days to conduct all sample collection; MG3 has scheduled a four-week period to conclude the program, allowing for weather delays. Future programs (2016 to 2024) will be conducted during ***the same timeframe (August and September)***.

Section 4.0 Stakeholder Consultation, 2nd para, last sentence, pg 37 – The Proponent should report on the meeting held with the Nunatsiavut Government in June 2015, as stated in the EA report.

Section 4 is revised to include the following text:

MG3 provided an overview description of the proposed Project to determine the level of environmental assessment required by the C-NLOPB. The C-NLOPB developed a draft Scoping Document and invited regulator and public comment on the draft Scoping Document. Based on comments received, the C-NLOPB issued a final Scoping Document on May 20, 2015, to guide the preparation of this environmental assessment. The official start of the consultation process was initiated with the formal submission of the Project Description.

MG3 met with the Nunatsiavut Government on June 8, FFAW-Unifor on June 9, the C-NLOPB on June 10 and Ocean Choice International (OCI) (also representing the Canadian Association of Prawn Producers and the Groundfish Enterprise Allocation Council) and One Ocean on June 10 to provide information on the Project.

MG3 met with the Nunatsiavut Government in St. John's. Discussion focused on the timing of the survey, the temporal scope of the project (10 years); the use of MBES and SBP to provide detailed bathymetry of the coring area and the use of local residents on the program. There were no issues related to timing of the program and Nunatsiavut residents fishing activities. MG3 committed to revisiting the Project Description and Environmental Assessment once the Labrador Shelf Strategic Environmental Assessment Update was completed and submitted to the C-NLOPB (estimated in 2017). MG3 committed to hiring a Marine Mammal

Observer (MMO). MG3 committed to hiring a Nunatsiavut Government beneficiary as an MMO and offered to include a trainee on the program as well.

MG3 provided details on the activities to FFAW-Unifor and discussions centred around timing and the flexibility of the Project to accommodate crab fishing seasons. MG3 also made a commitment to use a Fisheries Liaison Officer during the survey, contracted directly from the FFAW-Unifor.

MG3's meeting with the C-NLOPB provided information on the 2015 program. The C-NLOPB indicated that the Environmental Assessment had been distributed to reviewers (and posted on the public registry) and the deadline for comments was July 7; the timing fits with MG3's estimated program start of August 13. The C-NLOPB also discussed other permitting requirements in addition to the environmental assessment that MG3 have to satisfy prior to receiving release from the C-NOPB's regulatory process, including financial capability, a benefits plan and a safety plan. Much of the focus was on the new Transitional Occupational Health and Safety Regulations and the process associated with attaining compliance with these new regulations.

MG3's meeting with OCI and One Ocean focused on the activities of the mobile gear (offshore) fleet and potential interaction with the offshore trawlers. MG3 committed to maintaining communications with all vessels operating in the area (through the use of the FLO) and as they were simply taking cores, they would give way to other vessels as required. MG3 and OCI also committed to sharing vessel location information.

All consultation attendees were provided with access information to the MG3 Project Sharepoint site.

Section 6.3 Cumulative Environmental Effects, pg 43 – Although overlap with other oil and gas exploratory programs or development project is not anticipated, it is expected that the Proponent commit to ongoing communications with other operators with active geophysical programs within the general vicinity of its program to minimize the potential for cumulative effects on the VECs

Section 6.3 is revised as follows:

The program will be conducted from a single research vessel, with sampling gear limited to the immediate vicinity of the research vessel, and can therefore be considered as essentially another vessel traversing the 2015 Project Area. Compared to existing vessel traffic in the region, the incremental amount of vessel traffic as a result of this Project will be negligible. The Project activities are transitory with limited spatial and temporal overlap with other projects and

activities; overlap with other oil and gas exploratory programs or development projects is not anticipated. ***MG3 will conduct ongoing communications with other operators with active geophysical programs within the general vicinity of its program to reduce the potential for cumulative effects on the VECs.*** *Therefore, the adverse residual cumulative environmental effect on Species at Risk, Commercial Fisheries and Other Users, Marine and Migratory Birds, Marine Mammals and Sea Turtles, Marine Fish and Shellfish and Sensitive Areas is predicted to be not significant.*

3.0 DFO COMMENTS

Section 2.7 Key Mitigation Measures, page 11 - The statement "At no time will a survey vessel enter or attempt to conduct any survey work in restricted or protected areas ..... " is mentioned throughout the Report. We recommend that the document clarify more precisely the nature of areas that will be avoided.

> *Data collection will avoid The Zone, coral closure areas, seabird colonies and the Funk Island Deep and Hawke Channel closure areas, voluntary coral box and known shipwrecks.*

Section 3.2 Species at Risk, page 14 - Names of SARA-listed species should include the populations, as follows:

- Blue Whale - Atlantic population;
- Leatherback Sea Turtle - Atlantic population;
- White Shark - Atlantic population; and

> Section 3.2, first bullet list (SARA listed species), is revised as follows:
>
> *A number of species at risk (as listed under the Species at Risk Act (SARA) or assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC)) have the potential to occur throughout the 2015 to 2024 Study Area (Figure 2-1), either as sporadic visitors or regular inhabitants. These include the following species listed on SARA Schedule 1 as of May 8, 2015, which provides them legal protection:*
>
> - *blue whale – **Atlantic population** (Endangered);*
> - *North Atlantic right whale (Endangered);*
> - *leatherback sea turtle – **Atlantic population** (Endangered);*
> - *Ivory Gull (Endangered);*
> - *white shark – **Atlantic population** (Endangered);*
> - *northern wolffish (Threatened);*
> - *spotted wolffish (Threatened);*
> - *Atlantic wolffish (Special Concern);*
> - *fin whale - Atlantic population (Special Concern);*
> - *Sowerby's beaked whale (Special Concern); and*
> - *polar bear (Special Concern).*

DFO Comments
August 11, 2015

The COSEWIC assessment level should be corrected for the following species as follows:

- American Eel – Threatened;
- Cusk – Endangered; and
- Atlantic Bluefin Tuna - Endangered

Section 3.2, second bullet list (COSEWIC-assessed species), is revised as follows:

Species assessed as at risk by COSEWIC (but are not listed on SARA Schedule 1) as of May 8, 2015, that could occur in the 2015 to 2024 Study Area include:

- *Atlantic bluefin tuna (Grand Banks of Newfoundland only) (**Endangered**);*
- *Atlantic cod - Newfoundland and Labrador population (Endangered);*
- *Atlantic salmon (various populations) (Endangered, Threatened, Special Concern);*
- *cusk (**Endangered**);*
- *porbeagle shark (Endangered);*
- *roundnose grenadier (Endangered);*
- *smooth skate - Funk Island Deep population (Endangered) (note Hopedale Channel and Nose of the Grand Banks populations have been assessed by COSEWIC as Data Deficient; there is also a Flemish Cap population that is outside Canadian jurisdiction, but within the 2015 to 2024 Study Area);*
- *winter skate (Eastern Scotian Shelf – Newfoundland population) (Endangered)*
- *beluga whale (various populations) (Endangered, Threatened, Special Concern);*
- *loggerhead sea turtle (Endangered);*
- *Acadian redfish – **Atlantic population** (Threatened);*
- *American eel (**Threatened**);*
- *American plaice - Newfoundland and Labrador population (Threatened);*
- *deepwater redfish – **Northern population** (Threatened);*
- *shortfin mako shark – **Atlantic population** (Threatened);*
- ***white hake - Atlantic and Northern Gulf of St. Lawrence population (Threatened)***
- *basking shark - Atlantic population (Special Concern);*
- *blue shark - Atlantic population (Special Concern);*
- *harbour porpoise – **Northwest Atlantic population** (Special Concern);*
- *roughhead grenadier (Special Concern);*
- *spiny dogfish – **Atlantic population** (Special Concern);*
- *thorny skate (Special Concern);*
- *bowhead whale (Eastern Canada – West Greenland population) (Special Concern);*

- *killer whale – **Northwest Atlantic/Eastern Arctic population** (Special Concern); and*
- *northern bottlenose whale (Davis Strait-Baffin Bay-Labrador Sea population) (Special Concern).*

The correct population name for Smooth Skate is Funk Island Deep population.

The edit has been made in the COSEWIC assessed list above.

Names of COSEWIC-assessed species should specify populations, as follows:

- Acadian Redfish - Atlantic population;
- Deepwater Redfish - Northern population;
- Shortfin Mako Shark - Atlantic population;
- Harbour Porpoise - Northwest Atlantic population;
- Spiny Dogfish - Atlantic population; and
- Killer Whale - Northwest Atlantic/Eastern Arctic population

These edits have been made in the COSEWIC assessed list above.

For completeness, White Hake (Atlantic and Northern Gulf of St. Lawrence population) should be included in this list as it has been assessed by COSEWIC as Threatened.

The edit has been made in the COSEWIC assessed list above.

Section 3.7 Sensitive Areas, page 35

- In the description and listing of sensitive areas, we recommend distinguishing between Marine Protected Areas that have been established formally under the *Oceans Act* (such as Gilbert Bay), and other areas protected under other legislation.

The text in Section 3.7 is revised as follows:

Sensitive areas (Figure 3-15) include a Marine Protected Area at Torngat Mountains National Park, Gilbert Bay, Gannett Islands Ecological Reserve, IBAs (none of which are inside the 2015 to 2024 Study Area), the Bonavista Cod Box, the Placentia Bay-Grand Banks Large Ocean Management Area, and potential Ecological and Biological Sensitive Areas (EBSA) (Figure 3-16). ***The Gilbert Bay Marine Protected Area was established under the Oceans Act in October 2005. There is also the 2.09 km² Eastport Marine Protected Areas on the Bonavista Peninsula, insular Newfoundland, established in October 2005 and an Area of Interest at Leading Tickles, also on the Island of Newfoundland. There are two Parks Canada representative marine areas (Nain Bight and Hamilton Inlet) that***

have the potential to be designated as a National Marine Conservation Area under the National Marine Conservation Areas Act.

- There are only 10 established areas of important coral and sponge concentrations in the Study Area; 1 is outside (south of) the Study Area.

  The text has been revised as follows:

  The northern portion of the 2015 to 2024 Study Area has the Coral Protection and Conservation Areas (areas of corals (found in deeper waters (>200 m)), with aggregations found between Makkovik Bank and Belle Island Bank, Saglek Bank and Hatton Basin). The southern portion of the 2015 to 2024 Study Area has ***10*** *areas of important coral and sponge concentrations (note that the 2015 program will not be conducted in these areas) (C-NLOPB 2010, 2011a, 2011b).*

Section 6.0 Environmental Effects Assessment, page 43 - Any incident that involves a dead or distressed SARA-listed species should be recorded and reported to the local DFO office immediately.

The final paragraph in Section 6.1 is revised as follows:

MMOs are a useful mitigation measure to avoid harm to marine mammals within a 500 m safety radius of high area of ensonification during extensive seismic operations when arrays are active over long periods of time. Use of the MBES (and SBP if required) is conducted in the immediate vicinity of each station, with ample time between stations, making any effect on marine mammals unlikely. Together, noise level and length of activity will likely not cause any environmental effects. There will be a MMO on board the vessel to collect data on marine mammal and seabird sightings. However, no further mitigation (i.e., shut down of MBES/SBP if marine mammals are observed within 500 m of the vessel) will be implemented. ***Any incident that involves a dead or distressed SARA-listed species will be recorded and reported to the local DFO office immediately.***

4.0 FFAW-UNIFOR/ONE OCEAN/OCI COMMENTS

Table 5.1, page 40 - It is almost identical to that which was Table 5.1 in an Environmental Assessment submitted in 2014 by TGS-NOPEC. The consultant is the same as is the work to be undertaken. Yet there are differences in what is being considered in Project-Valued Environmental Component Interaction. It is not expected for the proponent to rationalize the inclusions and considerations in an EA from 2014, but it would be pertinent to be advised of the difference in interactions.

Table 5.1 has been revised to reflect the activities as listed (in the order listed) in Sections 2.3 and 2.4 of the Project Scope of the Environmental Assessment, as follows:

Table 5.1 Project-Valued Environmental Component Interaction

Activity	Species at Risk	Fisheries and Other Ocean Users	Marine and Migratory Birds	Marine Mammals and Sea Turtles	Marine Fish and Shellfish (fish habitat)	Sensitive Areas
Operations						
Use of MBES	X	X	-	X	-	-
Detection of Natural Seeps through Collection of Surface Oil Samples	-	X	-	-	-	-
Collection of Shallow Cores	-	X	-	-	X	-
Collection of Heat Flow Measurements	-	X	-	-	X	-
Use of SBP	X	X	-	X	-	-
Operation of Research Vessel	-	X	X	-	-	-
Accidental Event						
Loss of Diesel Fuel Due to Damage / Sinking of the Research Vessel	X	X	X	-	-	-
Collision with Vessel	X	X	-	X	-	-
Other Projects and Activities						
Fishing Activities	-	-	-	-	-	-
Marine Traffic	-	-	-	-	-	-
Seismic Surveys	-	-	-	-	-	-

FFAW-Unifor/One Ocean/OCI Comments
August 11, 2015

Section 5.5 Environmental Management, page 41 - Please provide clarification on the statement "…and a fishing gear damage compensation program (as per C-NLOPB and C-NSOPB 2002) …, in the event of an oil spill."

The text in Section 5.5 is revised to remove "…in the event of an oil spill." Details on the application of the compensation program are provided in the second paragraph in Section 5.5 and are not restricted to an oil spill; the second paragraph is included for completeness.

Plans will be developed to avoid or reduce potential effects on the commercial fishery. These plans will include elements such as communications (e.g., notifications on the Fisheries Broadcast and Okalakatiget Society (a regional, native communication service for the people on the North Coast and the Lake Melville region of Labrador) and Notices to Shipping), avoidance of areas during times of heavy fixed gear use and a fishing gear damage compensation program (as per C-NLOPB and CNSOPB 2002). Other proposed mitigation measures are described in Section 2.7.

A compensation program will be made available by MG3 that is consistent with C-NLOPB guidelines and past practices. This program covers any damage to fishing gear (or vessels) caused by the survey vessel or survey gear, and includes the value of any harvest lost as a direct result of an incident. MG3 will follow procedures for responding to a claim similar to those outlined in the One Ocean Protocol document (these have been successfully employed in the past by other operators). Any and all incidents will be reported to the C-NLOPB, which maintains a 24-hour answering service at 709-682-4426 for this purpose (709-778-1400 during working hours). Reports on contacts with fishing gear will include the exact time and location of initial contact, loss of contact and a description of any identifying markings on the gear.

5.0 REFERENCES

Environment Canada. 2015a. Environment Canada's Eastern Canadian Seabirds at Sea Data. Data provided by Carina Gjerdrum, Environment Canada, Canadian Wildlife Service, Dartmouth, NS, on June 11, 2015.

Environment Canada. 2015b. Best Practices for Stranded Birds Encountered Offshore Atlantic Canada. DRAFT 2 – April 17 2015. 17 pp.

APPENDIX A

Seabirds Observed During August and September in the 2015 to 2024 Study Area