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SCIENTIFIC COUNCIL MEETING – JUNE 2003

**CANADIAN REQUEST FOR SCIENTIFIC ADVICE ON MANAGEMENT IN 2004
OF CERTAIN STOCKS IN SUBAREAS 0 TO 4**

1. Canada requests that the Scientific Council, at its meeting in advance of the 2003 Annual Meeting of NAFO, subject to the concurrence of Denmark (on behalf of Greenland), provide advice on the scientific basis for management in 2004 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 asked 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 throughout its range and comment on its management in Subareas 0+1 for 2004.

Greenland halibut in the offshore area of Division 0A+1A is currently being managed separately from the remainder of SA 0+1. However, given the bathymetry of Baffin Bay and its proximity to the NAFO boundaries of Divisions 0A, 1A and 1B, the Scientific Council is requested to:

- a) advise on whether it is more appropriate for management purposes to include Division 1B with the current management area of offshore Divisions 1A+0A or have it remain in the current management area of Divisions 0B+1B-F;
- b) advise on appropriate TAC levels for 2004, separately, for Greenland halibut in the offshore area of Divisions 0A+1A (plus Division 1B depending on the result of (a) above) and Divisions 0B+ 1C-F (plus Division 1B depending on the result of (a) above). The Scientific Council is also asked to advise on any other management measures it deems appropriate to ensure the sustainability of these resources;
- c) comment on the Greenland halibut size composition throughout SA0+1 (offshore), the potential relationship between fish in Baffin Bay and Davis Strait and the impact of harvesting on these stock components; and
- d) advise on the most appropriate protocols for the conduct of exploratory fisheries in Division 0A north of 71°30'N including precautionary catch limits.

The Council also is asked to advise on appropriate TAC levels separately – for Greenland halibut in SA 2 + Division 3K and for Divisions 3LMNO.

Scientific Council has, in the past, advised that fishing effort for Greenland halibut in SA2 + 3KLMNO should be distributed in relation to biomass. Scientific Council is requested to comment on:

- a) the current distribution of the resource between SA2 + 3K and 3LMNO and comment on how this compares with the current distribution of quota allocation; and
- b) the appropriate distribution of quota allocation if it was based on the distribution of biomass.

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 $F_{0.1}$, and F_{2002} in 2004 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 a precautionary 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 B_{lim} (B_{buf}) and B_{target} , and F_{lim} (F_{buf}) and F_{target} .

- 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 precautionary 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 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 precautionary 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;
 - Graphs and tables of catch options for the year 2004 and subsequent years over a range of fishing mortality rates (F) at least from $F=0$ to $F_{0.1}$ 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 $F_{0.1}$ should be shown.

3. For the cod stock in Divisions 2J + 3KL, the Scientific Council is requested to report on recent trends in the total and spawning biomass based on the most recent Stock Status Report.

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