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SCIENTIFIC COUNCIL MEETING - 2009

**CANADIAN REQUEST FOR SCIENTIFIC ADVICE ON MANAGEMENT IN 2010
OF CERTAIN STOCKS IN SUBAREAS 0 TO 4**

1. Canada requests that the Scientific Council, at its meeting in advance of the 2009 Annual Meeting of NAFO, subject to the concurrence of Denmark (on behalf of Greenland), provide advice on the scientific basis for management in 2010 of the following stocks

Shrimp (Subareas 0 and 1)

Greenland halibut (Subareas 0 and 1)

The Scientific Council has noted previously that there is no biological basis for conducting separate assessments for Greenland halibut throughout Subareas 0-3, but has advised that separate TACs be maintained for different areas of the distribution of Greenland halibut. The Council is therefore, subject to the concurrence of Denmark (on behalf of Greenland) as regards Subarea 1, to provide an overall assessment of status and trends in the total stock area throughout its range and comment on its management in Subareas 0+1 for 2010, and to specifically:

- a) advise on appropriate TAC levels for 2010, separately, for Greenland halibut in the offshore area of Divisions 0A+1AB and Divisions 0B+1C-F. The Scientific Council is also asked to advise on any other management measures it deems appropriate to ensure the sustainability of these resources.
 - b) advise on the impact on the Greenland halibut in Subarea 0 and Divisions 1A (offshore) + 1B-F of increases in the catch in Divisions 0B+1C-F, in 2010, of 10%, 25%, and 50% above the 2009 TAC.
 - c) with respect to shrimp, it is recognized that the Council may, at its discretion, delay providing advice until later in the year, taking into account data availability, predictive capability, and the logistics of additional meetings.
2. Canada requests the Scientific Council to consider the following options in assessing and projecting future stock levels for Shrimp and Greenland halibut in Subareas 0 and 1:

- a) For those stocks subject to analytical-type assessments, the status of the stock should be reviewed and management options evaluated in terms of their implications for fishable stock size in both the short and long term. The implications of no fishing as well as fishing at F0.1, and F2008 in 2010 and subsequent years should be evaluated in relation to precautionary reference points of both fishing mortality and spawning stock biomass. The present stock size and spawning stock size should be described in relation to those observed historically and those to be expected in the longer term under this range of fishing mortalities, and any other options Scientific Council feels worthy of consideration under the NAFO Precautionary Approach Framework.

Opinions of the Scientific Council should be expressed in regard to stock size, spawning stock sizes, recruitment prospects, catch rates and catches implied by these management strategies for the short and long term. Values of F corresponding to the reference points should be given. Uncertainties in the assessment should be evaluated and presented in the form of risk analyses related to Blim (Bbuf), and Flim (Fbuf), as per the NAFO Precautionary Approach Framework.

- b) For those stocks subject to general production-type assessments, the time series of data should be updated, the status of the stock should be reviewed and management options evaluated in the way described above to the extent possible. Management options should be within the NAFO Precautionary Approach Framework.
- c) For those resources for which only general biological advice and/or catch data are available, few standard criteria exist on which to base advice. The stock status should be evaluated in the context of the management requirements for long-term sustainability and management options evaluated in the way described above to the extent possible. Management options should be within the NAFO Precautionary Approach Framework.
- d) Presentation of the results should include the following:
 - I. For stocks for which analytical-type assessments are possible:
 - A graph of historical yield and fishing mortality for the longest time period possible;
 - A graph of spawning stock biomass and recruitment levels for the longest time period possible. The biomass graph should indicate the stock trajectory compared to Blim;

- Graphs and tables of catch options for the year 2010 and subsequent years over a range of fishing mortality rates (F) at least from F=0 to F0.1 including risk analyses;
- Graphs and tables showing spawning stock biomass corresponding to each catch option including risk analyses;
- Graphs showing the yield-per-recruit and spawning stock per recruit values for a range of fishing mortalities.

II. For stocks for which advice is based on general production models, the relevant graph of production on fishing mortality rate or fishing effort.

In all cases, the reference points, F=0, actual F, and F0.1 should be shown. As well, Scientific Council should provide the limit and precautionary reference points as described in the NAFO Precautionary Approach Framework, indicating areas of uncertainty (when reference points cannot be determined directly, proxies should be provided).

3. Regarding Greenland halibut in Subarea 2 + Divisions 3KLMNO, Canada requests the Scientific Council:

- 1) to advise on appropriate TAC levels for 2010, based on biomass distribution, for Greenland halibut in these areas separately: SA 2+Division 3K and Divisions 3LMNO.
- 2) to provide information on the status of Greenland halibut in SA 2+Divisions 3KLMNO in relation to the Greenland Halibut Rebuilding Plan and Strategy, including commentary on progress in relation to the targets described in the Strategy.
- 3) Recognizing FC request 10 a) "To complete an evaluation of alternate assessment models for this stock. This evaluation will enable the determination of the robustness of the assessment model currently used", the Scientific Council is also requested to consider alternative formulations of any assessment models it evaluates that would include acceptable fishery-based CPUE indices.

Yours sincerely,

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