REGIONAL ASSESSMENT OF OFFSHORE OIL AND GAS EXPLORATORY DRILLING
EAST OF NEWFOUNDLAND AND LABRADOR
Technical Advisory Group (TAG) Session on GIS
September 11, 2019
QUESTIONS AND ITEMS FOR DISCUSSION
PARTICIPANT INPUT FORM

Name and Affiliation: Nunatsiavut Government

1) Do you have any suggestions on available environmental datasets or other information sources that should be accessed and used in the RA, or around key data gaps?

a) Nunatsiavut Government would like to see datasets on migratory patterns of species that traverse the Assessment Area included. Example species include salmon and marine mammals such as seals and whales.
b) Nunatsiavut Government would like to see spill model outputs included, showing extent of spill impact as well as predicted directions for flows, if possible.
c) Nunatsiavut Government would like to see traditional knowledge datasets included in the platform.

2) Do you have any suggestions around the analytical capabilities that the GIS tool should include, related to the presentation and analysis of environmental data, and/or to the potential environmental effects and required mitigation?

a) The application should permit users to aggregate values from layers based on custom geometry (as demonstrated in the prototype), and should offer more than a single moment (e.g., only arithmetic mean) of these aggregated distributions. For example, to average a rate, the harmonic mean may be more appropriate than the arithmetic mean. In other instances, the minimum or maximum value may be more appropriate in order to examine 'best' and 'worst' case scenarios. We suggest: arithmetic mean, harmonic mean, mode, maximum, minimum, and median.
b) Related to (a), it would be useful to see a graphic for the distribution of values based on the custom geometry, as a density distribution or box plot, for example.
c) The choice of pie charts to represent proportions should be appropriately motivated. One acceptable justification is a desire for users to be able to easily compare compound proportions (Is the percentage of Species A in this area greater than Species B and Species C combined?). The pie chart is not appropriate for exploratory data analysis, showing change over time, comparison of observed values (not percentages) or other complex concepts.[1] While it was not clear from the demonstration if the use of the pie in the prototype is appropriate, the Nunatsiavut Government wishes to make this point as a precaution.
d) Some datasets are represented as points on the study area. It may be useful to include density estimation techniques, such as Kriging, Kernel Density Estimation, or Inverse Distance-weighted Interpolation. These could provide a more accurate aggregation of observed values than point-in-polygon aggregations.

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[1] See Spence, Ian. "No humble pie: The origins and usage of a statistical chart." *Journal of Educational and Behavioral Statistics* 30, no. 4 (2005): 353-368. Cited in: Wickham, Hadley. "Effective Visualizations". http://stat405.had.co.nz/lectures/20-effective-vis.pdf

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3) Do you have any suggestions around the nature and format of the eventual product that the Committee will develop and submit to the Minister?

   a) The product should be readily maintainable, to be most useful for stakeholders across the life of exploration activities in the Assessment Area.

   b) Ideally the product will not replicate the information provided in the Assessment Report to the Minister, but rather complement or replace sections of the Report.

4) Do you have any suggestions on where the GIS platform should be housed, such that the system gets maintained and updated at regular intervals?

   a) We do not have specific recommendations for arrangements to house the service. However, this arrangement should:
- Be fully funded for a reasonable number of years relative to the expected life of any exploration/exploitation projects (e.g., 10 years).
- Have a single focal point responsible for maintenance of the platform. Maintenance of the platform should be explicit in their job description.

   b) We recommend allowing data submissions from users, to be validated by administrators, to reduce reliance on administrators to obtain and update datasets.

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 on its website: https://iaac-aeic.gc.ca/050/evaluations/Protection?culture=en-CA