

**WESTERN NEWFOUNDLAND 2017 CONTROLLED SOURCE ELECTROMAGNETIC (CSEM) SURVEY –  
ADDENDUM TO ENVIRONMENTAL ASSESSMENT – ADDENDUM #2**

**Environment and Climate Change Canada (ECCC)**

**Original comment:**

Clarification – Oil-based products in Transmitter and/or Receivers:

It is not stated if oil-based products (e.g. lubricants or fuel) will be used in the transmitter and receivers. The presence or lack thereof of oil-based products in these devices should be stated in the environmental assessment. ECCC recommends that transmitters and receivers without hydrocarbon-based fluids be used.

**EMGS Response:**

*Oil-based products will not be used in the receivers. Receiver flotation is composed of Trelleborg Eccofloat Type TG28/400 material. The transmitter will consist of both the towfish and the streamer. The towfish will contain the following oil based products:*

- *Main canister:*
  - *Capacity: 400 Liters.*
  - *Type: Tellus 32/46 hydraulic oil.*
  
- *Junction box:*
  - *Capacity: 20 Liters.*
  - *Type: AK 1000 silicone oil.*

*The streamer, referred to as the "solid streamer", will not contain oil-based products. Unlike some streamers, which are kerosene filled, the streamer chosen for the purpose of this project is made buoyant through the use of thermoplastic rubber.*

**ECCC Reply:**

ECCC-CWS recommends that the towfish be thoroughly checked for hydrocarbon leakages before and after deployment. If hydrocarbon leaks are found in the towfish, the device should not be used until the leaks are repaired.

**EMGS Response:**

*The following new text is added to the Addendum:*

*As part of standard practice, EMGS conducts routine equipment checks, including towfish devices, before and after every deployment into sea. The pre-dive and post-dive checklists contain steps ensuring that the frame, hoses, and oil-filled containers show no signs of a leak. It is EMGS' commitment that any sign of hydrocarbon leaks would result in the towfish device being rendered unusable until the source of the leak is found and repaired.*

**Original Comment:**Mitigations – Oil Pollution Incidents:

The assessment of environmental effects which could result from accidents and malfunctions should include a consideration of potential spill events. The assessment should be guided by the need to ensure compliance with the general prohibitions against the deposit of a deleterious substance into waters frequented by fish (Section 36, Fisheries Act) and against the deposit of oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds (Section 5.1, Migratory Birds Convention Act). In addition, it should be focused on potential worst-case scenarios (e.g., concentrations of marine birds, presence of wildlife at risk). Based on this analysis, the environmental assessment should describe the precautions that will be taken and the contingency measures that will be implemented to avoid or reduce the identified impacts.

**EMGS Response:**

*The assessment in Section 7.0 acknowledges the possibility of an accidental hydrocarbon release because of a small on-deck spill or vessel fuel spill. However, given the relatively small volume of hydrocarbon product that could potentially be spilled, the nature of these hydrocarbons to rapidly disperse and evaporate limiting the spill's spatial and temporal extent, and the ability of species to avoid oil spills, effects are predicted to be not significant for Marine Fish, Shellfish and Habitat, Marine Mammals, and Sea Turtles, including Species at Risk. Marine and/or migratory bird species at risk known to occur within the RAA are unlikely to interact with a hydrocarbon spill because they either have strong coastal affinities and are unlikely to occur in the Project Area or occur in winter, which is outside the time frame of the Project. As noted in the assessment, in the event of a hydrocarbon release, the measures outlined in EMGS' Shipboard Oil Pollution Emergency Plan (SOPEP) will be implemented which will reduce the geographic extent and duration of a spill and potential interaction with marine fish, marine mammals and sea turtles, marine and/or migratory bird species (including species at risk) and fisheries.*

*EMGS will comply with the general prohibitions against the deposit of a deleterious substance into waters frequented by fish (section 36, Fisheries Act) and against the deposit of oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds (section 5.1, Migratory Birds Convention Act).*

**ECCC Reply:**

*Quote: "Marine and/or migratory bird species at risk known to occur within the RAA are unlikely to interact with a hydrocarbon spill because they either have strong coastal affinities and are unlikely to occur in the Project Area or occur in winter, which is outside of the time frame of the Project."*

There are migratory bird species which will occur within the RAA in the summer (i.e., foraging beyond colony boundaries, as well as non-breeders) that should be considered. The proponent must be prepared to deal with migratory birds in hydrocarbon spill plans at all times of the year.

**EMGS Response:**

The following new text is added to the Addendum:

*As stated in the environmental assessment, it is recognized that marine and/or migratory birds are vulnerable to hydrocarbon spills and that even small amounts of hydrocarbons can have serious effects on birds (particularly those species that spend most of their time on the water). Severity of effects can vary depending on species affected, type and volume of hydrocarbon spilled, time of year, weather conditions, and duration of the spill (Gorsline et al. 1981). Over 50 species of marine and/or migratory birds, including waterfowl, shorebirds, pelagic and neritic seabirds may occur in or near the Project Area during the spring, summer, or fall.*

*In the unlikely event of a hydrocarbon release, the measures outlined in EMGS' Shipboard Oil Pollution Emergency Plan (SOPEP) will be implemented. The SOPEP will be filed with the C-NLOPB as part of the Operations Authorization. EMGS' SOPEP will include measures contained within the Response Plan Guidance for Birds and Oil developed by the Canadian Wildlife Service (CWS), which is provided in Appendix A. As a minimum, material and equipment will be on board the vessel to collect birds, such as dip-nets, large plastic collecting bags to hold dead birds, and cloth bags or cardboard boxes in which to hold live oiled birds as per the CWS Response Plan Guidance document. Any observed oiled birds will be handled in accordance with CWS Response Plan Guidance document. The methods for handling oiled birds are detailed below:*

- **If a seemingly oiled bird can be caught**, it should be kept in a box until further instruction is received from CWS. Oiled birds should be kept in separate boxes to minimize cross-contamination.
- **Confirm presence of oil** by looking for oil smudges on glove, towel or paper towel; feeling for a sticky or filmy substance on feathers; smelling feathers for petroleum-like scents.
- **Do NOT try to clean an oiled bird.** This requires a permit, specialized training, and facilities. For all instances of oiled birds, CWS will be contacted for further instructions.

**The St. Lawrence Coalition (SLC)****Original comment:**

The proponent offers no convincing justification for the project. Over the years, a very large number of scientists, fishermen associations, tourist associations, municipalities, private citizens, as well as numerous First Nations around the Gulf of St. Lawrence have expressed strong concerns over oil exploration in the Gulf. In view of this, and the fact that any eventual drilling will be met with fierce opposition, it is surprising to see a proposal to continue further oil exploration in the Gulf. The proponent should offer an extensive justification for this CSEM project.

**EMGS Response:**

*This environmental assessment has been submitted to support an application for a Geophysical Program Authorization in accordance with the Geophysical, Geological, Environmental and Geotechnical Program Guidelines (C-NLOPB 2017). EMGS is confident that this project can be*

*undertaken in a safe and environmentally responsible manner in accordance with C-NLOPB requirements.*

**SLC Reply:**

The promoter does not answer the fundamental question of the project justification. Why is this project necessary? The promoter explains that the surveys will be done according to high environmental standards, but they do not answer the basic question of “why do this project in the first place”?

**EMGS Response:**

*The following new text is added to the Addendum:*

*The purpose of the Project is to collect Controlled Source Electromagnetic (CSEM) data to assess the presence of geological structures suitable for the containment and accumulation of hydrocarbons and to determine potential hydrocarbon sources within the Project Area.*

**Original comment:**

We have been reading the documents for the EMGS survey on the EAST coast and something important struck me. On page 1 of the amendment tabled to the C-NLOPB on June 12th, 2017, EMGS affirms that they will have TWO marine mammal observers (MMO) on board the survey ship:

“In addition, the CSEM vessel will have a fisheries liaison officer (FLO) and two marine mammal observers (MMOs) onboard to spot fishing gear in the water during all survey operations, including receiver deployment operations”.

On the contrary, the Western Nfld Environmental Assessment Report tabled to the C-NLOPB on May 2017 talks of only ONE marine mammal observer (page 2.3):

“The survey vessel will also have a Fisheries Liaison Officer (FLO) and a seabird and marine mammal observers (SMMOs) on board”.

This is pretty troubling given the wave of Right Whale deaths in the Gulf during this summer (over 11 deaths) and the role that collision with ships has played in the record number of dead whales.

**EMGS Response:**

*EMGS has committed to having two SMMOs on-board the survey vessel during operations. SMMOs will be trained and experienced qualified professionals capable of identifying both marine birds and marine mammals. Having two SMMOs onboard will increase the effectiveness of monitoring and the likelihood of detecting North Atlantic right whales and other SARA species. In addition, the CSEM vessel moves very slowly (approximately 4 to 5.5 km/h (2-3 knots)) thereby reducing underwater noise and the risk of collision with marine mammals.*

**SLC Reply:**

The promoter has agreed to have two birds and marine mammal observers on board. This is excellent news. However, in many parts of the Addenda, it is still mentioned that only one observer will be on board. The text needs to be uniformized so that it is clear the two birds and marine mammal observers will be on board at all time.

**EMGS Response:**

*The Addendum will be revised to ensure consistency with the commitment of having two SMMOs on-board the survey vessel during operations.*

**Original Comment:**

We learn on page 3.3 that EMGS intends to deal with a Fisheries Liaison, most likely a member of FFAW-Unifor. Has such a liaison been considered with fishing associations from other provinces, considering that their members could also be active in the Project Area? Have any contacts been made with fishing associations from other provinces?

**EMGS Response:**

*Given that the proposed CSEM survey falls entirely within the western offshore waters of insular Newfoundland, consulting with a Fisheries Liaison from fishing associations in other provinces has not occurred. As per the Scoping Document, the One Ocean Protocol for Consultation with Fishers was followed. This document provides contact information for fishery organizations in Newfoundland and Labrador, with whom were consulted.*

**SLC Reply:**

The promoter writes in the EA Report that they will deal only with a fishing representative (Fishing Liaison Officer) from Newfoundland. We asked if they consulted fishermen from other provinces, because fishing zones have little relation with province of origin of the fishermen. They replied that they consulted only with Newfoundland fishermen (One Ocean) as per the scoping document. This is not accurate. If you look at the scoping document (section 4.7) it is clearly written that all users of the ocean potentially affected should be consulted. Two documents produced by One Ocean are suggested as guides to the consultation. The CNLOPB, in the scoping document, does not limit the fishermen consultation to those living in Newfoundland. Fishermen from other Gulf provinces should definitely have been consulted.

**EMGS Response:**

*The following new text is added to the Addendum:*

*Given that the proposed CSEM survey falls entirely within the western offshore waters of insular Newfoundland, consulting with a Fisheries Liaison from fishing associations in other provinces has not occurred. However, EMGS has developed a Communication Plan which provides details on how EMGS will communicate with fishing interests/ocean users that may be active in the area*

during the conduct of the Project. Fishing interests and ocean users identified in the Communication Plan encompass Newfoundland and Labrador, Nova Scotia, New Brunswick, Prince Edward Island and Quebec Regions. Please refer to EMGS' Communications Plan provided in Appendix B.

EMGS' Communication Plan states that the timing and location of proposed activities will be communicated by means of a Notice to Shipping, to fisher organizations identified in the Plan and others, such as One Ocean and the C-NLOPB. The Notice to Shipping for Newfoundland and Labrador, Maritimes and Quebec DFO Regions will be broadcasted the day the vessel is heading to position to undertake the survey. A template of the notification is provided in the Communication Plan (Appendix B).

Additionally, a fisheries liaison officer will be on board the survey vessel to facilitate communication with fishers and provide advice and coordination in regard to avoiding fishing vessels and gear throughout the program. The survey has flexibility to alter the order in which the transects are conducted to avoid interacting with fishing boats. A Single Point of Contact (SPOC) will be established to respond to queries and concerns from other ocean users. In the unlikely event that Project activities damage fishing gear, compensation will be awarded to affected parties in accordance with the Compensation Guidelines Respecting Damages Related to Offshore Petroleum Activity (C-NLOPB and CNSOPB 2002).

### **C-NLOPB**

#### **Original Comment:**

##### Issues Scoping and Selection of Valued Components, Fisheries and Other Ocean Users:

The rationale for selection of Fisheries and Other Ocean Users as a VC was that the fishery is an important element in both Newfoundland and Labrador and other Gulf of St. Lawrence jurisdictions. However, there is no evidence in the report that commercial fishers in the Gulf of St. Lawrence jurisdiction were consulted.

#### **EMGS Response:**

*As per the Scoping Document, the One Ocean Protocol for Consultation with Fishers was followed. This document provides contact information for fishery organizations in Newfoundland and Labrador whom were consulted.*

*EMGS will hire a FLO which will facilitate communication with applicable fishery groups throughout the duration of the project.*

#### **C-NLOPB Reply:**

*Quote: "As per the Scoping Document, the One Ocean Protocol for Consultation with Fishers was followed. This document provides contact information for fishery organizations in Newfoundland and Labrador whom were consulted."*

How will communication by EMGS with fishing interests/ocean users that may be active in the area during the conduct of the program occur? EMGS should describe their plans for communication to fishing interests/ocean users before commencing the program, and also while the program is in progress.

**EMGS Response:**

*The following new text is added to the Addendum:*

*Please refer to EMGS' Communication Plan (Appendix B) for details on how EMGS will communicate with fishing interests/ocean users that may be active in the area during the conduct of the Project. EMGS' Communication Plan states that the timing and location of proposed activities will be communicated by means of a Notice to Shipping, to fisher organizations identified in the Plan and others, such as One Ocean and the C-NLOPB. Fisher organizations encompass Newfoundland and Labrador, Nova Scotia, New Brunswick, Prince Edward Island and Quebec Regions. The Notice to Shipping for Newfoundland and Labrador, Maritimes and Quebec DFO Regions will be broadcasted the day the vessel is heading to position to undertake the survey. A template of the notification is provided in the Communication Plan.*

*Additionally, a fisheries liaison officer will be on board the survey vessel to facilitate communication with fishers and provide advice and coordination in regard to avoiding fishing vessels and gear throughout the program. The survey has flexibility to alter the order in which the transects are conducted to avoid interacting with fishing boats. A Single Point of Contact (SPOC) will be established to respond to queries and concerns from other ocean users. In the unlikely event that Project activities damage fishing gear, compensation will be awarded to affected parties in accordance with the Compensation Guidelines Respecting Damages Related to Offshore Petroleum Activity (C-NLOPB and CNSOPB 2002).*

**Fisheries and Oceans Canada (DFO)**

**Original Comment:**

**Section 5.2.6 Species at Risk, Table 5.11 - Roughead Grenadier. American Plaice (Newfoundland and Labrador population), Striped Bass (Southern Gulf of St. Lawrence population), White Hake (Southern Gulf of St. Lawrence population), Spiny Dogfish (Atlantic population), and Northern Bottlenose Whale (Davis Strait-Baffin Bay-Labrador Sea population)** - Information on the expected distributional overlap with the project should be included for these species.

**EMGS Response:**

*Roughhead Grenadier: Based on review of COSEWIC (2007), Roughhead Grenadier does not regularly occur in the Gulf of St. Lawrence and does not have distributional overlap with the Project Area.*

*Atlantic Plaice (Newfoundland and Labrador Population):* There are three separate stocks of the Newfoundland and Labrador Population of American Plaice that are recognized for management/assessment purposes: (1) those off Labrador and the northeast coast of Newfoundland (NAFO 2GHJ3K), (2) those on the Grand Banks (NAFO 3LNO), and (3) those on the St. Pierre Bank (NAFO 3Ps). This population also includes fish in NAFO 3Pn which is not formally assessed. The western extent of this population is Cape Ray (southwestern tip of Newfoundland). The deep Laurentian Channel bounds the southern limit of this population, as it is deeper than their preferred depth range of 100-300m. It is possible for there to be distributional overlap in the eastern extent of the Project Area, as this is the western extent of the distribution of this population.

*Striped Bass (Southern Gulf of St. Lawrence Population):* The Southern Gulf of St. Lawrence Population of Striped Bass occurs in the southern Gulf of St. Lawrence, primarily on the east coast of New Brunswick, but also part of the coast of Nova Scotia, Prince Edward Island, and eastern Québec (Chaleur Bay and Gaspé), but there is only a single spawning population (Northwest Miramichi River). Striped Bass stay in relatively shallow coastal waters along the southern edges of the Gulf and do not have distributional overlap with the Project Area.

*White Hake:* White hake from the Southern Gulf of St. Lawrence population are not found in the central portion of the southern Gulf of St. Lawrence where the waters are cold and unsuitable for the species. White hake vacate the shallow waters of the Gulf of St. Lawrence in autumn and early winter as water temperature declines and as the area becomes iced over in January (Dickie and Trites 1983; Clay and Hurlbut 1989; Clay 1991 in COSEWIC 2013). They overwinter in the 2-5°C (Dickie and Trites 1983 in COSEWIC 2013) deeper water of the Cabot Strait. When spring returns and ice breakup is underway, they migrate back into the waters of the southern Gulf where they spawn beginning in June. This population of white hake is primarily found southwest of the Laurentian Channel (COSEWIC 2013) and may have distributional overlap with the Project Area. However, due to the timing of the Project (all Project Activities to be completed by December), and the fact that this population does not return to the deeper waters of the Laurentian Channel until early winter so may not be distributional overlap with Project Activities in the Project Area.

*Spiny Dogfish (Atlantic Population):* The Southern Gulf of St. Lawrence group of spiny dogfish is considered a “sink” population in that the area was colonized abruptly in 1985, and the same group has resided in the area ever since (COSEWIC 2007). The presence of spiny dogfish in deep warmer waters of the Laurentian Channel in winter research trawl surveys confirm that at least some of those dogfish from the Southern Gulf of St. Lawrence group remain in the Gulf year-round (COSEWIC 2007). A comparison of spiny dogfish distribution from research trawl surveys in the Southern Gulf of St. Lawrence, and off southern Newfoundland indicate that dogfish move offshore into deeper, warmer waters in winter, and in the summer, tend to occur in shallower coastal waters in the southern Gulf (COSEWIC 2007). As the Southern Gulf of St. Lawrence group moves seasonally between coastal areas in the Laurentian Channel, it is possible for there to be distributional overlap with this species in the Project Area during Project Activities in the fall.



*Northern Bottlenose Whale (Davis Strait-Baffin Bay-Labrador Sea Population): Based on review of COSEWIC 2010, northern bottlenose whales from the Davis Strait-Baffin Bay-Labrador Sea Population do not regularly occur in the Gulf of St. Lawrence and have no distributional overlap with the Project Area.*

**DFO Reply:**

**Section 5.2.6 Species at Risk (Table 5.11 – Roughead Grenadier, American Plaice – (Newfoundland and Labrador population), Striped Bass (Southern Gulf of St. Lawrence population), White Hake (Southern Gulf of St. Lawrence population), Spiny Dogfish (Atlantic population), and Northern Bottlenose Whale (Davis Strait-Baffin-Bay-Labrador Sea population), pages 18-19** – The population given for Spiny dogfish is incorrect and should be “Atlantic”, not “Southern Gulf of St. Lawrence” population.

**EMGS Response:**

*See revised text in bold above*

**Original Comment:**

**Section 5.2.7 Sensitive Areas (pages 5.53-5.54)** - Significant Benthic Area (SBA) delineations for corals and sponges have been identified for this area, and should be included in this report (Canadian Science Advisory Secretariat Science Advisory Report 2017/007). Gulf and Quebec Regions have identified candidate areas for potential protection in SBAs in and adjacent to the PA, LAA, and the RAA (Kenchington et al., 2016).

Kenchington, E., L. Beazley, C. Lirette, F.J. Murillo, J. Guijarro, V. Wareham, K. Gilkinson, M. Koen Alonso, H. Benoit, H. Bourdages, B. Sainte-Marie, M. Treble, and T. Siferd. 2016. Delineation of Coral and Sponge Significant Benthic Areas in Eastern Canada Using Kernel Density Analyses and Species Distribution Models. DFO Can. Sci. Advis. Sec. Res. Doc. 2016/093. vi + 178 p. (<http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2016/2016093-eng.html>)

**EMGS Response:**

*Coral and sponge areas have been discussed in Section 5.2.2.3 of the assessment. Following review of Kenchington et al. 2016 and as noted in Section 5.2.2.3, it is acknowledged that coral and sponge areas are present in the Gulf and the Laurentian Channel. Sponge locations are identified on Figure 28 of the Kenchington et al. 2016 report, including identification of significant sponge areas. Significant sponge areas are present within the RAA; however, they are not present within the Project Area. Sea pen locations are identified on Figure 31 of the Kenchington et al. 2016 report, including identification of significant sea pen areas. Significant sea pen areas are present within the RAA; however, they are not present within the Project Area.*

**DFO Reply:**

**Section 5.2.7 Sensitive Areas (pages 5.53-5.54), pages 20-21** – Figure 32 in Kenchington et al. (2016) appears to show at least one significant sea pen location (indicated as a brown polygon for 2015) in the Project Area. Significant sea pen areas should be rechecked against the Project Area and text revised accordingly.

**EMGS Response:**

*As stated in the Addendum, EMGS will avoid known sea pen areas. The transects (as per the coordinates provided in Kenchington et al. (2016)) provide areas of known sea pens. EMGS will maintain a 2-km buffer around these transects of known sea pens. Given the low probability of encounters with the few receivers that will be deployed in the known sea pen areas, the project effects on sea pen populations, which are not at risk, would not be significant. In the event that there is an interaction with a sea pen in the Project Area, there will not be any effects to the Gulf of St. Lawrence population, given the large area of significant sea pen concentrations identified in Kenchington et al. (2016).*

**Original Comment:**

**Section 5.2.7:1 Ecologically and Biologically Significant Areas (page 5.54)** - The wording of this paragraph is not accurate and should be replaced as follows: "Canada's Oceans Act authorizes DFO to conserve and protect living aquatic resources and their supporting ecosystems through the development of a well-designed network of Marine Protected Areas (MPAs) and other effective area-based conservation measures. The Estuary and Gulf of St. Lawrence (GOSL) has been identified as one of five priority Bioregions to undergo MPA Network Planning. Ecologically and Biologically Significant Areas (EBSAs) are areas that have particularly high ecological or biological significance which may facilitate provision of a greater than usual degree of risk aversion in the management of an important design feature of MPA Networks. DFO has identified 10 EBSAs within the GOSL Bioregion; three of which are located within the RAA (Figure 5.6). As outlined in Table 5.12 these include the West Coast of Newfoundland EBSA, the South Fringe of the Laurentian Channel, and the Western Cape Breton EBSA."

**EMGS Response:**

*Section 5.2.7:1 Ecologically and Biologically Significant Areas (page 5.54) - The wording of this paragraph is not accurate and should be replaced as follows: "Canada's Oceans Act authorizes DFO to conserve and protect living aquatic resources and their supporting ecosystems through the development of a well-designed network of Marine Protected Areas (MPAs) and other effective area-based conservation measures. The Estuary and Gulf of St. Lawrence (GOSL) has been identified as one of five priority Bioregions to undergo MPA Network Planning. **Ecologically and Biologically Significant Areas (EBSAs) are areas that have particularly high ecological or biological significance which may facilitate provision of a greater than usual degree of risk aversion in the management of an important design feature of MPA Networks.** DFO has identified 10 EBSAs within the GOSL Bioregion; three of which are located within the RAA (Figure 5.6). As*

outlined in Table 5.12 these include the West Coast of Newfoundland EBSA, the South Fringe of the Laurentian Channel, and the Western Cape Breton EBSA."

**DFO Reply:**

**Section 5.2.7.1 Ecologically and Biologically Significant Areas (pages 5.54), pages 21-22** – The edited wording of this paragraph is missing text. Sentence 3 should be changed from "Ecologically and Biologically Significant Areas (EBSAs) are areas that have particularly high ecological or biological significance which may facilitate provision of a greater than usual degree of risk aversion in the management of an important design feature of MPA Networks." To "Ecologically and Biologically Significant Areas (EBSAs) are areas that have particularly high ecological or biological significance which may facilitate provision of a greater than usual degree of risk aversion in the management of activities in these areas. EBSAs have been identified as priority areas for protection and an important design feature of MPA Networks".

**EMGS Response:**

See revised text in bold above:

**Original Comment:**

**Section 5.3.1.3 Aboriginal Fisheries (2nd and 3'd paragraph, pages 5.72-5.73)** - Licencing information for the Qalipu Mi'kmaq First Nation Band and MAMKA is dated, footnoted as 2011. Updated information (e.g., 2014 and 2015) should be provided.

**EMGS Response:**

Based on 2016 commercial communal data provided by DFO, the Qalipu Mi'kmaq First Nation hold 11 commercial communal enterprises, 10 of which hold groundfish licences in NAFO Division 4R. There is one enterprise that holds a licence to harvest lobster in Lobster Fishing Area (LFA) 13A, with the remainder holding licences to harvest lobster in LFA 13B, north of the Project Area. Nine enterprises hold licences for snow crab in Crab Management Areas 12, 12C, 12E or 12F (DFO pers. comm. 2017). Additionally, licences are held for harvesting herring, mackerel and scallop within the RAA. The Mi'kmaq Alsumk Mowimsikik Koqoey Association (**MAMKA**) hold five enterprises with vessels less than 39'11". There are four enterprises which hold a licence to harvest lobster, with three of the enterprises holding a groundfish and snow crab quota (DFO pers. comm. 2017).

**DFO Reply:**

**Section 5.3.1.3 Aboriginal Fisheries (2nd and 3rd paragraph, pages 5.72-5.73), page 23, 4th sentence** – "(MAKA)" should be added following "Mi'kmaq Alsumk Mowimsikik Koqoey Association".

**EMGS Response:**

See revised text in bold above:

**Original Comment:**

**Section 6. 2.2 Project Interactions (paragraph 3, page 6.3) - Please provide a description of the disturbance to benthic habitat and species (e.g., dimensions of receivers, total area affected, depth of disturbance, affected species).**.. Is there any potential for species to be transported between sites by attachment to receivers? If this is a potential issue then it should be addressed in the mitigations. The issue of species introductions/movement is also relevant to Section 6.2.3 Mitigation (5th bullet, page 6.3), Section 6.5.3 Mitigation (5th bullet, page 6.16), Section 6.6.3 Mitigation (5th bullet, page 6.28), Section 6.7.3 Mitigation (2nd bullet, page 6.32), Section 10.0 Summary and Conclusion (6th bullet, page 10.1).

**EMGS Response:**

*Section 6.2.2 Project Interactions (third paragraph, p. 6.3): Deployment of the receivers to the seafloor will result in temporary, localized benthic disturbance: The receivers will be attached to compacted sand anchors, each with the dimensions of 920 mm X 810 mm X 102 mm. It is expected receivers will be placed at depths of 400-500 m. When placed, each sand anchor will cover an area of the seafloor of approximately 0.75 m<sup>2</sup>. There will be approximately 70 of these anchors, representing a total area of 52 m<sup>2</sup> that would be disturbed. The receivers will be in the water between 5 to 15 days, while the sand anchors will be left in place after the survey is finished. These anchors made up of compacted sand will degrade to natural substances within 9-12 months of placement.*

*Receivers will be deployed and retrieved from the same locations, thus there is no potential for species to be transported between sites by attaching to receivers. The placement of these sand anchors may affect benthic organisms such as polychaetes, echinoderms, shellfish, corals, and sponges if they are located directly in the path of placement. Deployment of these sand anchors on the seafloor may also cause temporary sediment resuspension if deployed on soft substrates. Those organisms located directly in the path of placement may be physically affected, however the total area affected (52 m<sup>2</sup> or less) is miniscule compared to the Project Area and Laurentian Channel.*

*Section 6.2.3 Mitigation (5th bullet, page 6.3): Compacted sand anchors, designed to degrade within one year, will be used for the CSEM receivers: Because these anchors will remain on the seafloor once the survey is finished, and that the receivers will be deployed and retrieved from the same locations, there is no potential for species to be introduced or moved between sites as they relate to fish and fish habitat.*

*Section 6.5.3 Mitigation, 5th bullet point: Vessels will follow established shipping lanes in proximity to shore and will travel at speeds not exceeding 24 km/hour (14 knots), except as needed in the case of an emergency: It is unlikely that a vessel travelling through established shipping lanes would cause species introduction or cause movement of species related to fish and fish habitat.*

*Section 6.6.3 Mitigation (5th bullet, page 6.28): Compacted sand anchors, designed to degrade within one year, will be used for the CSEM receivers: Because these anchors will remain on the*

*seafloor once the survey is finished, and that the receivers will be deployed and retrieved from the same locations, there is no potential for species to be introduced or moved between sites as they relate to fish and fish habitat.*

*Section 6.7.3 Mitigation (2nd bullet, page 6.32): Compacted sand anchors, designed to degrade within one year, will be used for the CSEM receivers: Because these anchors will remain on the seafloor once the survey is finished, and that the receivers will be deployed and retrieved from the same locations, there is no potential for species to be introduced or moved between sites as they relate to fish and fish habitat.*

*Section 10.0 Summary and Conclusions (6th bullet, page 10.1): Compacted sand anchors, designed to degrade within one year, will be used for the CSEM receivers: Because these anchors will remain on the seafloor once the survey is finished, and that the receivers will be deployed and retrieved from the same locations, there is no potential for species to be introduced or moved between sites as they relate to fish and fish habitat.*

**DFO Reply:**

**Section 6.2.2 Project Interactions (paragraph 3, page 6.3), pages 24-26** – Part of original comment is missing. First sentence should read “Please provide a description of the disturbance to benthic habitat and species (e.g., dimensions of receivers, total area affected, depth of disturbance, affected species)” instead of “Please provide a description affected, depth of disturbance, affected species)”.

**EMGS Response:**

***Please revised text in bold above***

**Original Comment:**

**Section 6.2.3 Mitigation (2nd bullet, page 6.3)** - Species at risk should be recorded by the SMMO. This comment also applies to Section 6.3.3 Mitigation (1st bullet, page 6.7), Section 6.5.3 Mitigation (1st bullet, page 6.16), Section 6.6.3 Mitigation (2nd bullet, page 6.28), Section 10.0 Summary and Conclusion (2nd bullet, page 10.1).

**EMGS Response:**

*The SMMOs will record species at risk. It is noted that this should be added to the following: Section 6.2.3 Mitigation (bullet 2, page 6.3); Section 6.5.3 Mitigation (bullet 1, page 6.16); Section 6.6.3 Mitigation (bullet 2, page 6.28); and Section 10.0 Summary and Conclusions (bullet 2, page 10.1).*

**DFO Reply:**

**Section 6.2.3 Mitigation (2<sup>nd</sup> bullet, page 6.3), page 26** – Addition should also be made to Section 6.3.3 Mitigation (1<sup>st</sup> bullet, page 6.7).

**EMGS Response:**

The Addendum is revised to include that the SMMOs will record species at risk in Section 6.3.3 Mitigation (1<sup>st</sup> bullet, page 6.7).

**Original Comment:**

**Section 6.5 Species at Risk (2nd sentence, paragraph 3, page 6.15)** - There are 23 species populations listed on Schedule 1 of SARA, including populations for two sea turtle species. This should be revised.

**EMGS Response:**

Section 6.5 Species at Risk (second sentence, third paragraph, page 6.15) is revised as follows:

A total of 45 Species at Risk have been identified to have the potential to occur within the RAA, including **23** species of marine fish, seven species of marine mammals, 14 species of marine and/or migratory birds, and two species of sea turtles. Of these species, 22 species have populations that are listed on Schedule 1 of SARA, including four species of marine fish, five species of marine mammals, twelve species of marine and/or migratory birds, and two species of sea turtles.

**DFO Reply:**

**Section 6.5 Species at Risk (2<sup>nd</sup> sentence, paragraph 3, page 6.15), page 30** – Sentence still needs to be revised to reflect 23 species populations listed on Schedule 1 of SARA instead of 22.

**EMGS Response:**

The text in revised in bold above

**Original Comment:**

**Section 6.6.4 Assessment of Residual Environmental Effects, Receiver Deployment and Retrieval (page 6.29)** - Reference to corals and sponges when discussing impacts to benthic habitat should be included.

**EMGS Response:**

Coral and sponge areas have been discussed in Section 5.2.2.3 of the assessment. Following review of Kenchington et al. 2016 and as noted in Section 5.2.2.3, it is acknowledged that coral and sponge areas are present in the Gulf and the Laurentian Channel. Sponge locations are identified on Figure 28 of the Kenchington et al. 2016 report, including identification of significant sponge areas. Significant sponge areas are present within the RAA; however, are not present within the Project Area. Sea pen locations are identified on Figure 31 of the Kenchington et al. 2016 report, including identification of significant sea pen areas. Significant sea pen areas are present within the RAA; however, are not present within the Project Area.

**DFO Reply:**

**Section 6.6.4 Assessment of Residual Environmental Effects (Receiver Deployment and Retrieval, page 6.29), pages 33-34** – Figure 32 in Kenchington et al. (2016) appears to show at least one sea pen location (indicated as a brown polygon for 2015) in the Project Area. Significant sea pen areas should be rechecked against the Project Area and text revised accordingly.

**EMGS Response:**

*Please see response above to DFO Comment **Section 5.2.7 Sensitive Areas (pages 5.53-5.54), pages 20-21.***

## **APPENDIX A**

### **Bird and Oil – CWS Response Plan Guidance**



## Birds and Oil - CWS Response Plan Guidance

In all circumstances where a polluter is identified the burden of cleanup and response lies with the polluter. However, responsibility for government overview of a response to an oil spill depends on the source of the spill. The identified **lead agency** has responsibility to monitor an oil spill response and to take control if an appropriate response is not undertaken by a polluter or their agent.

Lead agency responsibilities lie with:

- **Environment Canada**
  - For spills and incidents on federal lands and from federal vessels
  - Potentially for land-based incidents in waters frequented by fish
  - May take lead if environment is not being protected by other leads, Cabinet Directive 1973
- **Canadian Coast Guard**
  - For spills from ships
  - All spills of unknown sources in marine environment
- **Provincial Department of Environment**
  - For spills from land-based sources
- **Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) and Canada-Nova Scotia Offshore Petroleum Board (C-NSOPB)**
  - For spills related to offshore oil and gas exploration and production
- **Transport Canada**
  - To investigate ship source and mystery spills in the marine environment

The Canadian Wildlife Service has the responsibility for licensing activities which involve the handling or disturbance of birds, and of providing advice and often direction to other agencies, responders and the polluter during oil spill incidents.

### 1. Hazing<sup>1</sup>

*Purpose:* Prevent birds from coming in contact with oil

*Options:*

- Hazing by helicopter
- Hazing by FRC or other watercraft
- Release of scare devices (e.g. Breco Buoys, Phoenix Wailer)
- Use of hazing sound makers: propane cannons, whizzers, bangers, pyrotechnic devices etc.

Scare devices have a limited range of influence and likely are not a viable option with a large slick. Use of Breco Buoys and Phoenix Wailers can be used but we consider them to be largely ineffective in the situation of a large slick. Logistically, helicopter hazing would be difficult unless it was possible for a helicopter to remain on a platform offshore overnight. Hazing by FRC or other vessels would be ideal.

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<sup>1</sup> There are several scare techniques which may be effective and do not require a permit, however a permit under the Migratory Bird Regulations **is required** for the use of aircraft or firearms (defined as capable of emitting at projectile at more than 495 feet per second). Propane cannons, blank pistols or pyrotechnical pistols firing crackers shells with **less than 495fps are legal without a permit**. Most scare tactics are relatively short lived in terms of effectiveness as birds acclimatize to the disturbance so scare techniques should be alternated to be effective.

Short-term focused hazing by the most expedient means should be attempted to move the birds away from the slick, if logistical conditions permit. Vessels at the site should have the ability to use sound makers (propane canons, pyrotechnic devices) to disperse birds in local areas. Such equipment should be deployed immediately to these ships with trained personnel to operate them. The vessels on site should be tasked to actively search and monitor for congregations of birds which could be vulnerable to oiling. If such groups are found then attempts should be made to disperse the birds away from the oil.

## 2. Disperse oil

*Purpose:* Prevent birds from contacting oil by getting oil off the surface of the water as soon as possible.

*Options:*

- Dispersants
- Mechanical dispersal with FRCs or other vessels
- Natural dispersal by environmental conditions

For small spills, mechanical dispersal would be the preferred method.

## 3. Bird Collection<sup>2</sup>

*Purpose:* Implement a humane response to oiled birds as required by Environment Canada's National Policy on Oiled Birds and Oiled Species At Risk (<http://www.ec.gc.ca/ee-ue/default.asp?lang=En&n=A4DD63E4-1>)

*Options:*

- The only option would be a ship-based effort to detect and collect dead and live oiled birds, both within the slick and adjacent to it.

All vessels in or near the slick should understand the need to collect birds. All vessels should have dip-nets, large plastic collecting bags to hold dead birds, and cloth bags or cardboard boxes in which to hold live oiled birds. Efforts should be made to retrieve live oiled birds to ensure they are dealt with humanely.

## 4. Wildlife monitoring

*Purpose:* Determine potential impact of spill

*Options:*

- Ship-based surveys for oiled and unoiled wildlife
- Aerial surveys for oiled and unoiled wildlife. Will require structured surveys (e.g. strip or transect surveys of spill area)
- Placement of CWS staff on vessels and aircraft

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<sup>2</sup> Only those individuals authorized to do so (nominee on an existing federal salvage permit) can be involved with the collection of migratory birds.

Dedicated ship-based bird surveys should be initiated immediately. Ideally arrangements should be made to have a CWS observer on vessels or flights. In addition trained seabird observers need to be placed on all vessels monitoring a slick. This should continue until the slick is dispersed.

## 5. Beached Bird Surveys

*Purpose:* Determine impact of spill on wildlife and retrieve any live oiled wildlife on beaches.

*Options:*

- Conduct daily beached bird surveys during the incident and until one week after slick has been removed or dissipated.

CWS or other government officials (CCG, Enforcement Officers) will oversee the collection of dead and live oiled birds<sup>3</sup> as instructed in CWS' protocol for collecting birds during an oil spill response. This would only be required in circumstances where a large number of birds are potentially oiled or if the spill occurs in a sensitive area.

## 6. Drift Blocks

*Purpose:* Drift blocks may be deployed in slick to provide an estimate of bird mortality.

*Options:*

- Release from vessel
- Release from aircraft

The deployment of drift blocks would only be expected if there was a large spill and blocks should be released as soon as possible after a spill (CWS should be consulted to determine protocol for drift block deployment and tracking). The polluter or their agent would be expected to ensure drift blocks are tracked and collected as appropriate.

## 7. Live oiled bird response

*Purpose:* Implement a humane response to oiled birds as required by Environment Canada's National Policy On Oiled Birds And Oiled Species At Risk

*Options:*

- Rehabilitation
- Euthanization

CWS will be consulted to determine the appropriate response and treatment strategies which may include cleaning and rehabilitation or euthanization. CWS policy specifically requires that species at risk or other species of concern be rehabilitated.

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<sup>3</sup> Only those individuals authorized to do so (nominee on an existing federal salvage permit) can be involved with the collection of migratory birds.

**APPENDIX B**  
**Communications Plan**

# COMMUNICATIONS PLAN

## Project Summary

Electromagnetic Geoservices Canada, Inc. (EMGS) is proposing to conduct a controlled source electromagnetic (CSEM) survey (Western Newfoundland CSEM Survey 2017; the Project). The Project is proposed for the western offshore waters of insular Newfoundland. The primary objective of the Project is to acquire data to assess the presence of geological structures suitable for the containment and accumulation of hydrocarbons and to determine potential hydrocarbon sources within the Project Area. Exploration drilling is not included in the scope of this Project. The proposed survey is expected to take 5 to 15 days (allowing for weather downtime, most likely less than 10 days) and would be conducted between August and December 2017, pending regulatory approvals.

The Project Area is 5,140 km<sup>2</sup>, located off the western coast of Newfoundland (Figure 1) in water depths of approximately 50 to 550 m. Refer to Table 1 for Project Area coordinates.

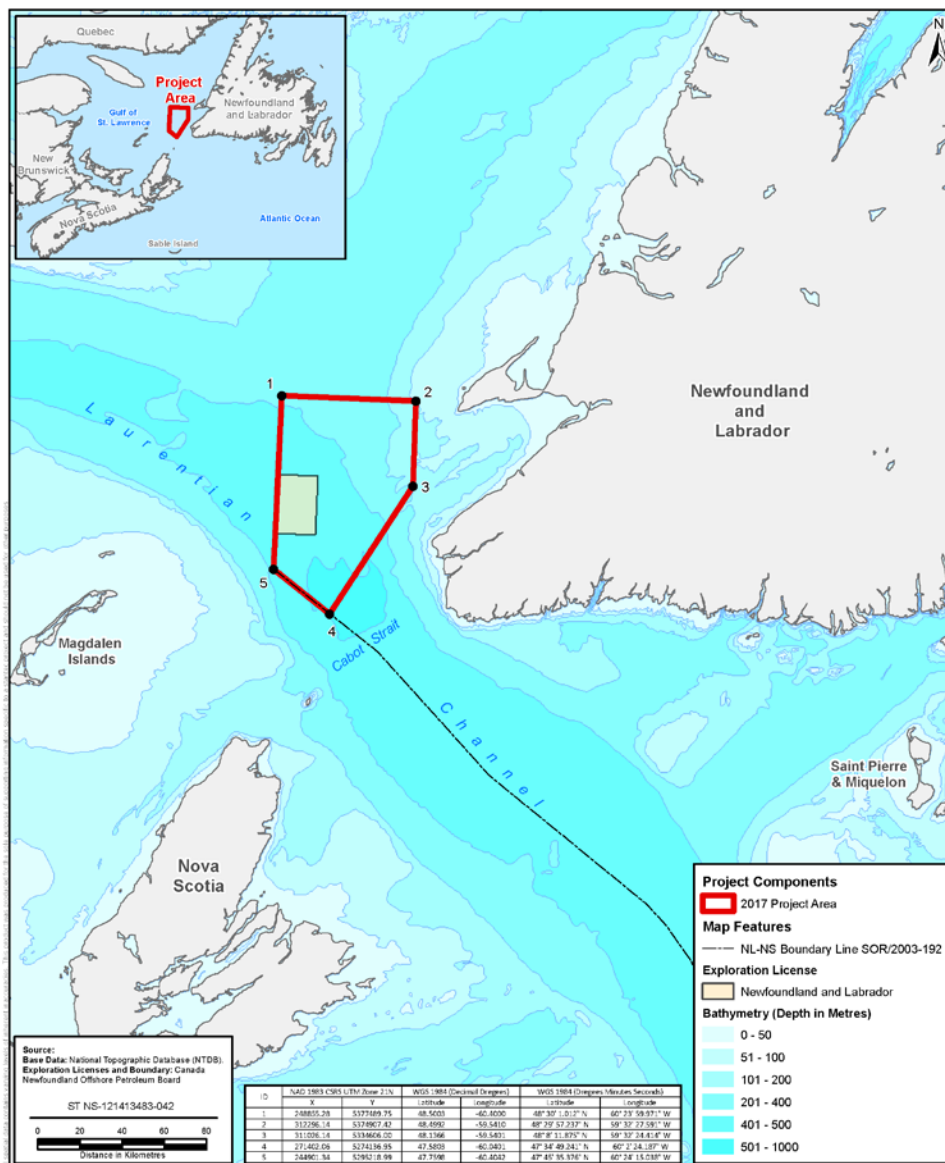


Figure 1 Project Area

**Table 1 Project Area Corner Coordinates**

Project Area	
NAD_1983_CSRS_UTM_Zone_21N	
-60° 24.000'	48° 30.016'
-59° 32.460'	48° 29.953'
-59° 32.407'	48° 8.197'
-60° 2.403'	47° 34.820'
-60° 24.251'	47° 45.589'

The survey will be conducted using one of EMGS's exploration vessels, which will tow the CSEM source above the seafloor. The towed package comprises one streamer. During the survey, approximately 70 receivers will be deployed on the seafloor, each weighted by compacted sand anchors that will remain on the seafloor after the receiver packages are retrieved at the end of the survey. These compacted sand anchors will deteriorate on the seafloor within approximately one year.

A fisheries liaison officer will be on board the survey vessel to facilitate communication with fishers and provide advice and coordination in regard to avoiding fishing vessels and gear. The survey has flexibility to alter the order in which the transects are conducted to avoid interacting with fishing boats. A Single Point of Contact (SPOC) will be established to respond to queries and concerns from other ocean users.

The timing and location of proposed activities will be communicated by means of a Notice to Shipping, the fishers' organizations identified in this Plan and others, such as One Ocean and The Canada-Newfoundland and Labrador Offshore Petroleum Board. The Notice to Shipping for Newfoundland and Labrador, Maritimes and Quebec Regions will be broadcasted the day the vessel is heading to position to undertake the survey. A template of the notification is attached to this Plan.

In the unlikely event that Project activities damage fishing gear, compensation will be awarded to affected parties in accordance with the *Compensation Guidelines Respecting Damages Related to Offshore Petroleum Activity* (C-NLOPB and CNSOPB 2002).

### **Company Contacts**

#### **Operations Manager EMGS ASA**

Atle Johan Bull Lund  
Stiklestadvn 1  
7041 Trondheim  
Norway  
Cell phone: +47 916 42 636  
Email: al@emgs.com

#### **Onshore Representative EMGS ASA**

Jason Walsh  
Cell Phone: 709-746-2642  
Email: jwalsh@emgs.com

## **Fishers Organizations to be Contacted**

This plan will be provided to the following fishers' organizations one week in advance of the survey:

### **FFAW-Unifor**

368 Hamilton Av, St. John's, NL A1E 1K2  
Robyn Lee Saunders  
T: 709-576-7276  
Email: rlee@ffaw.net

### **Maritimes Fisheries Union (represent fishers in NB and NS that would fish in the Gulf)**

Nova Scotia  
T: 902-961-3038  
Email: ruth@mfu-upm.com

#### **AND**

408, rue Main St.  
Shediac, NB E4P 2G1  
T: 506-532-2485  
Email: shediac@mfu-upm.com

#### **AND**

422, rue Arseneau  
Tracadie-Sheila, NB E1X 1G4  
T: 506-395-6366  
Email: tracadie@mfu-upm.com

### **PEI Fishermen's Association**

420 University Avenue, Suite 102  
Charlottetown, PE C1A 7Z5  
T: 902-566-4050  
F: 902-368-3748  
Manager: Ian MacPherson  
Email: managerpeifa@eastlink.ca  
Communications: Melanie Giffin  
Email: commpeifa@eastlink.ca

### **Îles-de-la-Madeleine Fishing Associations:**

#### **Regroupement des pêcheurs professionnels des Îles-de-la-Madeleine**

308-330, chemin Principal  
Cap-aux-Meules, QC, G4T 1C9  
Jocelyn Theriault, President  
T: 418-937-8390  
Email: rppim@tlb.sympatico.ca

#### **Regroupement des palangriers et pétoncliers uniques Madelinots**

205-330, chemin Principal, Cap-Aux-Meules, QC G4T 1C9  
Pierre Chevrier, President  
T: 418-986-5244  
Email: rppum@tlb.sympatico.ca

**Association des pêcheurs propriétaires des Îles-de-la-Madeleine**

373, Route 199 Cap-aux-Meules G4T 1R3

Mario Déraspe, President

T: 418-986-5623

Email: appim@tlb.sympatico.ca

**Association of Inshore Fishermen of the Magdalen Islands**

2B-006, chemin Jerry, Grosse Ile, Québec G4T 6B9

David Burke, President

T: 418-937-3778

Email: myprincess175599@hotmail.ca

**Cape Dauphin Fishermen's Cooperative**

51, chemin Shore

Grosse-Ile QC, G4T 6A4

Ruth Taker-Thibodeau, Director

T: 418-985-2321

F: 418-985-2346

Email: cdauphinmanager@magdalenislands.ca

**Rassemblement des pêcheurs et pêcheuses des côtes des Îles**

330, chemin Principal, Cap-Aux-Meules QC G4T 1C9

Charles Poirier, Président

T. 418.937.8811

Email: rppci@tlb.sympatico.ca



**FAX TRANSMITTAL PAGE**

<b>DATE:</b> October XX, 2017		<b>REF No.:</b>											
<b>To: CBC Fisheries Broadcast One Ocean FFAW-Unifor</b> Maritimes Fisheries Union  PEI Fishermen's Association Regroupement des pêcheurs professionnels des Îles-de-la-Madeleine Regroupement des palangriers et pétoncliers uniques Madelinots Association des pêcheurs propriétaires des Îles-de-la-Madeleine Association of Inshore Fishermen of the Magdalen Islands Cape Dauphin Fishermen's Cooperative Rassemblement des pêcheurs et pêcheuses des côtes des Îles <b>CC: E. Young, C-NLOPB CCG Notship Desk - NL CCG Notship Desk - Maritimes CCG Notship Desk - Quebec ECAREG</b>		<b>FAX No:</b> fish@cbc.ca <b>OR Email:</b> 709-778-0413 709-576-1962 ruth@mfu-upm.com / shediac@mfu-upm.com / tracadie@mfu-upm.com 902-368-3748 rppim@tlb.sympatico.ca  appim@tlb.sympatico.ca  appim@tlb.sympatico.ca  myprincess175599@hotmail.ca  cdauphinmanager@magdalenislands.ca rppci@tlb.sympatico.ca  709-778-1473 notshippax@dfo-mpo.gc.ca NotshipsSyd@dfo-mpo.gc.ca opsavis@dfo-mpo.gc.ca HLXECAREG1@INNAV.GC.CA											
		TOTAL NO. PAGES: <b>1 (INCLUDING THIS COVERSHEET)</b>											
<b>FROM: Jason Walsh</b>		<b>TELEPHONE No.: 709-746-2642</b>											
<b>SUBJECT:</b> Notice to Mariners of Controlled-source Electromagnetic Survey in the Vicinity of the Old Harry Lease, Laurentian Channel, Gulf of St. Lawrence													
As of DAY, October XX, 2017, the NAME OF VESSEL will conducting a controlled-source electromagnetic survey in the vicinity of the Old Harry Lease.  The sampling will begin on October XX in the XX corner to place the receivers and then move in across the set receivers, within the following corner coordinates:  <table border="0"> <tr> <td>-60° 24.000'</td> <td>48° 30.016'</td> </tr> <tr> <td>-59° 32.460'</td> <td>48° 29.953'</td> </tr> <tr> <td>-59° 32.407'</td> <td>48° 8.197'</td> </tr> <tr> <td>-60° 2.403'</td> <td>47° 34.820'</td> </tr> <tr> <td>-60° 24.251'</td> <td>47° 45.589'</td> </tr> </table> The NAME OF VESSEL will be returning to St. John's by DATE, 2017.  Mariners are requested to exercise caution in the area and give the operations a wide berth as the sampling will be conducted using a towed subsea-frame (towfish) with a horizontal electric dipole streamer connected to the towfish (towed approximately 50 m above the seabed).  Jason Walsh				-60° 24.000'	48° 30.016'	-59° 32.460'	48° 29.953'	-59° 32.407'	48° 8.197'	-60° 2.403'	47° 34.820'	-60° 24.251'	47° 45.589'
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If you did not receive the total number of pages in a readable fashion, please call Jason Walsh at 709-746-2642 as soon as possible.