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Northwest Atlantic Fisheries Organization

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Fisheries Commission's Request for Scientific Advice on Management in 1999 of Certain Stocks in Sub-areas 3 and 4.

1. The Fisheries Commission with the concurrence of the Coastal State as regards the stocks below which occur within its jurisdiction, requests that the Scientific Council, at a meeting in advance of the 1998 Annual Meeting, provide advice on the scientific basis for the management of the following fish and invertebrate stocks or groups of stocks in 1999:

   Cod (Div. 3NO; Div. 3M)
   Redfish (Div. 3LN; Div. 3M)
   American plaice (Div. 3LNO; Div. 3M)
   Witch flounder (Div. 3NO)
   Yellowtail flounder (Div. 3LNO)
   Capelin (Div. 3NO)
   Squid (Sub-areas 3 and 4)
   Shrimp (Div. 3M)
   Greenland halibut (Sub-areas 2 and 3)

2. The Commission and the Coastal State request the Scientific Council to consider the following options in assessing and projecting future stock levels for those stocks listed above:

   a) For those stocks subject to analytical-type assessments, the status of the stocks should be reviewed and management options evaluated in terms of their implications for fishable stock size in both the short and long term. As general reference points, the implications of fishing at $F_{0.1}$, F_{1997} and F_{max} in 1999 and subsequent years should be evaluated. The present stock size and spawning stock size should be described in relation to those observed historically and those expected in the longer term under this range of options.

      Opinions of the Scientific Council should be expressed in regard to stock size, spawning stock sizes, recruitment prospects, catch rates and TACs implied by these management strategies for 1999 and the long term. Values of F corresponding to the reference points should be given. Uncertainties in the assessment should be evaluated.

   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. In this case, the general reference points should be the level of fishing effort or fishing mortality (F) which is calculated to be required to take the MSY catch in the long term and two-thirds of that effort level.

c) For those resources of which only general biological and/or catch data are available, no standard criteria on which to base advice can be established. The evidence on the stock should be evaluated in the context of management requirements for the long-term sustainability.

d) Spawning stock biomass levels that might be considered necessary for maintenance of sustained recruitment should be recommended for each stock. In those cases where present spawning stock size is a matter of scientific concern in relation to the continuing productive potential of the stock, management options should be offered that specifically respond to such concerns.

e) Presentation of the results should include the following:
   I. For stocks for which analytical-type assessments are possible:
      - A graph of yield and fishing mortality for at least the past 10 years
      - A graph of spawning stock biomass and recruitment levels for at least the past 10 years
      - A graph of catch options for the year 1999 over a range of fishing mortality rates (F) at least from $F_{0.1}$ to F_{max}
      - A graph showing spawning stock biomass at the beginning of 1999 corresponding to each catch option
      - Graphs showing the yield-per-recruit and spawning stock per recruit values for a range of fishing mortality
   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 three reference points, actual F, $F_{0.1}$ and F_{max} should be shown.

3. *In 1996,* the Fisheries Commission requested that the Scientific Council comment on Article 6 and Annex II of the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating the the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. *Noting the progress made by the Scientific Council on the development of a framework for implementation of the Precautionary approach, the Fisheries Commission requests that the Scientific Council* provide *in their June 1998 report* the following information for the 1998 Annual Meeting of the Fisheries Commission for all stocks under the responsibility of the Fisheries Commission (i.e. cod in 3M and 3NO, American plaice in 3M and 3LNO, yellowtail flounder in 3LNO, witch flounder in 3NO, redfish in 3M and 3LN, Greenland halibut in SA 2+3, capelin in 3NO, shrimp in 3M and squid in SA 3+4):

   a) the limit and target precautionary reference points described in Annex II indicating areas of uncertainty;
   b) information including medium term consideration and associated risk or probabilities which will assist the Commission to develop the management strategies described in paragraphs 4 and 5 of Annex II in the Agreement;
   c) information on the research and monitoring required to evaluate and refine the reference points described in paragraphs 1 and 3 in the Agreement Annex II; these research requirements should be set out in order of priority considered appropriate by the Scientific Council; and,
   d) any other aspect of Article 6 and Annex II of the Agreement which the Scientific Council considers useful for implementation of the Agreement's provisions regarding the precautionary approach to capture fisheries.

4. The Fisheries Commission requests that the Scientific Council develop criteria to be evaluated during any consideration of possible fisheries reopenings.

5. The Fisheries Commission with the concurrence of the Coastal State requests that the Scientific Council continue to provide information, if available, on the stock separation in Div. 2J+3KL and the proportion of the biomass of the cod stock in Div. 3L in the Regulatory Area. Information is also requested on the age composition of that portion of the stock occurring in the Regulatory Area.

6. The Fisheries Commission with the concurrence of the Coastal State requests that the Scientific Council review available information, including any Canadian assessment documentation *on the stock status, and provide advice on catch levels* for the 2J3KL witch flounder resource. Any information pertaining to the relative distribution of the resource within the stock area, as well as changes in this distribution over time should also be provided.

7. *The Fisheries Commission requests that the Scientific Council undertake a review of the historical and current status of Illex squid in Subareas 3 and 4, and in Subareas 5 and 6, and to describe the major aspects of the biology and population dynamics of the species in these regions. The Council is further requested to describe the Illex fisheries in these regions and review the basis for considering Illex in SA 3, 4, 5 and 6 as a unit stock.*

8. *The Fisheries Commission requests that the Scientific Council provide information on the shrimp stock in 3LNO with regards to catches in recent years, bycatches of groundfish in such fisheries, abundance indices and the distribution of the stock. The Scientific Council is also requested to provide information on annual yield potential for this stock.*

9. *The Fisheries Commission requests the Scientific Council to evaluate the impact, in terms of changes in spawning biomasss per recruit and yield per recruit, as well as the implication on effort in the short term and long term resulting from the use of a mesh size of 155mm versus 130mm for the 2+3 Greenland halibut stock in the NAFO Regulatory Area.*