

## **GENERAL COMMENTS**

### **Commercial Fishery**

The commercial fishery is very important to many communities on the south coast of Newfoundland. Fishing activity occurs throughout the year and a fair amount of this activity occurs on the slope of the continental shelf. As can be seen from the various descriptions, tables and figures included in the document there are multiple species harvested. No dollar figures were placed on annual catch in the Study Area but an average of 8604 tonnes (Table 4.4) of landed product for a three year time period is significant for the industry as a whole. More importantly, this is significant for the many people living in our coastal communities who are employed in the fishery.

There have been serious concerns brought forward by harvesters about the crab resource in 11Sx (western side of the St. Pierre channel) that "disappeared" for several years following seismic work in the area in 2004 and/or 2005. The crab resource seems to have rebounded in 2008 and 2009 but there were at least two years (2006 and 2007) when they were unable to fish in the area (11Sx) following seismic work being undertaken. This concern has been noted in the report (p. 161). There is an inherent fear among harvesters that should seismic work proceed again near crab grounds that the crab resource may again disappear. As well, there have been reports by harvesters that fish behaviour has been affected following seismic blasts. While the research has not determined any direct mortality of fish attributable to seismic activity, it needs to be recognized that there may be behavioural changes that could affect migration and/or reproductive and spawning activities that could impact the fishery in the future. Given the unknown long term effects of seismic activities, these concerns are valid.

In terms of timing of the seismic program, the FFAW recognize that there is a narrow window of time for the company to acquire a seismic vessel and conduct their program while the weather is still reasonable. However, the period of time from May to October, when the seismic work is being proposed, is very busy for the inshore fleet. (In addition to commercial fishing activity, an industry crab survey, a collaborative project between the FFAW and DFO, is conducted in the fall of the year in the area as well). To mitigate potential conflicts with fishing vessels and fishing gear the FFAW recommend the company consider utilizing a fishing industry guide vessel as well as a Fisheries Liaison Officer during the program.

### **Consultations**

There are potential disturbances upon the behaviour and distribution of finfish and shellfish from seismic surveys. Given that harvesting of multiple species occurs within the planned Study Area, ongoing

consultations with fishing representatives within the Project Area is needed to ensure minimal impacts to fishing operations and appropriate mitigation measures are employed.

**Mitigation Measures**

There is no mention of how mitigation measures will be implemented or augmented during times of poor visibility (e.g., at night, in fog, during periods of high seas). It is also unclear how “safety zones” can be adequately monitored under these conditions.

## SPECIFIC COMMENTS

**§1.1 Relevant Legislation and Regulatory Approvals, pg 3** – After the first sentence insert the sentence “Authorizations for geophysical activities are typically issued for approximately six months”.

**§4.2.1.3 Biological, Deep-sea Corals, pg 25** - For future EAs in the region, it would be useful to include the following, recently published report on coral distribution in the Maritimes region.

Cogswell, A.T., E.L.R. Kenchington, C.G. Lirette, K. MacIssac, M.M. Best, L.I. Beazley and J. Vickers. 2009. The current state of knowledge concerning the distribution of coral in the Maritime Provinces. Can. Tech. Rep. Fish. Aquat. Sci. 2855: v + 66p.

**§4.2.1.6 Commercially Targeted Fish in the Study Area – Atlantic Cod, pg 29** - Although Atlantic Cod are listed in the section on Commercially Targeted Fish, the profile does not appear until the SARA section. Unless specified, it may appear to have been overlooked. Please reference the appropriate section.

**§4.2.1.7 Fish Not Commercially Targeted in the Study Area - Capelin, pg 38** - Information in this section should be updated to include ‘*Capelin are often found along the coasts, especially during spawning season, and occur predominantly offshore while immature and maturing. However, Capelin do not normally 'roll' on sand, but usually fine to coarse gravels are the preferred substrate. On beaches, capelin usually spawns at 5-8.5 °C but has been observed to spawn at 4-10 °C. On the bottom, spawning temperatures can be as low as 2 °C on the Southeast Shoal. Males and most females do not survive to spawn a second time. Additionally, spawning now goes into the month of August, and eggs that are produced are yellow, not red, as stated in the EA. Once hatched, larval Capelin, especially after they are in the bays and offshore in the fall are distributed deeper, rather than near the surface*’.

Frank, K.T., J. E. Carscadden, and W. C. Leggett. 1993. Causes of spatio-temporal variation in the patchiness of larval fish distributions: differential mortality or behaviour? Fish. Oceanogr. 2:114-123.

Nakashima, B. S. and J. P. Wheeler. 2002. Capelin (*Mallotus villosus*) spawning behaviour in Newfoundland waters - the interaction between beach and demersal spawning. ICES J. Mar. Sci. 59:909-916.

Scott, W. B. and M. G. Scott. 1988. Atlantic Fishes of Canada. pp 145-150.

This information along with the appropriate references was provided previously during the Southern Newfoundland Strategic EA.

**§4.3.2 Overview, Figure 4.1, pg 46** - Please provide legible fishing zones labels.

**§4.3.3 Historical Fisheries, Figure 4.2 and §4.3.4 Study Area Commercial Fisheries 2006 to 2008, Table 4.4 pgs 48-49** - The information contained in Fig. 4.2 and Table 4.4. does not coincide. For example, total harvest in 2008 is 7,331 t in Table 4.4, but Figure 4.2 indicates that the invertebrates catch weight alone was close to 31,000 t. Please verify.

**§4.3.4 Commercial Fisheries, pg 49** - The report acknowledges the significant fisheries and commercial species occurring within the study area during 2006 to 2008. However, there is little discussion regarding the fairly extensive and periodically lucrative 3Ps scallop fisheries that have occurred in parts of the study area over the past 20 years, even though they were not significant during 2006 to 2008.

**§4.3.5 Traditional and Aboriginal Fisheries, pg 75** - At its first instance in the text, the acronym (FSC) should be provided for the term Food, Social and Commercial fisheries. In addition, the term IQ fisheries should be spelled out as individual quota the first time it appears.

**§4.4.1 Seabirds, pg 77** – CWS is pleased to see references to the recently collected CWS data throughout the species accounts in this section. There are a few instances where the report claims that there are zero birds of a given species in a given area during a given period. For example on page 94, line 6: "... 0 birds/km<sup>2</sup> in November through January..." in reference to Storm-Petrels in the study area. In most cases this is due to the fact that there is very little (or no) survey effort in the given area during the given period. This fact is duly noted in the section on "Data Gaps", but stating that there are zero birds in an area may mislead the reader. It would be far preferable to simply state that there is insufficient data to judge that species distribution during the given period in the given location when there is little data available. For any instances where zeros are reported in the text of this section, please indicate if this is due to a lack of data or if there are reports indicating no birds.

**§4.4.2.2 Hydrobatidae, Table 4.8, pg 93** – For Miquelon Cape the table should indicate "breeding" for Razorbills (Cairns et al. 1989).

**§4.5.1 Marine Mammals, 1st para, last sentence, pg 120** - During the 2007 aerial survey by DFO, the highest density of marine mammals were sighted on transects that were located in and near Placentia Bay, and the proposed seismic project area.

**§4.5.1.2 Toothed Whales, 3rd para, last sentence, pg 127** - Pilot whales are NOT considered abundant year-round residents of Newfoundland since the collapse of the squid stocks several decades ago. It is thought that their

numbers and group size have declined markedly, and groups are found reliably in only a portion of these waters.

**§4.6 Species at Risk, 2nd sentence, pg 135** - It states that "*attention must be paid to all of the SARA-listed species*" when referring to species on Schedule 1, Schedule 2 and Schedule 3 of SARA. The wording should be clarified; only species on Schedule 1 of SARA are considered to be officially SARA-listed.

**§4.6 Species at Risk, 1st para, pg 138** - The information in this paragraph on Recovery Strategies and Management Plans needs to be updated and corrected. For example, the document states that "*Currently, there are only two final recovery strategies and no action plans, or final management plans in place for species listed under Schedule 1, and which are known to occur in the Study Area*". Note that there are final Recovery Strategies posted on the SARA Registry for Northern Wolffish/Spotted Wolffish (2008), Leatherback Turtle (2007) and North Atlantic Right Whale (2009). There is also a proposed Recovery Strategy for Blue Whale (2009) and a final Management Plan for Atlantic Wolffish (2008) posted. Please refer to the SARA Registry website ([www.sararegistry.gc.ca](http://www.sararegistry.gc.ca)) for the most up to date information.

**§4.6.1.4 Leatherback Turtle, pg 142** - The EA underestimates the presence of Leatherback Turtle in the Study Area. A population of Leatherback Turtle is known to migrate between the Gulf of St. Lawrence and from the southern coast of Newfoundland along the western bank of the Laurentian Channel to/from the Scotian Slope. Their occupancy period ranges from June to November, although migration through the Study Area is likely to be highest from August to November. From the 2007 DFO aerial survey data, there were estimated to be more than 1,000 leatherbacks present on the south coast of Newfoundland in the late summer (as yet uncorrected for animals diving). That being said Leatherback Turtles can be expected in the Study Area throughout their entire leatherback northern foraging period (i.e. May to November). This includes ephemerally-resident foraging animals, as well as those transiting through the Study Area to arrive on the shelf proper. Contact Michael James, DFO-Maritimes [(902) 426-3515], for any further information regarding the Leatherback Turtle.

**§4.6.1.8 Beluga Whale, pg 145** - It is mentioned that Beluga whales are sometimes observed in Newfoundland waters that are presumably from the St. Lawrence population. It is DFO's understanding that Beluga whales from Arctic populations also occur in the region.

**§4.6.1.9 Wolffishes, pg 146** - The last sentence in this section states that "*the northern and spotted wolffish were... added to Schedule 1 of SARA ... legally protecting the species and its critical habitat.*" Note that there is currently no critical habitat identified for these species.

**§4.6.1.11 Harbour Porpoise, 1st para, pg 147** - The following sentence should be revised: "*Harbour porpoises found in the Atlantic are considered Threatened (Schedule 2) on SARA*". The species is on Schedule 2 of SARA, which is not the official list (i.e. Schedule 1) therefore, it is not considered Threatened under SARA.

**§4.6.1.13 Atlantic Cod, pg 149** - It would be useful to note that Atlantic cod will be re-assessed by COSEWIC in April 2010.

**§4.6.1.16 Winter Skate, 2nd Sentence, pg 150** - So as not to confuse SARA-listed species with COSEWIC assessed species, the second sentence should be revised from "*The SG population is listed as endangered...*" to "The SG population has been designated as endangered...by COSEWIC..." This will be consistent with the text used in the other sub-sections under Section 4.6.

**§4.7 Potentially Sensitive Areas, pg 157** - A comma should not be used when referring to the *Oceans Act* Marine Protected Areas.

**§4.7 Potentially Sensitive Areas, 2nd para, 1st Bullet, pg 158** - The term, EBSA is an Ecologically and Biologically **Significant** Area not *sensitive* area.

**§4.7 Potentially Sensitive Areas, 3rd para, pg 158** - It is stated that a number of EBSAs have either been designated or proposed by DFO. EBSAs for the PBGB LOMA have been identified and described by Science, they have not been *designated*. As for legal implications, an area that has been identified as an EBSA has been highlighted as an area that has particularly high ecological or biological significance and that a greater than usual degree of risk aversion in the management of activities in these areas should be exercised. Identification as an EBSA does not give it any special legal status; it simply provides guidance on the standard of management that is considered to be appropriate.

DFO - NL Region has identified 11 EBSA's within the PBGB LOMA as potential Areas of Interest (AOIs) for MPA designation and five of the 11 EBSAs were put forward for formal consultations with stakeholders. The two EBSAs that partially occur within the study area: the Laurentian Channel and Slope and the Southwest Shelf Edge and Slope, as well as, the St. Pierre Bank which abuts the Study Area, were included in the five that were put forward for the formal consultation. Following consultations, DFO NL Region will put forward one of the five EBSAs as the regional AOI for MPA designation by 2012.

In addition, this section does not make any reference to DFO Maritimes Region candidate AOIs for a future MPA pursuant to the *Oceans Act* or the Eastern Scotian Shelf Integrated Management Initiative (ESSIM) Strategic Plan for the LOMA, which are located adjacent to the western boundary of the proposed project Study Area.

**§5.2 Consultations, pg 160** - The EA places the proposed seismic program in context of Newfoundland and Labrador. Although the NS-NL Offshore Boundary indicates that the Study Area falls into the C-NLOPB jurisdiction, the Study Area does extend into DFO Maritimes Region fisheries waters and, where appropriate, recognition should be given in the EA to the implications of the proposed program on the fisheries in this region. In particular, the pelagic longline and groundfish fisheries that operate in DFO Maritimes Region waters were not identified in the consultation section of the EA.

**Groundfish Fishery, DFO Maritimes Region**

It is likely that groundfish fisheries will fish in areas proximal to the Study Area. The groundfish fishing fleet representative in DFO Maritimes Region contact information is:

Nellie Baker-Stevens  
PO Box 55  
Musquodoboit Harbour, NS  
B0J 2L0  
Phone: 902-845-2408  
Phone: 902-497-1787 (cell)  
Fax: 902-845-2629  
Email: nellie@esfpa.ca

**Pelagic Longline and Harpoon Fisheries, DFO Maritimes Region**

It is possible that pelagic fisheries may fish from time to time near the edge of Banquereau Bank on the Laurentian Channel side, proximal to the Study Area. The pelagic longline and harpoon fishing fleet representatives in DFO Maritimes Region contact information is:

Southwest Nova Tuna Association  
Sam Elsworth  
Phone: 902-543-6457  
Email: sam.fish@ns.sympatico.ca

Nova Scotia Swordfisherman's Association (longline fleet)  
Troy Atkinson  
Phone: 902-457-4968  
Email: hiliner@ns.sympatico.ca

Swordfish Harpoon Association (also head of the Atlantic Shark Association)  
Patrick Gray  
Phone: 902-471-2301 (cell) – **Long delay before his phone rings**  
Email: pocket.fisheries@ns.sympatico.ca

Offshore Large Pelagics Licence Holder  
Andy Henneberry  
Phone: 902-456-7950

Fax: 902-868-2638.

**§5.2 Consultations, pg 160** – Were any public meetings held in communities. If so, please provide details such as when and where were they held and what were the approximate numbers that attended. Section 5.2.1.3 on pg 161 mentions Marystown on September 15.

**§5.2 Consultations, pg 160** -Fisheries and Oceans should be referred to as Fisheries and Oceans Canada.

**§5.2.1.3 One Ocean and FFAW, last sentence, pg 161** – Please explain the sentence “It was agreed that any additional...from the Board.” What post-EA consultations? What recommendations from the “Board”?

**§5.7.1 Effects on Fish and Fish Habitat VEC, pg 172** - It is not appropriate to disregard the effects on fish habitat in the onset of the effects analysis. Even if it is determined that the effects are negligible at an early stage, they still should be considered as it was initially identified as a VEC and can be treated with zero rating in the significance table.

**§5.7.1.1 Effects of Sound, 6th para, pg 175** - Wysocki et al. (2009) is mentioned as having determined that a species had “...*the best hearing sensitivity*”. Please present more information about the location or fish species to provide context or relevance to this discussion. It is not clear the purpose of this study in the analysis of the effects.

**§5.7.2 Effects on the Commercial Fisheries VEC, last paragraph, line 1, pg 191** – The “C-NLOPB 2004 Guidelines” are the “Geophysical, Geological, Environmental and Geotechnical Program Guidelines (C-NLOPB 2008)”.

**§5.7.2 Effects on the Commercial Fisheries VEC, last paragraph, line 4, pg 191** – The name of Appendix 2 is “Environmental Planning, Mitigation and Reporting”.

**§5.7.2.2 Conflict with Fish Gear, pg 194** – Fishing Gear Compensation” mentions the “CNLOPB Guidelines”. It would be helpful to readers to clarify whether the guidelines referred to are the C-NLOPB/CNSOPB Compensation Guidelines Respecting Damages Related to Offshore Petroleum Activity, or another guideline of a similar nature. If it is the C-NLOPB Guidelines, they are “2008” not “2004”. It is also Section II (1d).

**§5.7.3.6 Helicopters, pg 204** – Avoidance of seabird colonies should be identified as a mitigative measure for helicopters.



**§5.7.4.2 Categories of Noise Effects, pg 205** – Baleen Whales” extrapolates on the lack of deterrence of gray whales and bowhead whales from migration routes when exposed to seismic sounds, to conclude with the suggestion that all species of baleen whales are unlikely to experience prolonged effects from any single seismic survey. While this may be plausible, references to peer reviewed scientific literature to support this statement would help to strengthen this conclusion.

**§5.7.4.2 Categories of Noise Effects, 2nd para, pg 210** - It is possible that the intermittent nature of seismic pulses near the source could allow for hearing and echolocation in the quieter periods between pulses. However, it is also possible that at greater ranges the signal pulses from the airgun array become “smeared” in time such that the periods between the peak energy of pulses are also filled with sound energy above ambient levels. In this case, there may be more opportunities for sound masking.

**§5.7.4.2 Categories of Noise Effects, 2nd para, pg 228** - Sighting and satellite tracking information strongly suggests that the south coast of Newfoundland is an important feeding area for leatherback turtles in Atlantic Canada. It appears that most of the sighted and tracked turtles are concentrating their travels and feeding in areas nearer to shore than the proposed activities, so it is unlikely that these turtles will be adversely impacted by seismic sounds over greater distances.

**§5.7.4.2 Categories of Noise Effects, 3rd para, pg 233** - This section suggests that turtles may need a longer time to swim away from seismic operations. If this is in fact true, then this should be taken into account when prescribing mitigation measures by ensuring a longer than average ramp-up period is conducted where appropriate.

**§5.7.4.2 Categories of Noise Effects, pg 234** - On this page and elsewhere, correct spelling of “harour seal” and “harour porpoise”

**§5.7.4.2 Categories of Noise Effects, 2nd para, pg 237** - Although it is stated in the text that it is unlikely that an odontocete would remain close to a large airgun array, several observers on seismic vessels have reported to DFO Science that they have observed pilot whales approaching the central, higher-frequency source in the centre of an airgun array while the array was operating. If this is true, then it is possible that the loud sounds of the array are not sufficient to override the curiosity of these whales.

**§5.7.5 Effects of the Project on Species at Risk, last para, pg 260** - It is mentioned that most SAR whales and leatherback turtles are not expected to occur regularly in the study area. Please see the previous comments concerning this issue.

**§5.9 Mitigations and Follow-up, Table 5.18, pg 269** - The temporal boundaries for the proposed project are May-October, 2010 initially, and potentially any time within 2011, 2012 or 2013 for further data collection thereafter. As stated in the EA, some fish and invertebrate species that occur in the Study Area will be spawning during the May-October timeframe, and the potential for spawning times to overlap during the unknown times for the 2011-2013 surveys also exists. While ConocoPhillips has stated that they will adhere to mitigation measures outlined in the Statement of Canadian Practice with Respect to Mitigation of Seismic Sound in the Marine Environment (the Statement), it is not explicitly stated in the mitigation section (i.e. “Table 5.18 - Summary of Mitigation Measures”) that fish or invertebrate spawning times will be avoided during the survey. Part 5 (c) of the Statement identifies that each seismic survey must be planned to avoid dispersing aggregations of spawning fish from known spawning areas.

**§5.9 Mitigations and Follow-up, pg 269** - DFO Maritimes Region highlights Section 12 of the 'Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment' and the use of Passive Acoustic Monitoring (PAM) or similar detection technology as a further mitigation measure that can be used during periods of low visibility. The application of a PAM device (or other marine manual detection technology) as a mitigation measure for the proposed program has not been discussed in this EA document.

Another potential conflict that is not discussed in the EA is with any potential marine science that may be on-going in the Study Area. On this note, they should be aware that DFO Science at BIO has two current meters moored on the Laurentian Fan. For more information, the Proponent can contact DFO Scientist John Loder by phone at [902-426-3146] on these moorings and future science initiatives within the area.

**§5.9 Mitigations and Follow-up, last para, pg 270** – Such a program should involve a designated observer trained in “marine mammal and seabird observations”.

**Section 6.0 Literature Cited, pg 277** – Delete “CNOPB 2004”.

**Appendix A, pg A-1** - SARA Lewis does not need to be italicized or capitalized as it is a person, not an act in this circumstance.

## **ENVIRONMENTAL ASSESSMENT REPORT REVIEW COMMENTS FOR PROJECT PLANNING**

### **Seabirds**

This survey provides a good opportunity to collect additional seabird data from the area. CWS has developed a pelagic seabird monitoring protocol that we are recommending for all offshore projects. Attached is a version of the protocol for experienced observers. This protocol is a work in progress and we would appreciate feedback from the observers using it in the field. A guide sheet to the pelagic seabirds of Atlantic Canada is available through CWS in Mount Pearl.

In an effort to expedite the process of data exchange, the Canadian Wildlife Service would appreciate that the data (as it relate to migratory birds or species at risk) collected from these surveys be forwarded in digital format to our office following completion of the study. These data will be centralized for our internal use to help ensure that the best possible natural resource management decisions are made for these species in Newfoundland and Labrador. Metadata will be retained to identify source of data and will not be used for the purpose of publication. The Canadian Wildlife Service will not copy, distribute, loan, lease, sell, or use of this data as part of a value added product or otherwise make the data available to any other party without the prior express written consent of ConocoPhillips Canada.