

**ANNEX 1: Advice to the Agency**

**Table 1: Please use the table below to provide advice for the Agency’s consideration in its recommendation to the Minister of Environment and Climate Change and preparation of draft conditions**

Questions	Responses/Comments
<ul style="list-style-type: none"> <li>Has the proponent described all project components and activities in sufficient detail to understand all relevant project-environment interactions? If not, identify what additional information is needed.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Were the study areas sufficient to predict potential effects from all relevant project-environment interactions, and to consider the effects within a local and regional context?</li> <li>Is the baseline information sufficient to characterize the existing environment, predict potential effects and obtain monitoring objectives? If not, identify what additional information is needed.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>
<b>Alternatives Assessment</b>	
<ul style="list-style-type: none"> <li>Has the proponent adequately described the criteria it used to determine the technically and economically feasible alternative means?</li> <li>Has the proponent listed the potential effects to valued components (VCs) within your mandate that could be affected by the technically and economically feasible alternative means?</li> <li>Has the proponent adequately described why it chose each preferred alternative means?</li> <li>Are there other alternative means that could have been presented? If so, please describe.</li> </ul>	<ul style="list-style-type: none"> <li>Yes, alternatives have been adequately described.</li> <li>Yes</li> <li>Yes</li> <li>There are no other recommended alternative means.</li> </ul>
<b>Environmental Effects Assessment</b>	
<ul style="list-style-type: none"> <li>Has the proponent clearly described all relevant pathways of effects to be taken into account under section 5 of CEAA 2012?</li> <li>Has the proponent identified all potential effects to VCs, including species at risk, within your mandate?</li> <li>Were all potential receptors considered?</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Were the methodologies used by the proponent appropriate to collect baseline data and predict effects, why or why not?</li> <li>Has the proponent explicitly addressed the degree of scientific uncertainty related to the data and methods used within the assessment? If there are unaccounted for scientific uncertainties, describe them and indicate the options for increasing certainty in the predictions?</li> </ul>	<ul style="list-style-type: none"> <li>Not totally (e.g., Annex 2 DFO-1)</li> <li>Not totally (e.g., Annex 2, DFO-7)</li> </ul>

Questions	Responses/Comments
<ul style="list-style-type: none"> <li>Are the predicted effects described in objective and reasonable terms (e.g. beneficial or adverse, temporary or permanent, reversible or irreversible)?</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Has the proponent adequately assessed the potential cumulative environmental effects, including using appropriate temporal and spatial boundaries, examining physical activities that have been and will be carried out, and proposing mitigation and follow-up program requirements? Provide rationale.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Has the proponent adequately described the potential for environmental effects caused by accidents and malfunctions, including the types of accidents and malfunctions, their likelihood and severity and the associated potential environmental effects? If not, identify what additional information is needed.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Are you satisfied with the proponent's assessment of effects of the environment on the Project?</li> <li>Has the proponent characterized the likelihood and severity appropriately? Provide rationale.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Has the proponent sufficiently described and characterized the project activities and components as they relate to federal decisions within your mandate? If not, identify what additional information is needed.</li> <li>Are changes to the environment, as they relate to federal decisions within your mandate, sufficiently described? If not, identify what additional information is needed.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>
<b>Mitigation</b>	
<ul style="list-style-type: none"> <li>Has the degree of uncertainty regarding the effectiveness of the proposed mitigation measures been described? If not, identify what information is needed.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Is it clear how each proposed mitigation measure links to each potential pathway of effect?</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Would you propose different or additional mitigation measures? If so, provide a description of the mitigation measure(s), with rationale.</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>
<ul style="list-style-type: none"> <li>Which of the proposed mitigation measures and/or project design elements do you consider to be necessary to reduce the likelihood of significant adverse environmental effects? Provide rationale.</li> </ul>	<ul style="list-style-type: none"> <li>Adherence to "Statement of Canadian Code of Practice for Mitigation of Seismic Noise in Marine Environment"</li> </ul>

Questions	Responses/Comments
	<ul style="list-style-type: none"> <li>• Commitment to adhere to Regulations that are administered by the C-NLOPB relative to exploration drilling programs.</li> <li>• Mitigation of effects to sensitive benthic organisms based on pre-drilling benthic survey and dispersion modelling results.</li> </ul>
<b>Residual Adverse Environmental Effects</b>	
<ul style="list-style-type: none"> <li>• Are the identification and documentation of residual environmental effects described by the proponent adequate? If not, what are the aspects for which there is uncertainty and, where possible, indicate how these residual effects can be best described. If there is uncertainty, what are the options for increasing certainty?</li> </ul>	<ul style="list-style-type: none"> <li>• Not totally (e.g., Annex 2 DFO-7)</li> </ul>
<ul style="list-style-type: none"> <li>• Did the proponent provide a sufficiently precise, ideally quantitative, description of the residual environmental effects related to your mandate? Identify any areas that are insufficient.</li> </ul>	<ul style="list-style-type: none"> <li>• Generally yes, but see above</li> </ul>
<b>Determination of Significance</b>	
<ul style="list-style-type: none"> <li>• Are the conclusions on significance in the EIS supported by the analysis that is provided?</li> <li>• Are the proponent's proposed criteria for assessing significance appropriate? This includes how the criteria were characterized, ranked, and weighted. Provide rationale. Where the proponent has <b>not</b> used one of the Agency's recommended key criteria (magnitude, geographic extent, duration, frequency, reversibility, and social/ecological context), has a rationale been provided?</li> </ul>	<ul style="list-style-type: none"> <li>• Not totally (e.g., Annex 2, DFO-9)</li> <li>• Yes (but see Annex 2 DFO-6)</li> </ul>
<ul style="list-style-type: none"> <li>• Were appropriate methodologies used in developing the conclusions on significance?</li> </ul>	<ul style="list-style-type: none"> <li>• Yes (but see Annex 2 DFO-9)</li> </ul>
<ul style="list-style-type: none"> <li>• Do you agree with the proponent's analysis and conclusions on significance? Provide rationale.</li> </ul>	<ul style="list-style-type: none"> <li>• Not totally (e.g., Annex 2, DFO-9)</li> </ul>
<b>Monitoring and Follow-up</b>	
<ul style="list-style-type: none"> <li>• Does the proposed monitoring and follow-up program verify the predictions of the environmental assessment as they relate to section 5? Please explain additional monitoring or follow-up needed to address uncertainty in the effects assessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> </ul>

Questions	Responses/Comments
<ul style="list-style-type: none"> <li>Does the proposed monitoring and follow-up program verify the effectiveness of proposed mitigations as they relate to section 5? Please explain additional monitoring or follow-up needed to address uncertainty in the proposed mitigation.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Is the objective of the follow-up program clear and measurable?</li> <li>Does the follow-up program include sufficient detail, and technical merit, for the Agency to achieve the stated objective through a condition (e.g. sufficient baseline dataset, monitoring plans, acceptable thresholds of change, contingency procedures)?</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>
<ul style="list-style-type: none"> <li>Are you aware of any federal or provincial authorizations or regulations that will achieve the same follow-up program objective(s)? If so, how do these achieve the objective(s)?</li> </ul>	
<b>Additional comments, views, advice</b>	
<ul style="list-style-type: none"> <li>Provide any other comments.</li> </ul>	See Annex 3 attached

**ANNEX 2: Information requirements directed to the proponent**

**Table 2: Please use the table below to provide your department’s comments and suggestions for information that should be required from the proponent to ensure the information in the EIS is scientifically and technically accurate and is sufficient to make a determination of significance on environmental effects.**

ID	Project Effects Link to CEAA 2012	Reference to EIS guidelines	Reference to EIS	Context and Rationale	Specific Question/ Request for Information
DFO-1	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.1.3 Fish and fish habitat	Section 6.1.2 Corals and Sponges (Page 6-9, paragraph 3, final sentence)	It is noted that only one trawl recovered large gorgonians within EL 1161, but in Figure 6-6, there were at least 13 locations noted for large gorgonians.  As well, it is noted that 14 trawls recovered soft corals, even though they appear to be found almost everywhere sampled within the Project Area (Figure 6.7). Specifying that they were recovered from 14 trawls doesn't provide a clear picture of their distribution.	Description of large gorgonian and soft coral distribution should be clarified/ updated. Perhaps a discussion of location/ occurrence would be more useful than trawls.
DFO-2	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.1.3 Fish and fish habitat	Section 6.1.3.2 Pelagic Fish, Paragraph 2	There are no references provided for this paragraph.  Additional information could have been provided in this section for pelagic species that are not considered at risk.	Include references.  Recommend including descriptions for pelagic species that are not considered at risk, which is consistent with other sections.
DFO-3	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.1.5 Species at Risk	Section 6.1.3.4 Fish Species at Risk and Species of Conservation	Not all species in this table are subsequently described (e.g., cusk, porbeagle and smooth skate).	Provide descriptions for all SAR and SOCC species.

			Concern (Page 6-59, Table 6.6)		
DFO-4	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.1.9.2. Human environment	Section 7.2.3 Current Overview of Domestic Commercial Fishing Activity within the RAA (2016-2020), page 7-10	This section highlights the decline in landed value of fish species in 2020. It should be emphasized that 2020 was strongly impacted by the pandemic and was not a business as usual year. It should not be conveyed that the decline in landings and landed value was related to resource status.	Recommend adding a context paragraph discussing the consequences of the COVID-19 pandemic on the fishing industry in 2020, including reduced fishing activity and processing capacity as a result of public health measures.
DFO-5	5(1)(c)(i) Aboriginal Peoples Health/ socio-economic conditions 5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	Part 2, Section 7.1.8. Indigenous peoples	Section 7.3 Indigenous Peoples and Community Values, pages 7-56 to 7-58	Section 7.3 provides information on the MRI, which is relevant for the Maritime provinces, but did not extend to NL Mi'kmaq, nor did AICFI. As MRI is not inclusive of NL, and while there were a couple of AICFI initiatives funded in this region, by and large, it is not a NL Regional program. The Northern Integrated Commercial Fisheries Initiative (NICFI) was launched in 2019 for Indigenous groups in the north, including Newfoundland and Labrador. This initiative supports development of Indigenous-owned communal commercial fishing enterprises and aquaculture operations.	Revise Section 7.3. NICFI should be noted. Paragraph 1 of page 7-58 should be revised to include the NICFI contribution to the region.
DFO-6	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.5. Significance of residual effects	Section 12.1.6, page 12-6, bullet 1, Significance Definition	A significant adverse residual effect "Alters the valued habitat physically, chemically or biologically, in quality or extent,	Likely insufficient knowledge to meaningfully assess this criterion for

		Part 2, Section 7.3.8.3. Special areas		resulting in a decline in abundance of key species (for which the special area was designated) that lasts more than one generation or a change in community structure, beyond which natural recruitment (i.e., reproduction and immigration from unaffected areas) would not sustain the population or community in the special area such that it would not return to its original level within one generation”	certain taxa. For example, scientific understanding of dispersal and natural recruitment processes across local and regional scales for cold-water corals and sponges (i.e., large/small gorgonian SiBAs) is extremely limited.  Uncertainty due to limited knowledge should be noted.
DFO-7	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.3.8.3. Special areas	Section 12.4.1.2, p.12-13, Special Areas Identified for Marine Mammals and Sea Turtles, paragraph 3  Section 12.4.1.3, p.12-20, Summary of Project Residual Environmental Effects, paragraph 1	“The residual effects of presence and operation of a MODU on special areas are predicted to be adverse, low in magnitude, restricted to the Project Area, medium-term in duration, to occur at irregular intervals, and reversible.”  “Though the recovery rate of corals from drill cutting sedimentation would be slow, recovery begins relatively quickly after drilling stops and benthic habitats <u>are expected to recover in one to two years.</u> ”	Effects on mobile species may be considered reversible, but effects on habitat and sessile fauna (e.g., corals and sponges) will be long lasting and recovery to pre-disturbance conditions could take decades. This should be noted.  Regarding the statement on page 12-20, functional group-specific recovery rates should be noted here. Recovery of corals and sponges differ widely between functional

					groups. Some corals (e.g., sea pens) are flexible and relatively short lived and may recover in a few years. Others (including large and small gorgonians) have long life spans, slow growth rates, and are more fragile - leading to longer recovery times of years - decades. See (Sherwood and Edinger 2009).
DFO-8	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.1.9.2. Human environment	Section 15.8.1 Past and Ongoing Effects (Baseline), page 15-49, paragraph 1	This portion of text is an over simplification of the fishery from the early 1980s to present. As a context paragraph, it would benefit from additional detail around such things as environmental shift. The reference to the “viability of stocks” as it relates to shellfish may be accurate with respect to shrimp; however, snow crab quotas have been increasing in recent years.	Update section based on information provided.
DFO-9	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.6.1. Effects of potential accidents or malfunctions	Section 16.6.1.4 Determination of Significance (Page 16-69, 1 <sup>st</sup> sentence)	The EIS guidelines require the EIS to assess effects of accidents (e.g., oil spill) on marine fish and fish habitat.  This sentence describes the effects of an accidental event as being not significant despite Table 16.20 indicating that the	Provide a rationale for determination of not significant of residual adverse environmental effects, despite medium-high magnitude for well blow-outs.



				magnitude of residual effect of a well head blow-out is predicted to be moderate to high.	
DFO-10	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.6.1. Effects of potential accidents or malfunctions	Section 16.6.4.3.1, p.16-97, Subsea Blowout, paragraph 3	“Modelling for this Project determined that oil transported to bottom sediment was not a major fate pathway for completely unmitigated subsurface blowouts with <0.01% predicted to settle on sediments. Thus, analysis of the spatial relationship between special areas and sediment concentration was excluded from Table 16.24, as were special areas identified and/or protected primarily for benthic habitats.”	More detail required - 0.01% equates to what volume of oil, and over what area and time period? Please explain why the majority of oil is not expected to settle on the seafloor and, if relevant, a description of the model parameters that led to this conclusion.  If there is potential for oil to contact corals and sponges, the benthos should be included taken into account in Table 16.24. Corals and sponges provide important habitat for marine species, including many of economic and cultural importance, and are sensitive to oil products.
DFO-11	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.6.1. Effects of potential accidents or malfunctions	Section 16.6.4.3.1, p.16-97, Subsea Blowout, paragraph 4	“The 30-day surface oil thickness case was modelled to begin in October and the 120-day case to begin in July.”	Provide rationale for these start dates, and explain why start dates for 30-day and 120-day models differ from one another.

			Section 16.6.4.3.1, p.16-103, Subsea Blowout, paragraph 2	“The 30-day surface THC in the water column case was modelled to begin in March and the 120-day case to begin in April.”	
DFO-12	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 7.6.1. Effects of potential accidents or malfunctions	Section 16.6.4.3.6, p.16-105, Potential Effects of an SBM Spill from the MODU and the Marine Riser, paragraph 1	“SBM spill modelling was not conducted specifically for Suncor’s exploration Project. Conclusions from SBM spill modelling prepared for CNOOC’s (formerly Nexen Energy [2018]) Flemish Pass Exploration Drilling Project (2018-2028) (described in Section 16.1.3.) were used to understand the potential effects of an SBM release from this Project.”	Are the conditions (e.g., currents etc.) comparable between EL1161 and the CNOOC model? Elaborate on those similarities and the appropriateness of this model as a proxy.
DFO-13	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C, Executive Summary, page ii, paragraph 3  Appendix C, Section 1.2, page 2, paragraph 1	“As with any hydrodynamic model, there is the potential that local currents may deviate from predictions based upon grid resolution and small-scale variability in ocean circulation dynamics. However, the data used is sufficient for this type of modelling”. It is not explained how “sufficient” is assessed. This is not an appropriate assumption. The report provides no detail about the accuracy of HYCOM in the region. Further, details such as the vertical grid spacing are not provided so the model’s applicability to this type of study cannot be ascertained.  In Section 1.2, paragraph 1, it is stated: “The boundary where	Explain how the data are sufficient for this type of modelling.  If available, discuss work that has been done to evaluate the accuracy of this model in the region.  Provide details on vertical grid spacing and its applicability.

				<p><i>these two currents converge produces extremely energetic and variable frontal systems and eddies on smaller scales, on the order of kilometers (Volkov 2005). Due to these eddies, local transport may advect parcels of water in nearly any direction".</i></p> <p>The region being extremely energetic does not support the above statement that the data used are sufficient for this type of modeling.</p>	
DFO-14	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C, Figure 1-5, page 7	<p>The authors describe the surface currents in the model, however, the bottom currents and subsurface currents are much more relevant in this study (see page 21, paragraph 2: <i>"Summer simulations for the EL 1161 site were predicted to have weaker subsurface current regimes with moderate directional variability, when compared to the fall simulations"</i>). As such, using the surface currents to analyze the variability in the environment is not applicable for this study.</p>	Justify use of surface currents to analyze variability in the environment or incorporate bottom and subsurface currents.
DFO-15	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C, Figure 1-6, page 8	<p>The current rose at 90 m is quite different than higher in the water column. This may be important for the simulation. The text says that the proposed drilling site is 100 m deep, however the HYCOM currents displayed in this figure only extend to 90 m. The currents in the bottom 10 m are unknown,</p>	<p>Describe the vertical grid spacing and resolution of the bottom boundary layer.</p> <p>Provide an explanation for the observation that fall data match the deep</p>

				<p>however, and important for deposition simulations. This is another situation where it is important to describe the vertical grid spacing so that readers can understand how well the bottom boundary layer is resolved. Also of note, fall data in Figure 3-2 match with the deep current rose (Figure 1-6), but summer data in Figure 3-1 are more similar to the surface rose (Figure 1-6). Further explanation or investigation for this was not included in the appendix.</p>	<p>current rose and summer data are more similar to the surface rose.</p>
DFO-16	<p>5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species</p>	<p>Part 2, Section 3.1 Project components</p>	<p>Appendix C, Section 2.2, page 10, paragraph 1</p>	<p><i>“For discharges near the sea surface, a horizontal dispersion (i.e., mixing) coefficient of 2.0 m<sup>2</sup>/s was used to account for the turbulence of the sediment as it was transported from the release site. A vertical dispersion coefficient of 0.001 m<sup>2</sup>/s was used to account for the influence of turbulence within the water column. These values were selected, based upon professional judgment and previous experience, to represent typical conditions of the deep marine environment”.</i> The vertical diffusivity parameter used is two orders of magnitude higher than generally measured in the ocean (Waterhouse et al. 2014). Stronger justification than</p>	<p>Provide more detail about how the diffusivity parameters were selected. For example, if the authors ran tests to determine if their results were sensitive to these parameters.</p>

				professional judgement should be given.	
DFO-17	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C, Table 2-2, page 12	Regarding Table 2-2, the text states (page 12, paragraph 2): <i>“A description of the specific components of the drilling fluids to be used... provided by RPS based on prior drilling discharge studies”</i> , data are provided by RPS and the source of this information is not mentioned.  No uncertainties are provided for these numbers, which means no uncertainties are transferred to the results.	Reference data sources included in Table 2-2.  Explain why uncertainties were not provided for these numbers and the consequences of not including uncertainties for the results.
DFO-18	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C, Section 4, page 21, paragraph 1	<i>“Slow settling velocities associated with the fine silts/clays and coarse silts, which make up the largest fractions of the cuttings drilled with WBM (water based mud) and SBM (synthetic based mud), allowed for greater dispersion before settling out”</i> . It is also stated on page 15 that the simulations were only several days long. These fine silts and clays would require weeks to settle based on the settling velocities reported in Table 2-4. The simulations weren't long enough to state that these materials would settle or be dispersed.	Provide justification for duration of simulations given that they were not long enough to determine the outcome of smaller particles in terms of settling versus dispersing.
DFO-19	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C, Section 4, page 22, paragraph 2	<i>“Together, both drilling periods consist of representative current regimes for the area and the predicted results could be</i>	Recommend incorporating stochastic maps.

				<p><i>applicable to timeframes outside of the modelled temporal windows</i>". This is not accurate. The two simulations are drastically different, which highlights the exact opposite: that the dispersion is highly dependent on the time window. This reinforces the need for stochastic maps (running multiple simulation and doing probability statistics).</p> <p>In several places it is stated that the MUDMAP simulations use environmental conditions from the ocean model including currents and density, yet only currents are discussed in any detail. The water column density changes throughout the year. As such statements are not justified, a detailed analysis of the ocean model density structure is needed to support this claim.</p>	Describe water column density and provide a detailed analysis of the ocean model density structure.
DFO-20	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C	<p>The authors focus the analysis of HYCOM (Hybrid Coordinate Ocean Model) currents on a 7-year period from 2006 to 2012 to conclude that 2012 is a representative year. However, 7 years is not long enough to characterize the variability of the system which is known fluctuate on decadal time scales (see Han et al. 2014). An assessment of how</p>	<p>Provide additional justification for the use of 2012 as a representative year or follow methodology described.</p> <p>Recommend more simulations of all possible scenarios.</p>

				<p>representative 2012 is for the entire period is not demonstrated. A more appropriate methodology would have been to simulate discharge scenarios using historical data from a longer period (performing tens or hundreds of simulations) and then comparing statistical representations of the different results to highlight the most probable scenarios (e.g., there is X% chance that the area exceeding a certain thickness threshold is less than Y km<sup>2</sup>). There is a significant difference between the two scenarios modeled (Figures 3-1 and 3-2), which implicitly increases the need for more simulations of all possible scenarios.</p> <p>Further, given that this report was written in 2019, it can be concluded that the information provided in this report is not based on the most recent information available. It is suggested that the quality of the risk assessment would have been improved by extending data analyses to 2019. An assessment of HYCOM would be beneficial (quantification of how well the model represents reality). HYCOM uses Mercator projections between 78°S and</p>	<p>Recommend a longer time-series that includes data up to 2019.</p> <p>Recommend providing an assessment of HYCOM (quantification of how well the model represents reality).</p> <p>Provide description as to whether grid patching/ merging has an effect on the quality of the current forcing at the latitude of this Project.</p>
--	--	--	--	---	--

				47°N latitude and a bipolar patch for regions north of 47°N to avoid computational problems associated with the convergence of the meridians at the pole. Since the simulations provided by the Proponent are very close to 47°N, it should be considered whether this grid patching/merging has an effect on the quality of the current forcing at this latitude.	
DFO-21	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C	<p>It is not clear how the discharge simulations are performed. It would appear that one simulation is done for the summer (May-June) and one for the fall (October-November). For each simulation, the cuttings/muds are released for 16.5 days over the course of 27 days, and then the model is kept running for another month to allow for the particles to settle. The specific dates of the simulations were not provided.</p> <p>Page 15 of Suncor Energy (2019) states, <i>“One deterministic simulation was performed for each of the five (5) drilling sections for both of the seasonal scenarios, totaling twenty (20) individual simulations.”</i> It is unclear how this equates to 20 simulations (5 stages x 2 seasons should equal 10 simulations).</p>	<p>Describe how simulations were performed, including the dates of the simulations.</p> <p>Provide clarification of the 20 simulations performed.</p> <p>Provide clarification as to whether individual simulations aim to represent the same scenario.</p> <p>Explain whether individual simulations aim to represent the same scenario (summer or fall).</p> <p>Describe how cumulative effects are taken into account.</p>



				Do these individual simulations aim to represent the same scenario (summer or fall)? How are cumulative effects taken into account.	
DFO-22	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C	There are few details provided with regards to the MUDMAP dispersion model (a personal computer-based model developed by RPS [formerly Rural Planning Services] to predict the near and far field transport, dispersion and bottom deposition of drill muds and cuttings and produced water). It is said to be based on integral plume theory but no reference and/or equations are provided. Page 10 states, <i>“The equations and solutions in MUDMAP are based on thirty years of research and the model is regularly updated as new scientific research is presented”</i> , but the references are mostly based on industrial reports rather than peer-reviewed literature. The authors do provide examples of validation of the model, but these are either from different environments (e.g., from mangroves; Burns et al. 1999) or from industrial reports (King and McAllister 1997, 1998).	Provide references and/or equations regarding integral plume theory.  If possible, provide peer-reviewed literature related to MUDMAP.  If possible, provide examples of validation of the model for similar environments and from peer-reviewed literature.
DFO-23	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C	The total deposition during the riserless stages (stage 1 and 2) is more or less identical to the	The consequences of the model not accounting for a

				<p>deposition over the 5 stages together (Figures 3-1 and 3-2). This suggests that the sediments from stages 3 to 5 do not deposit at all and that the model loses track of them. This is more or less confirmed on page 16, <i>“approximately 78% of the total mass of all sections combined are predicted to be discharged near the seabed, where they settle rapidly. During the remaining sections of drilling, where the remaining roughly 22% of mass is discharged near the sea surface, smaller particle size fractions with low settling velocities were transported greater distances as they settled through approximately 100 m of the water column”</i>. In Table 2-1, the total volume discharges is approximately 10,000 m<sup>3</sup> (480 m<sup>3</sup> cuttings + 9,831 m<sup>3</sup> mud). A simple calculation based on Table 3-1 (deposition thickness x surface area) suggests that the total volume of material deposited in the model varies between 1,350 m<sup>3</sup> (minimum approximation) and 2,800 m<sup>3</sup> (maximum approximation). This appears to imply that only 13.5–28% of the particle volume actually deposits according to the model.</p>	<p>fraction of sediment should be addressed.</p>
--	--	--	--	---	--

DFO-24	5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(ii) Aquatic Species	Part 2, Section 3.1 Project components	Appendix C	Sensitivity analysis of the different parameters used in the model (e.g. environmental forcing, discharge schedule, discharge solids characteristics, horizontal and vertical diffusivities, grid resolution, number of particles, etc.) should be performed. More detail with regards to how these parameters were selected is also required.	Describe how parameters were selected.  Recommend performing sensitivity analysis.
--------	---	--	------------	--	--

**ANNEX 3: Advice to the proponent**

**Table 3: Additional advice to the proponent, such as guidance or standard advice related to your departmental mandate**

ID	Reference to EIS	Context and Rationale	Advice to the Proponent
DFO-CL-1	Section 6.1.2 Corals and Sponges, Page 6-9, paragraph 4, 3 <sup>rd</sup> sentence	<p>It is noted “the closest SBAs are approximately 14km to the west of the western most edge of the EL are designated for large and small gorgonian corals (Figure 6-6, Figure 6-7).”</p> <p>Should this say that the SBA is designated for just small gorgonian corals? Figure 6-6 does not show a SBA for large gorgonians to the west of the EL. Figure 6-7 shows a SBA to the west of the EL for small gorgonians only.</p>	Clarifications recommended.
DFO-CL-2	Sentence 6.1.2 Corals and Sponges, Page 6-9, paragraph 4, 6 <sup>th</sup> sentence	<p>It is noted that “other SBAs for corals (sea pens and gorgonians) in the area are located along the southeastern Newfoundland Shelf.</p> <p>Figure 6-5 shows a large SBA for sea pens to the North as well.</p>	Revisions recommended.
DFO-CL-3	Section 6.1.3.1.2 Environmental Effects Monitoring Programs (Page 6-16, Paragraph 2, 4 <sup>th</sup> sentence)	<p>It is stated that “Sand lance were the dominant fish species by abundance per tow (catch per unit effort (CPUE)) in all areas, followed by American plaice, capelin, and mailed sculpin (Table 6.2). These results are similar to the Canadian RV trawl data within the Project Area, with the exception that no Arctic cod were recorded during this study.”</p> <p>It is unclear how the results from Hebron Platform 2015 fish characterization study</p>	Clarification recommended.

		<p>are similar to those presented earlier for the Canadian RV trawl data (e.g., species caught).</p> <p>Including examples of CPUE differences between trawls for each study could be beneficial (i.e., using comparable units).</p>	
DFO-CL-4	Section 6.1.3.3.1 Canadian RV Trawl Surveys (Page 6-18 to 6-20, Table 6.3)	<p>It is stated that “Canadian RV trawls found 32 species of invertebrates within the boundary of the Project Area, the majority of which were shrimp species (Table 6.3). The phylum with the greatest number of species was Arthropoda, with 16 species caught within the Project Area, most of which were shrimp.”</p> <p>These numbers do not match with the data displayed in Table 6.3. It appears that there at least 36 different species identified in total and 20 different species of Arthropoda caught.</p>	Revisions recommended.
DFO-CL-5	Section 6.1.3.3.1 Canadian RV Trawl Surveys (Page 6-18, Paragraph 1, 4th sentence)	<p>It is stated that “There were four mollusc species including Icelandic shrimp and various cephalopods.”</p> <p>Should this say Icelandic scallop? This is the species included in Table 6.3</p>	Clarification recommended.
DFO-CL-6	Sentence 6.1.3.3.1 Canadian RV Trawl Surveys, Page 6-20, Table 6.3	It is not indicated in this table that Icelandic scallop are a commercial species.	Revision recommended.
DFO-CL-7	Section 6.1.3.3.1 Environmental Effects Monitoring Programs	<p>It states that “Though trawl catch species data are not reported for Terra Nova, invertebrates found in sediment cores are identified and enumerated.”</p> <p>The 2021 Biological (Scallop) Survey report (an addendum to the 2020 Terra Nova EEM) was submitted in early 2022. Could trawl data from this survey be included in</p>	Recommend including survey results, if appropriate.

		this section or is there a possibility of potential contamination from operations affecting community structure?	
DFO-CL-8	Section 6.1.3.4 Local Assessment Area Species Information, Page 6-25, Paragraph 1 , 1 <sup>st</sup> sentence	It states “All finfish species caught in the Local Assessment Area (which includes Project Area) between 2014 and 2018 belong to one of six functional groups (see details in Section 6.1.3.1.1).  Only 5 functional groups are listed in Section 6.1.3.1.1	Revision recommended.
DFO-CL-9	Section 6.1.3.4.2 Medium Benthivores, Page 6-25, Paragraph 1, 4 <sup>th</sup> sentence  Section 6.1.3.4.1 Large Benthivores, Page 6-31, Paragraph 1, 11 <sup>th</sup> sentence	Text states “One species of lumpsucker (Cyclopteridae) was recorded, the common lumpfish, which is also a commercial species and species at risk.” Lumpfish are not listed as a SAR, but they do have a COSEWIC designation of <b>Threatened</b> . Would be more accurate to describe these as SOCC.  Text states “American plaice, thorny skate, northern wolffish and Atlantic wolffish are all species at risk”  While northern wolffish and Atlantic wolffish are listed as a SAR, American plaice and thorny skate are not (but designated under COSEWIC). Would be more accurate to describe these as SOCC.	Revisions recommended.
DFO-CL-10	Section 6.1.3.4.2 Medium Benthivores, Page 6-25, Paragraph 1, 7 <sup>th</sup> sentence	It first states “Southeastern areas within the Project Area and LAA have relatively higher densities of medium benthivores” and then later states “Relatively higher medium benthivore density occurs in the southwest area of the Project Area.”  These two statements state differing locations of higher densities of medium	Revisions recommended.

		benthivores within the Project Area. Figure 6-11 show higher densities to the southwest area of the Project Area.	
DFO-CL-11	Section 6.1.3.4.2 Piscivores, Page 6-42, Figure 6-22	Figure 6-22 should also display any special areas identified as important habitat for Atlantic cod	Revisions recommended.
DFO-CL-12	Section 6.1.3.4.4 Planktivores, Page 6-47, Paragraph 1, Sentence 2  Section 6.1.3.4.4 Planktivores, Capelin, Page 6-47, Paragraph 1, Final Sentence	It states “These species were recorded throughout the Grand Banks and south of Newfoundland but were not present on the Northeast Shelf or further north (Figure 6-26)”, but this statement does not seem to be consistent with Figure 6-26.  It states “Within the RAA, capelin are found south of Newfoundland and throughout the Grand Banks, and were not reported to the north though they are present in the Canadian Arctic (Figure 6-27)”, but this statement does not seem to be consistent with Figure 6-27.  Ensure information in text and figures align.	Revisions recommended.
DFO-CL-13	Section 6.1.3.6.2 Atlantic Salmon, Page 6-72, paragraph 5	“Thus, with respect to the Project Area (see Figure 6-35), the presence of inner Bay of Fundy salmon is not expected at any life history stage or season”.  Although unlikely, it cannot be said with certainty that the Inner Bay of Fundy population of Atlantic Salmon will not occur in the Project Area.	Clarification recommended – this sentence should be amended accordingly. Update EIS, as appropriate (e.g., Table 6.6).
DFO-CL-14	Section 6.1.3.5.1 Wolffish (Atlantic, Spotted, and Northern), Page 6-61, 6 <sup>th</sup> sentence	It states “Recovery strategies and management plans for the spotted wolffish have identified critical habitat along the northern Grand Banks and Newfoundland Shelf to the north of the Project Area (Figure 6-36).”	Revisions recommended.

		Management plans are not associated with spotted wolffish, only recovery strategies and an action plan.	
DFO-CL-15	Section 6.1.3.5.2 White Shark, Page 6-63, Paragraph 2, Final Sentence  Figure 6-37, Page 6-64	<p>It states “Five individuals have been recorded within the RAA in the same time period.” Figure 6-37 appears to show more than 5 individuals within the RAA. There are 7 different colored tracked lines within the RAA.</p> <p>In Figure 6-37, there appears to be an orange tracked line that is not labelled and not included in the “White Shark Tracks (2013-2022) OCEARCH tracking” legend.</p> <p>Clarify what this line represents. Revise legend if this is another tracked white shark. (See comment above as well. If this is another tracked white shark, the number of occurrences within the RAA would be more than 5).</p>	Clarifications recommended.
DFO-CL-16	Section 6.1.3.6. Species of Indigenous Importance	Eel and salmon are important species on the island, but tuna are caught by both the MFN and Innu Nation and swordfish are only caught by the MFN, and are not a significant species for the other indigenous groups. The phrase “indigenous groups” is likely very broad, but in the instance of identifying species, utilization of large pelagics is very specific to one group.	Revisions recommended.
DFO-CL-17	Section 6.1.3.6.2 Atlantic Salmon, Page 6-73	South Newfoundland population should be included in the “Inner St. Lawrence, Quebec Western North Shore, Quebec Eastern North Shore, Anticosti Island, Gaspé-Southern Gulf of St. Lawrence DUs” subheading and expounded upon.	Revisions recommended.



DFO-CL-18	Section 6.1.3.6.3 Swordfish, Page 6-75, Paragraph 2, final sentence	<p>Text states “Many Indigenous groups have commercial communal licenses for swordfish, with catches primarily in NAFO subdivisions 3O and 3N to the south of the RAA.”</p> <p>There is only one communal-commercial swordfish license in our region (MFN) and there are no landings recently.</p>	Revisions recommended.
DFO-CL-19	<p>Section 6.1.3.6.3 Swordfish, Page 6-75 to 6-76</p> <p>Section 6.1.3.6.1 Tunas (Albacore, Bigeye, Atlantic Bluefin), Page 6-75 to 6-77</p>	<p>Text states “They are primarily found in the deeper waters off the Grand Banks shelf, though records do exist within the RAA (figure 6-42).” Figure 6-42 shows one report of a swordfish within the Project Area.</p> <p>Text states “Similar to swordfish, all three species are predominantly recorded in the deeper waters to the south and east of the Grand Banks (Figure 6-43).” Figure 6-43 shows occurrence of Bigeye Tuna within the Project Area.</p> <p>Text should be updated to include information on the occurrence of these species in the Project Area.</p>	Revisions recommended.
DFO-CL-20	Section 6.3.2 Overview of Species Occurrence (Table 6.15, Page 6-117)	Ringed Seals have a COSEWIC Designation of Special Concern	Revisions recommended.

DFO-CL-21	<p>Section 6.4.2.1 Ecologically and Biologically Significant Areas, Table 6.24 &amp; Figure 6-60; Pages 6-151 to 6-156</p> <p>Section 6.4.2.3 Marine Protected Areas, Page 6-157 Figure 6-62, Table 6.26, Page 6-159 to 6-160</p>	<p>Text states that there are “a total of 37 EBSAs in the Newfoundland-Labrador Shelves and Scotian Shelf Bioregions are found within the RAA.” Table 6.24 and Figure 6-60 only explain/display 32 EBSAs.</p> <p>Text states that “four MPAs have been established in Newfoundland and Labrador (DFO 2019c), all of which occur within the RAA (Figure 6-62).” Figure 6-62 and Table 6.26 explain/display 6 MPAs.</p> <p>Ensure information included in text and figures accurately align.</p>	Revisions recommended.
DFO-CL-22	Section 6.4.2.6 Species at Risk Critical Habitat	<p>Text states “The RAA intersects with four areas of proposed critical habitat for northern wolffish and four areas of proposed critical habitat for spotted wolffish (Figure 6-62).”</p> <p>RAA actually intersects with five areas of proposed critical habitat for northern wolffish.</p> <p>Critical habitat for wolffish is no longer considered proposed.</p>	Revisions recommended.
DFO-CL-23	Section 7.2.2 Historical Overview of Commercial Fisheries, pages 7-8 to 7-9	The title of the section is “Historical Overview of Commercial Fisheries (1980-2012); however, the section’s graphs show 1980-2020. The title should be updated to reflect this.	Revision recommended.
DFO-CL-24	Section 7.2.2 Historical Overview of Commercial Fisheries, page 7-8, paragraph 1, final sentence	Text states “further information is provided in Section 7.2.1.6”. This section does not exist. Should it be Section 7.2.4.2?	Revision recommended.

DFO-CL-25	Section 7.2.4.1 Groundfish, Page 7-14, paragraph 1, 3 <sup>rd</sup> sentence	Text states “or other NAFO nations..”,  Should state “or other NAFO contracting parties.” instead.	Revision recommended.
DFO-CL-26	Section 7.2.4.1 Groundfish, Table 7.6, Page 7-16	An asterix or footnote should be included for Atlantic cod TAC, noting that there is a Stewardship fishery with a Maximum Authorized Harvest (MAH).	Revision recommended.
DFO-CL-27	Section 7.2.4.1 ,Groundfish -Atlantic Cod, Page 7-19, 1 <sup>st</sup> sentence	Text states “The most recent assessment of Atlantic cod for NAFO Divisions 2J3KL (DFO 2019a) indicates that although the Spawning Stock Biomass (SSB) has increased over the past decade, it remains within the critical zone.”  The most recent stock assessment is from 2021, not 2019. Text should be reworded to say “The stock assessment from 2019...”.	Revision recommended.
DFO-CL-28	Section 7.2.4.1 Groundfish -Atlantic Cod, Page 7-19, final sentence	Text states “In 2021 the TAC was set at 12,999 t (DFO 2021e).”  The Stewardship cod fishery is managed under a Maximum Authorized Harvest (MAH), not a TAC. Also, there is a commercial moratorium on this species.	Revisions recommended.
DFO-CL-29	Section 7.2.4.1 Groundfish -Redfish, Page 7-19, 5 <sup>th</sup> sentence	Text states “The 2GHJ+3K fishery has been under moratorium since 1997 (DFO 2020c).”  The stock name is actually 2+3k Redfish.	Revision recommended.
DFO-CL-30	Section 7.2.4.1 Groundfish – Redfish, Page 7-19	Ensure accurate information is included in this section regarding TAC for redfish stocks:  Text states “The commercial stock for redfish in 3LN was placed under moratorium in 1998 but re-opened in	Revisions recommended.

		<p>2010.” Suggest including TAC for this stock. The TAC for 2023 is 7,710 tonnes.</p> <p>Text states “Stocks in 3M have remained relatively stable over the years; however, NAFO has issued advice to limit redfish TAC in 3M to 10,993 t in 2022 and 11, 171 t in 2023 (NAFO 2021c).” While this information is not incorrect, the other species talk specifically to Canada’s allocation, which in this case would be 500 t in 2023.</p> <p>Text states “There is still a high level of uncertainty regarding the health of the 30 stocks (NAFO 2021c).” Should include that the Canadian allocation of TAC is 6,000 tonnes for 2023.</p>	
DFO-CL-31	Section 7.2.4.3 Molluscs, Table 7.16, 7.17, 7.18, Page 7-32 to 7-33	<p>Sea cucumbers and sea urchins are discussed in this section, however they are not classified as molluscs, they are echinoderms.</p> <p>Molluscs section should be revised to discuss accurate information and new section added to discuss sea cucumbers/ sea urchins.</p>	Revisions recommended.
DFO-CL-32	Section 7.2.4.4 Small Pelagic, Page 7-35	<p>Updated landings are as follows:</p> <p>Capelin 2016 -36,683          Capelin 2017- 21,862          Capelin 2018 - 27,978          Capelin 2019 - 28,003          Capelin 2020 - 23,986          Capelin total 138,512</p> <p>Herring 2016 - 27,331          Herring 2017 - 21,285</p>	Revisions recommended.

		<p>Herring 2018 - 13,721  Herring 2019 - 22,510  Herring 2020 - 8,733  Herring total 93,580</p> <p>Mackerel 2016 - 4,633  Mackerel 2017 - 2,653  Mackerel 2018 - 5,551  Mackerel 2019 - 4,776  Mackerel 2020 - 3,808  Mackerel total 16,645</p> <p>Include updated landing information in this section.</p>	
DFO-CL-33	Section 7.2.8 Recreational Fishing, Page 7-49, 1 <sup>st</sup> sentence	<p>Text states “During July, August and September each year, recreational fisheries in NL take place in inland and coastal waters.”</p> <p>The Minister makes a decision annually on the recreational groundfish fishery. As written, it implies it is in place permanently. Consider editing text to say “During the summer months (July to September), a recreational fishery has been in place since 2006 to 2022...”</p>	Revision recommended.
DFO-CL-34	Section 7.2.8 Recreational Fishing, Page 7-49	Information regarding management measurements, such as bag and boat limits, should be included in this section.	Revisions recommended.
DFO-CL-35	Section 7.2.8 Recreational Fishing, Page 7-49	Should be noted in this section that there are also recreational fisheries for mackerel, capelin and squid.	Revision recommended.
DFO-CL-36	<p>Section 7.2.4.1 Groundfish, pages 7-14</p> <p>Table 7.7, page 7-18</p> <p>Table 7.8, page 7-18</p>	The yellowtail landings are particularly low and this is likely a reflection of data availability (i.e. privacy guidelines) to the author. At the very least it should be noted for the public that there may be data	Revision recommended.

		missing due to restrictions on data release by the Government of Canada.	
DFO-CL-37	Section 7.2.4.2 Shellfish, page 7-25, paragraph 2	Text discusses low landings in 2HJ, 3K and 3LNO. Landings and TAC have increased 2021/2022 (exception 2J). Price also increased over this period before falling in 2020 and then reaching a record high in 2021.	Revisions recommended.
DFO-CL-38	Section 7.2.9 Aquaculture	A table should be included listing all the aquaculture operator/licenses and locations within the RAA (or at least the east coast of NL), and species reared for each.	Revisions recommended.
DFO-CL-39	e.g., Section 7.3 Indigenous Peoples and Community Values	The phrase commercial-communal is used throughout the document. DFO (and associated regulations) use communal-commercial.	Revisions recommended throughout.
DFO-CL-40	e.g., Section 7.3 Indigenous Peoples and Community Values	Instead of using the phrase “Community values”, use “traditional values”.	Revisions recommended throughout.
DFO-CL-41	Table 7.35, pages 7-59 to 7-68	Regarding Innu Nation general overview, the Government of Canada signed an Incremental Treaty Agreement (ITA) with the Innu Nation in 2021, in advance of a final agreement. The ITA was the first of its kind, and advances implementation of treaty-related rights and benefits, and is a way to build Innu capacity and self-determination. The agreement with DFO will increase the Innu Nation’s ability to participate in commercial fisheries, thereby enhancing economic wellbeing and helping close the socioeconomic gap between Innu Nation and non-Indigenous Canadians.  Regarding NCC general overview, the NCC have not been recognized as Inuit, so we	Recommend revising Table 7.35 with information provided.

		<p>say they identify as southern Inuit. Also, the NCC signed a Recognition of Indigenous Rights and Self-Determination (RIRSD) Memorandum of Understanding with the Government of Canada in 2019, which outlines the general principles of discussions on matters such as self-governance on lands, waters, resources, programs and services. Also in this table under FSC fishing, the NCC holds two FSC licences, not several.</p> <p>Regarding MFN FSC Fishing, the table says several licences, but the MFN has <u>only one</u> FSC licence, which includes several species.</p>	
DFO-CL-42	Section 7.3.1 Approach and Key Information Sources, Page 7-58, Paragraph 1, 3 <sup>rd</sup> sentence	<p>“The nearest reserve land belongs to Miawpukek First Nation, which is located 470km from the Project Area.”</p> <p>The reserve land is Conne River, which should be included in this sentence.</p>	Revisions recommended.
DFO-CL-43	Table 7.3.5 Newfoundland and Labrador Indigenous Groups Community Profiles, Page 7-59 to 7-68	<p><b>Labrador Innu (Innu Nation) FSC Fishing -</b> “Innu Nation holds several FSC licenses for Sheshatshiu and Natuashish for salmon, Arctic char, and trout.”</p> <p>The Innu Nation only hold 2 FSC licenses, one for Sheshatshiu and one for Natuashish.</p> <p><b>Miawpukek First Nation (MFN) FSC Fishing –</b> “The MFN holds several FSC licenses for scallop, lobster, mackerel, herring, rainbow trout, brook trout, cod, eels, smelt, capelin, seals (harbour, harp and grey), snow crab, whelk, and redfish.” MFN only hold one FSC license, not several.</p>	Revisions recommended.

DFO-CL-44	Section 7.4.2 Other Offshore Oil and Gas Activities, page 7-122	Is Terra Nova currently producing oil? Reports indicate no oil production since late 2019? Perhaps the text should reflect the current status of Terra Nova FPSO.	Revisions recommended.
DFO-CL-45	Section 9.3.3 Species at Risk: Overview of Potential Effects and Key Mitigation, Table 9.4, Page 9-27 to 9-30	Table 9.4 contains <u>Blue Shark</u> . Blue shark is not listed under the SARA, or NL ESA, nor designated under COSEWIC. It is unclear why this species is included in the table.  The “Relevant Population” for Roundnose grenadier is listed as Atlantic and Arctic, however there is no specific population name for Roundnose grenadier; Arctic and Atlantic Ocean are just the species range.	Clarification/revisions recommended.
DFO-CL-46	Section 9.3.4 Summary of Project Residual Environmental Effects, page 9-32, paragraph 1	“Predicted duration of effects are variable across Project activities, ranging from short-term geophysical (including VSP), environmental and geotechnical surveys activities to long-term for effects from drilling discharges” and “It is predicted that recovery to baseline conditions would be long-term for drill cuttings discharge.”  Previous discussions on the Change in Risk of Mortality, Injury or Health and Change in Habitat Availability, Quality, and Use due to discharges classified the duration as short-term and medium-term, respectively.	Clarifications recommended.
DFO-CL-47	Section 9.7 Summary of Commitments- Presence and Operation of a MODU, page 9-34	“The presence and operation of a MODU will be planned and conducted in consideration of relevant regulations and guidance including C-NLOPB guidance for drilling activities where cold-water corals may be present”.  Recently, new coral and sponge guidance has been released by DFO ( <i>Regional</i>	Revisions recommended.



		<p><i>Guidance on Measures to Protect Corals and Sponges during Exploration Drilling</i>). This guidance should be used in place of previous C-NLOPB coral/sponge guidance.</p> <p>Text should be updated to include information on this guidance document.</p>	
DFO-CL-48	Section 12.4.1.1, p.12-10, Presence and Operation of a MODU, bullet 1	“Suncor will conduct a pre-drilling, ROV imagery-based seabed survey at proposed drilling locations to confirm the presence/absence of sensitive environmental features such as habitat-forming corals, sponges).”	Suggest reviewing recommendations for survey design outlined in the <i>Regional Guidance on Measures to Protect Corals and Sponges during Exploration Drilling</i> .
DFO-CL-49	Section 12.4.1.2, p. 12-12, Special Areas Identified for Marine Fish and Fish Habitat, paragraph 2	“Fishes and invertebrates remaining in the area will likely habituate to continuous sound such that avoidance and startle responses decrease over time during drilling activities.”	Provide a citation.
DFO-CL-50	12.4.1.2, p. 12-19, Special Areas Identified for Marine Mammals and Sea Turtles, paragraph 2	“It is uncertain how sea turtles would respond, but single or occasional overflights by helicopters would likely elicit only brief behavioural responses. Some localized and short-term behavioural effects are likely to occur, with some species possibly being displaced from the immediate area around a supply vessel or helicopter.”	If possible, provide a citation.
DFO-CL-51	Section 13.1.3 Potential Effects, Pathways, and Measurable Parameters, page 13-3, paragraph 2	It is noted that the nearest indigenous community to the project area is the Qalipu. Perhaps the Proponent found the closest of the 67 Qalipu communities. However, Conne River should also be considered. The report specifically references Bluefin tuna and swordfish; neither of these species are fished by the Qalipu, but both are fished by the MFN. The MFN has the region’s only swordfish licence. Also, Conne River is one of the	Point of information.

		primary salmon rivers in the region, and is protected by the MFN. If this project impacts at-sea survival of salmon, this will be significant for this group.	
DFO-CL-52	Section 14.3.1.2 Mitigation	Proposed communications plan will likely not be a one size fits all approach. Concerns will be different across fleet sectors and between commercial and communal-commercial harvesters.	Point of information.
DFO-CL-53	Section 14.3.1.2 Mitigation, Page 14-10, 1 <sup>st</sup> bullet	NL-Groundfish Inshore Development Council (NL-GIDC), Northern Coalition, and ENGO's should also be included here.	Revisions recommended.
DFO-CL-54	Table 15.1 Other Projects and Activities Considered in the Cumulative Effects Assessment, Page 15-5 to 15-8	White Rose Oilfield and Extension Project – “construction of West White Rose Wellhead is “expected to resume immediately”.  Construction and activities related to this project have now restarted.	Revisions recommended.
DFO-CL-55	16.6.1.1.3, p. 16-62, Potential Effects of in situ Burning on Fish and Fish Habitat, paragraph 2	“The main potential impact on fish and fish habitat is the burning oil itself and the remaining residue, as atmospheric smoke will not impact fish.”	Provide a citation.  Clarify whether increased temperature affects fish.
DFO-CL-56	Section 16.6.4.3, Table 16.24, p. 16-100	“Primary Reason for Designation” requires updating for Laurentian Channel MPA and both DFO Marine Refuges.  Sea pens are a primary conservation objective for Laurentian Channel MPA.  Both listed Marine Refuges were designated primarily for the protection of corals and sponges.	Revisions recommended.
DFO-CL-57	Section 16.6.6 Commercial Fisheries and Other Ocean Users, Page 16-116, Paragraph 2, 2 <sup>nd</sup> sentence	“Quota sharing agreements are in place between Canada and St. Pierre and Miquelon for stocks managed by DFO, as well as between NAFO and Canada, for NAFO managed stocks (Section 7.2.1).”	Revisions recommended.

		<p>Would be more appropriate to say “Six stocks in the 3Ps portion of the RAA are co-managed by Canada and France (on behalf of St. Pierre et Miquelon) and a number of straddling stocks located in both Canadian fisheries waters and International waters are managed by NAFO.”</p>	
DFO-CL-58	<p>Section 16.6.6 Commercial Fisheries and Other Ocean Users, Page 16-117, Paragraph 3, 4<sup>th</sup> sentence</p>	<p>“The main active groundfish fisheries are for Greenland halibut, redfish and yellowtail flounder, while cod and American plaice are harvested as bycatch only.”</p> <p>If this sentence applies to the RAA, and the RAA includes 3Ps, etc., then this statement should be clarified. 3Ps cod is not under a moratorium and the main active groundfish fisheries depend on what portion of the RAA is being referenced. For example, in 4R/3P, yellowtail isn’t harvested and Atlantic halibut is one of the main groundfish species harvested.</p>	<p>Revisions recommended.</p>
DFO-CL-59	<p>Section 16.6.6 Commercial Fisheries and Other Ocean Users, Page 16-117, Paragraph 4, final sentence</p>	<p>“American plaice, Atlantic cod, and Witch flounder are caught and harvested as bycatch only.”</p> <p>While 2J3KL Witch flounder (managed by Canada) is under commercial moratorium, 3NO witch flounder (managed by NAFO) is not.</p>	<p>Revisions recommended.</p>
DFO-CL-60	<p>Section 16.6.6 Commercial Fisheries and Other Ocean Users, Page 16-117, Paragraph 6, 1<sup>st</sup> sentence</p>	<p>“Atlantic cod, smelt, Atlantic salmon, lobster, and trout are all fished recreationally in near-shore and mid-shore areas off the coast of NL.”</p> <p>This should read “groundfish”, not just Atlantic cod. The recreational groundfish</p>	<p>Revisions recommended.</p>

		fishery includes American plaice, Atlantic cod, Greenland halibut (turbot), grenadier, haddock, lumpfish, monkfish, redfish, skate, white hake, winter flounder (blackback), witch flounder (greysole), yellowtail flounder. There are also recreational squid, mackerel, and capelin fisheries.	
DFO-CL-61	Section 16.6.6.2 Mitigation of Project-Related Environmental Effects, Page 16-119, 1 <sup>st</sup> bullet, final sentence	<p>“This engagement will be coordinated through One Ocean, Fish, Food and Allied Workers-Unifor, Ocean Choice International, Association of Seafood Producers, and Groundfish Enterprise Allocation Council.”</p> <p>Groundfish Enterprise Allocation Council (GEAC) is the former name of this council. It is now called Atlantic Groundfish Council (AGC).</p>	Revision recommended.
DFO-CL-62	<p>Appendix C, Executive Summary, page ii, paragraph 2</p> <p>Appendix C, Section 2.1, page 10, paragraph 2</p>	<p><i>“MUDMAP does not account for resuspension and transport of previously discharged solids; therefore, it provides a conservative estimate of the potential seafloor depositions”</i>. To consider this estimate conservative does not seem appropriate. Re-suspension and further transport can potentially dilute the cuttings and sediment even more, which has the potential to reduce accumulation thickness in some areas, especially near the wellhead. However, it also has the potential to extend the zone of influence (and thus the impact footprint of the project), and potentially accumulate sediment in other areas further from the wellhead. In these circumstances, it does not seem appropriate to consider the</p>	Revision recommended.

		neglection of some mechanisms as a conservative approach.	
DFO-CL-63	Appendix C, Section 1.2, page 4, paragraph 2	Figure 1-3 “...illustrates that the site is close to the inshore branch of the Labrador Current near the Flemish Cap”. This is not the definition of the inshore branch, which is usually defined as the current flowing along the NL coast (in contrast with the main branch of the Labrador current that flows on the continental shelf break). The inshore branch further splits north of the Avalon Peninsula with part of the flow merging offshore with the main branch of the Labrador current and the remaining flowing through the Avalon channel near St. John’s.	Revision recommended.
DFO-CL-64	General	Capitalization of Indigenous is inconsistent; should be capitalized throughout entire document.  Text goes back and forth between the use of Aboriginal and Indigenous; however, the word Indigenous should be used throughout entire document.  Qalipu is referred to as QMFN, however it is just QFN. Should be revised throughout document.	Revisions recommended

## Bibliography

DFO. In Press. Regional Guidance on Measures to Protect Corals and Sponges during Exploration Drilling.

Han, G., Chen, N., and Ma, Z. 2014. Is there a north-south phase shift in the surface Labrador Current transport on the interannual-to-decadal scale? J. Geophys. Res: Oceans.119(1): 276–287.

Sherwood, O.A., and Edinger, E.N. 2009. Ages and growth rates of some deep-sea gorgonian and antipatharian corals of Newfoundland and Labrador. *Can. J. Fish. Aquat. Sci.* **66**(1): 142–152. doi:10.1139/F08-195.

Waterhouse, A.F., MacKinnon, J.A., Nash, J.D., Alford, M.H., Kunze, E., Simmons, H.L., Polzin, K.L., St. Laurent, L.C., Sun, O.M., Pinkel, R., Talley, L.D., Whalen, C.B., Huussen, T.N., Carter, G.S., Fer, I., Waterman, S., Naveira Garabato, A.C., Sanford, T.B., and Lee, C.M. 2014. Global Patterns of Diapycnal Mixing from Measurements of the Turbulent Dissipation Rate *J. Phys. Oceanogr.* **44**(7): 1854–1872.