

**REGIONAL ASSESSMENT OF OFFSHORE OIL AND GAS EXPLORATORY DRILLING  
EAST OF NEWFOUNDLAND AND LABRADOR**  
**Technical Advisory Group (TAG) Session on Cumulative Effects**  
**September 13, 2019**  
**QUESTIONS AND ITEMS FOR DISCUSSION**  
**PARTICIPANT INPUT FORM**

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**1) Possible sources of cumulative effects**

- a) How should the inherently dynamic nature of the marine environment, including the continued influence of climate change and other such factors, be considered and addressed in the RA?

Possible future scenarios of exploratory drilling as progressively more sites are explored must be assessed under future scenarios of climate change. The RA might consider cumulative effects under a spectrum of ① exploration scenarios and ② climate scenarios. With this, the "worst case scenario" should be reported clearly and should inform decision-making. Building scenarios that include dynamic environments and future scenarios will require an appropriate timeline in the RA to be conducted appropriately, in high quality, and transparently to inform evidence-based decision-making.

- b) What type and level of future exploratory drilling should be assumed in the Study Area for the purposes of the cumulative effects assessment, and how should this be defined and approached (e.g., possibly through definition of various "scenarios" of future activity levels / intensities / distributions upon which to base the assessment)?

If cumulative effects includes "past, present, and foreseeable actions", all phases of exploratory drilling must be included - this includes any seismic activity required for drilling. The effects of seismic may very well be significant considering cumulative effects on habitat destruction (e.g., effects to the auditory environment). Scenarios of cumulative effects for each phase/action required for drilling should be incorporated in the RA throughout the study region. Future scenarios should also be assessed as increasingly more drilling sites are explored, as effects likely accumulate over time with increasingly larger effects on ecosystems.

- c) What other types of human activities are affecting the marine environment in the Study Area, and are likely to have the most potential to result in cumulative effects in combination with offshore exploratory drilling?

Cumulative effects within and between offshore energy-development activities. Other important activities may include fisheries, shipping/transport, and potential future industries. An important priority should be assessing cumulative effects of existing and foreseeable future oil and gas activities on both the immediate environment (study region) and far field effects (climate change impacts). Effects of international industries beyond the 200nm are not negligible - the environment and effects to it do not halt at domestic boundaries!

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2) Potential cumulative effects and their management

- a) What factors and processes influence whether (and to what degree) the effects of individual projects and activities in the Study Area may overlap or otherwise interact to result in cumulative effects?

Might consider a framework similar to the Ocean Health Index, considering states, pressures, resilience. Spatial and temporal overlap of activities, but also overlap of effects as they accumulate, diffuse, redistribute in the ecosystem through time.

[www.oceanhealthindex.org](http://www.oceanhealthindex.org)

- b) Are there particular environmental effects that are more likely than others to behave "cumulatively" in the Study Area? Are there certain environmental components that are more likely to be affected or are more sensitive to such cumulative effects?

Within-industry cumulative effects across activities, time, space (e.g., seismic impacts, habitat destruction, noise pollution, discharge and chronic leakage). Complete habitat may be more likely affected by cumulative effects, including the soundscape, benthic environments, nutrient ~~and~~ and food availability.

From production and exploration, now and future.

- Are there existing regulatory, planning or other mechanisms that help to ensure an adequate "degree of separation" between individual activities and their environmental effects in the Study Area?

The RA committee should be careful to avoid separating effects of activities by time and space. Given the interconnected nature of marine ecosystems and the lasting effects of activities at multiple time scales, I'm hesitant that regulatory mechanisms could reasonably provide an "adequate degree of separation". More likely, multiple effects will accumulate and accelerate over time as climate breakdown continues.

- d) What recommendations could the Committee consider making in its report around how cumulative effects might be better managed through existing, enhanced or potentially new regulatory and planning processes?

All cumulative effects assessments should be considered under future climate change scenarios and should not temper the impacts of climate change to both ecological and social systems (local and farfield). Managing cumulative effects must cross departments, agencies, and industries to be effective in the long term. Management should prioritize the precautionary approach where CEA information is missing.

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- 3) Do you have any other input or recommendations that you would like to provide to the Committee on this topic?

The wide sweeping scope of the RA to <sup>consider</sup> progress multiple exploratory sites must be considered as an additional cumulative stressor (from all sites into the future) in an already distressed ecosystem, under climate change. Doing this appropriately and transparently in the RA will require an appropriate timeline, likely beyond "fall 2019".

**All comments received will be considered public and may be posted to the Canadian Impact Assessment Registry. For more information on the Canadian Impact Assessment Registry Terms of Use and Submission Policy, please consult <https://iaac-aeic.gc.ca/050/evaluations/introduction?culture=en-CA#innovation> . For more information on the Agency's privacy policies, consult the [Privacy Notice](https://iaac-aeic.gc.ca/050/evaluations/Protection?culture=en-CA) on its website: <https://iaac-aeic.gc.ca/050/evaluations/Protection?culture=en-CA>**