

**REGIONAL ASSESSMENT OF OFFSHORE OIL AND GAS EXPLORATORY DRILLING  
EAST OF NEWFOUNDLAND AND LABRADOR**  
**Technical Advisory Group (TAG) Session on *Marine Fish and Fish Habitat***  
**September 16, 2019**  
**QUESTIONS AND ITEMS FOR DISCUSSION**  
**PARTICIPANT INPUT FORM**

**Name and Affiliation:** Sarah Saunders, WWF-Canada

**1) Key information and datasets**

- a) Do you have any suggestions for marine fish and fish habitat related datasets and information sources that should be considered in the Regional Assessment?
- b) Do you have any suggestions for the analysis, use and presentation of marine fish and fish habitat data in the Regional Assessment?

During the data gathering period, it will be important for the committee to not only include western science, but to draw on Indigenous traditional knowledge and local ecological knowledge as well.

It will be critical that datasets on sensitive benthic areas, marine refuges and marine protected areas be included as key datasets, including datasets for vulnerable marine ecosystems outside Canada's Exclusive Economic Zone. These areas have already been identified as important marine habitat for marine fish and other species, yet oftentimes in the bidding process for new oil and gas leases this information is downplayed or is missing. WWF-Canada is of the opinion that marine refuges and marine protected areas should not have any unsustainable industrial use occurring in them, including oil and gas exploratory drilling.<sup>1</sup> We would like the panel to recommend that these areas should not be available for future exploration due to their sensitivity and importance as marine habitat, and also given their contribution to Canada's marine conservation targets. As has been mentioned in previous submissions, any site allowing oil and gas activities can no longer be counted against Canada's marine conservation targets and permitting new exploration in such areas undermines Canada's international commitments to protect our ocean and coastal spaces.

A precautionary, science-based approach should be taken by the committee when making decisions. There is a need for the RA to look at all available datasets and do a gap analysis. This process should outline areas where there is not sufficient data available to make determinations on if exploration drilling activities should commence or not. The RA process should make it clear that no exploratory drilling activities will be permitted in areas with insufficient data. The RA needs to ensure that appropriate baseline data is available and that environmental effects monitoring occurs during exploratory drilling so that if there are changes they can be detected, further mitigations can be put in place to address impacts. This RA could also be used to help highlight areas where further scientific studies are warranted.

**2) Important and/or sensitive aspects of marine fish and fish habitat**

- a) Are there any particularly important and/or sensitive aspects of marine fish and fish habitat that the Regional Assessment and its recommendations should focus on (e.g., locations, times, species, etc.)?

It would be important for the RA to take into account the impacts of underwater noise, especially from seismic surveys, on marine fish and fish habitat.

**3) Potential interactions between offshore exploratory drilling and marine fish and fish habitat**

- a) In addition to the issues and interactions listed in the backgrounder for this session, are there any others that should be considered in the Regional Assessment?

It will be important for the panel to consider the cumulative impacts of all potential exploratory drilling operations on

<sup>1</sup> <http://www.wwf.ca/newsroom/?30661/northeast-newfoundland-marine-refuge-2019>

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fish and fish habitat, including the cumulative impacts of all the needed seismic work, vessel traffic, discharge and deposition of drill cuttings and/or other fluids from operations, the impacts of many small spills occurring from numerous platforms, and the potential impacts of a large spill on ecosystem components, especially considering that exploration activities may be occurring simultaneously over much of the study area.

**4) Existing and potential mitigation and follow-up requirements**

- a) In addition to the standard measures listed in the backgrounder for this session, do you have any suggestions for any required new or different ones?
- b) Do you have any suggestions for issue- or situation-specific (certain activities, areas, times) measures that should be considered?

The study area covers a significant portion of the Northwest Atlantic and contains a wide diversity of habitat types. As such the committee cannot assume that mitigations that are relevant for one area will work for the entire study area. There will be a need to ensure that appropriate site-specific mitigations are required.

It was mentioned by Fisheries and Oceans Canada during the TAG session that a Canadian Science Advisory Secretariat process will occur in January that will be developing guidance for exploratory drilling with regards to mitigation measures for sensitive benthic habitats. It is recommended that the committee wait for the results of this process before making their conclusions for the RA.

In terms of mitigating the impacts of seismic testing, it is important to keep in mind that the options that currently exist are largely unproven in their effectiveness. For instance, most whales are rarely visible at the surface, especially the deep divers, such as Northern bottlenose whales, and especially in anything but perfect visibility. Quantitative analysis has shown that mitigation monitoring detects fewer than 2 per cent of beaked whales even if the animals are directly in the path of the ship.<sup>2</sup> Other species might be slightly easier to sight, but again monitoring cannot be relied upon to be satisfactorily effective. Marine Mammal Observers are often not sufficiently trained (specifically in the use of Passive Acoustic Monitoring) nor suitably rested, nor are they necessarily listened to when they claim to have sighted a marine mammal.<sup>34</sup> The safety radius is also very dependent on the sound transmission conditions which change with bathymetry, nature of the seafloor, salinity, and the sound speed profile which can change between seasons. There is not even good information as to what constitutes a “safe” exposure, particularly for whales whose hearing cannot be measured. This also varies between past exposure, recovery time, species, age and sex.

In addition, ramp-ups or soft starts, where the number of air guns firing are gradually and audibly increased, do not appear to be consistently and reliably effective in causing humpback whales to move away from the source vessel, a species that is found within the study area.<sup>5</sup> There is large variation in whale behavior, with some groups swimming away from the sound source whereas others approached even relatively loud noise levels, possibly viewing them as a challenge that needed to be confronted. Whales that did avoid the (source) vessel emitting air gun noise may have avoided the vessel itself, not the noise.<sup>6</sup> Although the sound source was different (naval sonar vs. seismic air guns), and the ramp-up procedures are different, it was also found that gradually increasing the sonar source intensity was not an effective method to reduce the risk of physiological effects for humpback whales overall, mainly because most

<sup>2</sup> Barlow, J. and Gisiner, R. 2006. Mitigating, monitoring and assessing the effects of anthropogenic sound on beaked whales. *Journal of Cetacean Research and Management*, 7(3), pp.239-249.

<sup>3</sup> DFO. 2010. Guidance Related to the Efficacy of Measures Used to Mitigate Potential Impacts of Seismic Sound on Marine Mammals. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2010/043. <http://www.dfo-mpo.gc.ca/Library/341565.pdf>

<sup>4</sup> <https://www.cbc.ca/news/canada/newfoundland-labrador/seismic-wildlife-marine-mammal-observers-1.5288626>

<sup>5</sup> Dunlop, R.A. et al. 2017. Response of humpback whales to ramp-up of a small experimental airgun array. *Marine Pollution Bulletin*. 103: 1-2.

<sup>6</sup> Ibid.

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whales did not exhibit very strong avoidance responses to the sonar signals.<sup>7</sup> Animals that had not been exposed to sonar recently, that were not feeding, or were with a small calf were more responsive to the sonar signals. This again illustrates how difficult it is to form conclusions about innocuous noise impacts since especially whales, but also fish, show greater behavioral variation in the wild. Moreover, when animals have a strong motivation not to move away from their current location, ramp-ups are unlikely to be effective.

In terms of mitigating the risk of oil spills, it is worth noting that some of the conditions that can increase the risk of a well blowout are present in the Newfoundland-Labrador offshore such as deep water, extreme weather and the need for a significant amount of exploration drilling. According to a Scandower report, **among the various phases of offshore operations, exploration drilling entails the highest risk of blowout.**<sup>8</sup> Yet currently in Canada the offshore boards and CEAA do not require offshore operators to have some basic safety equipment on hand, such as capping stacks, which is a device that has been proven effective in stopping well blowouts and is required in Alaskan offshore operations. Documents filed to CEAA in relation to drilling projects in the Flemish Pass indicate that, if there were a well blowout, the capping stack would have to be shipped from Norway or Brazil, a process that could take between 14 and 36 days.<sup>9</sup> Similarly, the CNSOPB has allowed BP to keep a capping stack in Norway for its drilling operations in the Scotian Basin.<sup>10</sup> It is recommended that the panel suggest stronger measures be in place to mitigate the risk of oil spills.

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

***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>***

<sup>7</sup> Wensveen et al. 2017. Lack of behavioural responses of humpback whales indicate limited effectiveness of sonar mitigation. *Journal of Experimental Biology*. 220(22): 4150-4161.

<sup>8</sup> Officer of the Watch. August 6, 2013. *The Probability of an Offshore Accident*. <https://officerofthewatch.com/2013/08/06/the-probability-of-an-offshore-accident/>

<sup>9</sup> CBC News Staff. Weeks to cap a subsea oil leak? It's industry standard, says official. <https://www.cbc.ca/news/canada/newfoundland-labrador/oil-capping-timelines-nl-1.4933106>

<sup>10</sup> The Chronicle Herald. March 17, 2018. Opponents of ultra-deep BP well of NS coast speaking at SMU. <http://thechronicleherald.ca/novascotia/1553818-opponents-of-ultra-deep-bp-well-of-n.s.-coast-speaking-at-smu>