

Jeanne d'Arc Basin 2006 EA Update

Review Comments

1. Project Description - A comparison table of 2006 VS 2005 in terms of activities completed and those that are to be performed would assist the reader in sorting out the work schedules. As well, a table comparing equipment specs from previous years (airgun array (layout and in³), source levels, etc.) to current year, particularly for document updates and addendums, would provide easier access to information and assist the reader in appreciating the changes (if any) in project design. DFO recommends that the C-NLOPB request all operators of multi-year seismic programs to adopt this approach.
2. Section 4.0, Species at Risk – The Atlantic cod and Harbour porpoise listings, as per the list of species on Schedules 2 and 3 presented on page 9, are out of date. Atlantic cod has been assessed by COSEWIC as several designatable units. The population found in the project area is the Newfoundland and Labrador population, and is designated by COSEWIC as endangered, not special concern. Harbour porpoise has recently been designated by COSEWIC as special concern, not threatened. In addition, although there are no recovery strategies, action plans or management plans in place, there are two strategies in draft form - one for the wolffish, one for leatherback turtle, which will be available in the near future
3. Section 5.1.1, Commercial Fisheries - Scallop is also harvested by 4-5 fishers around the Carson/Lilly Basin, Northern 3NO and Southern edge of 3L. This is a pulse fishery that can occur sporadically from season to season. In addition, turbot may be caught in the area but is mainly found in deeper water, >250 m in 3L.
4. Section 6.1.2.2, Page 37: There is not enough information presented here to lead the reader to the same conclusion that “...*there was no obvious behavioural effect of airgun operations on baleen whales.*” The only data presented suggests that baleen whales were observed on average, 812 m further away from the operation when air guns were firing vs. no airguns. It is recommended that additional observations be added to support the conclusion of no effect
5. Section 6.1.2.2, Page 40: Again, there is not enough information presented here to lead the reader to the same conclusion that “...*there was no obvious behavioural effect of airgun operations on dolphins.*” The only data presented suggests that there were statistically significant differences in radial distances from the operation when air guns were firing vs. no airguns. It is recommended that additional observations be added to support the conclusion of no effect. Additionally, if statistical references are made, then providing complete statistics (a value for *N*, data ranges and including *p*-values) is standard practice which would aid the reader in validating the conclusions.
6. Section 6.1.2.2, Page 40, Last paragraph: “*The observed swim speed of dolphins did not support the hypothesis that dolphins would be more likely to swim fast during seismic operations...*” Was this a timed swim speed observation? There are no methods presented that would enable the reader to understand from where this conclusion is derived and DFO recommends more information be provided.
7. Section 6.1.2.5, Page 44: When discussing possible non-auditory physiological effects or injuries it is proposed that such effects might possibly occur when “...*sound is strongly channelled with less than normal propagation loss...*”. A literature citation should be given here if this supposition is based on research. The reader would also be better informed if the circumstances upon which this event could occur were presented or if directed to research that would qualify/quantify this phenomenon. The speculation on propagation loss also points to the need for improved sound propagation modeling for this region.

8. Section 6.2.4, Page 48: Different units are used to describe the array sound level here (rms) vs. that in the project description, Section 2.3 (0-p). Either both units should be used or one unit chosen for ease of comparison. Also, note typo (“were” instead of “where”) in second last line.