

Northwest Atlantic



Fisheries Organization

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Fisheries Commission's Request for Scientific Advice on Management in 2000  
of Certain Stocks in Subareas 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 1999 Annual Meeting, provide advice on the scientific basis for the management of the following fish and invertebrate stocks or groups of stocks in 2000:

Redfish (Div. 3M)  
Yellowtail flounder (Div. 3LNO)  
Squid (Subareas 3 and 4)  
Shrimp (Div. 3M)  
Greenland halibut (Subareas 2 and 3)

2. 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, provide advice on the scientific basis for the management of the following fish stocks on an alternating year basis:

Cod (Div. 3NO; Div. 3M)  
Redfish (Div. 3LN)  
American plaice (Div. 3LNO; Div. 3M)  
Witch flounder (Div. 3NO)

To implement this system of assessments in alternating years, the Scientific Council is requested to conduct the assessment of these six stocks as follows:

- In 1999, all six stocks will be assessed. The assessment advice, however, will pertain to different time periods to allow the introduction of the new scheme over the next three years.
- In 1999, advice will be provided for 2000 and 2001 for American plaice in 3LNO, cod in 3NO and redfish in 3LN. The next assessment of these stocks will thus be conducted in 2001.
- In 1999, advice will be provided for 2000 for cod in 3M, American plaice in 3M and witch flounder in 3NO. The next assessment of these stocks will be conducted in 2000 with advice provided for 2001 and 2002. These stocks will then next be assessed in 2002.

The Fisheries Commission requests the Scientific Council to continue to monitor the status of these stocks annually and, should a significant change be observed, in stock status (e.g. from surveys) or in by-catches in other fisheries, provide updated advice as appropriate.

3. 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  $F_{0.1}$ ,  $F_{1998}$  and  $F_{max}$  in 2000 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 the short 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 for which only general biological 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 the advice provided should be consistent with the precautionary approach.
- 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 reproductive 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 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;
    - a graph of catch options for the year 2000 and subsequent years over a range of fishing mortality rates ( $F$ ) at least from  $F_{0.1}$  to  $F_{max}$ ;
    - a graph showing spawning stock biomass corresponding to each catch option;
    - 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 three reference points, actual  $F$ ,  $F_{0.1}$  and  $F_{max}$  should be shown.

- f) Squid (*Illex*) in Sub-areas 3 and 4 is a short-lived species such that a change in productivity could be sudden. The Fisheries Commission and Coastal States request that the Scientific Council provide advice on the approach that could be used on an ongoing basis to allow timely identification of the onset of a new productivity level (higher or lower). It is also requested that the Scientific Council advise on catch levels that would be appropriate for different levels of productivity (e.g. low, medium and high). Further, the Scientific Council is requested to evaluate the potential impacts of fisheries for squid in Subareas 3 and 4 on the portion of the squid (*Illex*) resource in Subareas 5 and 6.
4. 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 to 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 1999 report, the following information for the 1999 Annual Meeting of the Fisheries Commission for all stocks under its responsibility (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 of Annex II of the Agreement; 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.
5. The Fisheries Commission requests that the Scientific Council develop criteria to be evaluated during any consideration of possible fisheries re-openings.
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. With regard to shrimp in Divisions 3LNO, the Fisheries Commission, with the concurrence of the Coastal State, requests that the Scientific Council:
- a) provide information on the fishing mortality on shrimp in Divisions 3LNO in recent years, as well as information on by-catches of groundfish in 3LNO shrimp fisheries;
  - b) provide information on abundance indices and the distribution of the stock in relation to groundfish resources, particularly for the stocks which are under moratorium;
  - c) provide information on the distribution of shrimp in Divisions 3L, 3N and 3O, as well as describe the relative distribution inside and outside the NAFO Regulatory Area;
  - d) advise on reference points and conservation measures that would allow for exploitation of this resource in a precautionary manner;
  - e) identify and delineate fishing areas and exclusion zones where fishing would not be permitted, with the aim of reducing the impact on the groundfish stocks which are under moratorium, particularly juveniles;
  - f) provide information on annual yield potential for this stock;
  - g) determine the appropriate level of research that would be required to monitor the status of this resource on an ongoing basis with the aim of providing catch options that could be used in the context of management by Total Allowable Catches (TAC); and
  - h) provide advice on whether shrimp found in the area of the Flemish Cap defined by the following geographical coordinates

Point	Latitude	Longitude
1	47° 20' 0	46° 40' 0
2	47° 20' 0	46° 30' 0
3	46° 00' 0	46° 30' 0
4	46° 00' 0	46° 40' 0

are considered to represent a part of the overall Flemish Cap shrimp resource, and determine the potential impact on groundfish resources in terms of by-catch of juveniles and loss of potential yield that could result from the exploitation of shrimp in that area.

8. The Scientific Council is requested to provide information on the types of fisheries research activities being conducted or that may be conducted in the future in the NAFO Regulatory Area. Further, the Scientific Council is requested to outline any guidelines and protocols which should be followed when conducting such research.