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BAB 3990-30

August 31st, 2012

Darren Hicks
Environmental Analyst
Canada-Newfoundland and Labrador Offshore Petroleum Board
140 Water St., 4th Floor
St. John's, NL A1C 6H6

Dear Mr. Hicks

**Subject: Environmental Assessment of the Ptarmigan Geophysical Program 2012-2021
Offshore Western Newfoundland**

As requested, DFO has reviewed the document entitled "*Environmental Assessment of the Ptarmigan Geophysical Program 2012-2021 Offshore Western Newfoundland*" dated July 18th 2012. The following comments are provided for your review and consideration.

General Comment

- Please be advised that the "Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment" (SOCP) specifies the mitigation requirements that must be met during the planning and conduct of marine seismic surveys, in order to minimize impacts on life in the oceans. These requirements are set out as minimum standards to be implemented during the planning and conduct of seismic programs. As such it is advised that the proponent adhere to all relevant minimum mitigations outlined in the SOCP including the Planning Seismic Surveys, Safety Zone and Start-up, Shut-down of Air Source Array(s), Line Changes and Maintenance Shut-downs, Operations in Low Visibility and Additional Mitigative Measures and Modifications sections of the SOCP.
- This geophysical program covers a long timeframe (2012-2021) and the document does indicate that there will be EA validation with respect to species at risk updates and validity of mitigation measures. This is important since requirements for species at risk may change (e.g. new species could be listed, critical habitats could be identified, new recovery strategies/management plans/action plans could be available, etc.). The proponent should to refer to the Species at Risk Public Registry (www.sararegistry.gc.ca) to get the most up to date information/requirements for future EA validations.



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Specific Comments

- Section 2.2.6, Seismic Vessel, p. 13, Table 2.1 – Please clarify/confirm “Total Area km²”. Also clarify total area on p. 210.
- Section 2.3 Mitigation, p. 19 – This section states that “mitigation measures may include ramp-ups, implementation of ramp-up delays and shut downs for marine mammals and sea turtle species, dedicated MMOs and FLO”. As previously stated in the general comment section, the SOCP requirements are set out as minimum standards to be implemented during the planning and conduct of seismic programs.
- Section 5.10, Noise/Acoustic Environment, p. 51, Table 5.4 - The line referring to Baleen whale sound, is incorrect as baleen whale sounds cover a much larger bandwidth and range of source levels than the values presented. Sources levels presented here refer 20 year old documents. More recent figures would be more accurate and relevant. Also some values are given for measurements at 1 km and not at 1 m. (See Hildebrand 2009, NRC 2003)
- Section 6.2, Table 6.4 COSEWIC assessed species:
 - Smooth Skate (Laurentian–Scotian population) should be included with the table. It was assessed by COSEWIC in May 2012 as special concern.
 - For Killer Whale, the Northwest Atlantic/Eastern Arctic population should be specified.
 - Thorny skate are widely distributed on the shelf off western Newfoundland and thus have a high potential for occurrence in the area. Also please revise statement in last paragraph on page 207 (i.e. high potential).
 - For Northern Bottlenose Whale, the Davis Strait/Baffin Bay/Labrador Sea population should also be included in the table. Within the report it states that it is uncertain to which population individuals sighted in the Gulf of St. Lawrence belong (could be either Scotian Shelf or DS/BB/LS population).
- Section 6.2.2, Wolffish, p. 70 – The document indicates that a national recovery plan was established in 2003 for northern and spotted wolffish and a management plan was developed for Atlantic wolffish. This should be corrected, as the final Recovery Strategy and Management Plan were posted on the public registry in 2008.
- Section 6.2.2, Wolffish, p. 70, last par. - The surveys were not directed at Wolffish but rather to multiple fish and invertebrates species. Also, signs of stock recovery apply to NAFO 2J3KLNOPs and not to the study area in 4R. The same statement applies to comments on distribution and temperature as indicated in this paragraph.



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- Section 6.2.2, Northern Wolffish, p. 71, last par. - Statements in this section apply to NAFO 2J3KLMNOPs and not to the Study Area in 4R.
- Section 6.2.2, Spotted Wolffish, p. 72, last par. – It should be clarified that data/information on Wolffish species biology, distribution, abundance trends, etc., as presented in Simpson et al. and Dutil et al. are from surveys covering different regions (south and eastern NL + Labrador shelves, Gulf of St. Lawrence + west coast NL, respectively). As such Wolffish from these regions may not represent single populations, and abundance and distribution trends are not necessarily the same in these regions. These considerations are important and should be emphasized when assessing anthropogenic impacts on Wolffish and other fish species under this section.
- Section 6.2.2, Atlantic Cod, p. 76 – The Southern DU of Atlantic Cod does not occur in the area.
- Section 6.2.2, Atlantic Cod, p. 79 - The distribution of Atlantic cod from the southern Gulf survey is for September only, not all year.
- Section 6.2.2, Winter Skate, p. 81, Figure 6-14 – Clarification is need for Figure 6-14. What do the “dots” represent? How are tows with no catch represented?
- Section 6.2.2, American Plaice, p. 95, par. 2 – Reference to “Currently, this northern Gulf stock is exploited at a low level, with a small directed fishery as well as some bycatch in other fisheries” should be DFO SAR 2011/043
- Section 6.2.2, Cusk, p. 98-99, Figure 6-25 – This shows the distribution of Cusk catch rates (and not the distribution of Cusk in the NW Atlantic), which may or may not be used as a proxy for Cusk distribution. If data presented are from random RV surveys (not clear from text), then the proxy hypothesis is likely accurate. Further clarifications about the data should be provided.
- Section 6.2.2, American Eel, p. 113 – The text should be updated to say that COSEWIC re-assessed American Eel in 2012, as threatened (changed from 2006, special concern). This was updated in the table, but not in the text.
- Section 6.2.2, American Eel, p. 113 - Considering that historically eels occurred in all accessible freshwater, estuaries and coastal marine waters, it is reasonable that eels are highly likely to occur in the vicinity of the Study Area.



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- Section 6.2.3, Marine Mammals Species at Risk, Fig. 6-36, p. 118 – This figure does not represent the “*general distribution of blue whales in the Gulf*” since it is a map based only on the data from a research group operating mainly from a single area in Mingan. DFO has additional sightings data throughout the Gulf, including western Newfoundland, in the proposed Study Area. Please contact DFO for additional data.
- Section 6.2.3, Marine Mammals Species at Risk, p. 123, 124 - While it is likely that “*there is a low probability that beluga whales could occur in the Study Area*” some large groups, including one with more beluga than the estimated Gulf of St. Lawrence population, have been reported swimming along the west coast of Newfoundland recently.
- Section 6.2.3, Marine Mammals Species at Risk, p. 125 - The description of the DFO aerial survey results of 2007 as presented needs clarification. This 2007 aerial survey is currently cited in Lawson and Gosselin 2009 and 2011.
- Section 6.2.3, Marine Mammals Species at Risk, p.127 - Citing Gosselin and Lawson (2004) in a discussion of Gulf harbour porpoise is incorrect – this study was of the Gully area on the offshore Scotian Shelf.
- Section 6.2.3, Marine Mammals Species at Risk, Figure 6-42, p. 128 - Lesage et al. (2007) did not conduct surveys – a summary review and data analysis was conducted.
- Section 6.2.3, Killer Whale, p. 129 – The document states that “the Northwest Atlantic/Eastern Arctic population of the Killer Whale...has not gained protection under SARA (considered data deficient)”. The data deficient part should be removed since Killer Whale (Northwest Atlantic/Eastern Arctic) was assessed as special concern, not data deficient.
- Section 6.6.3, Other Identified Sensitive Areas, Eelgrass Beds, p. 166 - This section states “...Other than those noted in the special marine areas (CPAWS 2009), there are no identified eelgrass beds as part of a Sensitive Area within or near the Study Area. Eelgrass beds have been identified along the southern extent of the Study Area (Figure 6-2)” and “Eelgrass meets DFO’s criteria of an Ecologically Significant Species (DFO 2009a) and is protected under the Fisheries Act.” In addition to the presence of eelgrass “along the southern extent of the Study Area” Figure 6-2 also identifies eelgrass within the Bay of Islands outside of the CPAWS identified Blow me Down Sensitive Area. The map of Sensitive Areas Fig 6-50 on p. 163 should be amended to include a depiction of all eelgrass beds within the Study Area as Sensitive Areas and included in the Section 7.7 Sensitive Areas effects assessment, as an accidental event resulting in the release of hydro carbons could potentially affect eelgrass beds.



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- Section 6.7, Fisheries and Other Oceans Users p. 168 – DFO recommends that the average landed volume and landed value for each of the commercial species caught in the Project/Study Area over the 2006-2011 period be quantified. Also, since several fleets (i.e. inshore, nearshore, midshore and offshore) operate in the area, harvest different species and have different dependencies, DFO recommends that either a separate overview for these fleets be provided or at least they be differentiated in terms of dependence on the area and possible impacts on their respective fishery and fishing patterns. Additionally, the profile should specify the number of vessels, harvesters and relative species dependency.
- Section 6.7, Fisheries and Other Oceans Users p. 169, last par. – Please note that the DFO Science advisory schedule referenced, lists meetings not DFO research vessel survey schedules. It is recommended that the proponent contact DFO directly during the planning of yearly programs to obtain up to date DFO research survey schedules.
- Section 6.7.2, Atlantic Cod, p. 173 – Please note that there was a directed fishery for 3Pn4RS cod in 2011, with a Total Allowable Catch and season.
- Section 7.3.2, Mitigation, p. 209 - This section states that the seismic operations will cease if the observer sights a species at risk within ramping-up period. Section 8 of the SOCP states that *“The air source array(s) must be shut down immediately if any of the following is observed by the Marine Mammal Observer in the safety zone (a) a marine mammal or sea turtle listed as endangered or threatened on Schedule 1 of the Species at Risk Act.”* (i.e. not just during the ramping up period).
- Section 7.3.2, Mitigation, p. 209 - The proponent should describe in more detail what is meant by the statement *“The use of strategies to detect and avoid marine mammals during night time (i.e., when Marine Mammal Observers are unable to use visual surveys) will be encouraged during seismic surveys.”* Please be advised that section 11 and 12 of the SOCP outlines the minimum mitigation measures that should be implemented for operations in low visibility. Specifically the SOCP states:

Operations in Low Visibility

Mitigation Measures

11. Under the conditions set out in this section, cetacean detection technology, such as Passive Acoustic Monitoring, must be used prior to ramp-up for the same time period as for visual monitoring set out in section 6. Those conditions are as follows:
 - a. the full extent of the safety zone is not visible; and



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- b. the seismic survey is in an area that
 - i. has been identified as critical habitat for a vocalizing cetacean listed as endangered or threatened on Schedule 1 of the *Species at Risk Act*, or
 - ii. in keeping with the considerations set out in sub-section 4(b), has been identified through an environmental assessment process as an area where a vocalising cetacean is expected to be encountered if that vocalizing cetacean has been identified through the environmental assessment process as a species for which there could be significant adverse effects.
12. If Passive Acoustic Monitoring or similar cetacean detection technology is used in accordance with the provision of section 11, unless the species can be identified by vocal signature or other recognition criteria:
- a. all non-identified cetacean vocalizations must be assumed to be those of whales named in sections 8(a) or (b); and
 - b. unless it can be determined that the cetacean(s) is outside the safety zone, the ramp-up must not commence until non-identified cetacean vocalizations have not been detected for a period of at least 30 minutes.
- Section 7.3.4, Marine Mammals Species at Risk Effects Assessment, Effects of Sound from 2D and 3D Seismic Survey, p. 221, par. 2 - "*TTS refers to exposure to sound resulting in a nonpermanent elevation in hearing sensitivity*" is incorrect; TTS is a non-permanent decrease in hearing sensitivity.
 - Section 7.3.4, Marine Mammals Species at Risk Effects Assessment, Effects of Sound from 2D and 3D Seismic Survey, p. 221 - this section dicusses the "high frequency" hearing group, with functional hearing from approximately 180 to 200 kHz (Southall et al. 2007)." This is incorrect as Southall et al say: 200 Hz to 180 kHz.
 - Section 7.3.4, Marine Mammals Species at Risk Effects Assessment, Behavioural and Physiological Changes, p. 223, par. 3 - As per the previous comment, the SOCP indicates that if SARA-listed marine mammals or sea turtles are observed in the safety zone, air source arrays must be shut down immediately (not just during ramp-up as indicated in this section).
 - Section 7.5.3, Environmental Effects Assessment, Follow-up, p. 249 - The operator is encouraged to submit any sightings data to Dr. Jack Lawson (DFO, Science Branch, NL Region) at jack.lawson@dfo-mpo.gc.ca for inclusion in the federal national sightings database.



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Thank you for providing DFO the opportunity to review this revised EA document. Should you have any questions or comments regarding the above, you can contact me by phone at 772-8889 or by e-mail (jason.kelly@dfo-mpo.gc.ca).

Regards

Jason Kelly
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