Northwest Atlantic Fisheries Organization

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SCIENTIFIC COUNCIL MEETING - SEPTEMBER 1985

Request for Scientific Advice on Management in 1987
of Certain Stocks in Subareas 2 to 4

by

Fisheries Commission

1. The Fisheries Commission with the concurrence of the Coastal State requests that the Scientific Council, at a meeting in advance of the 1986 Annual Meeting, provide advice on the scientific basis for the management of the following fish and invertebrate stocks or groups of stocks in 1987:

   Cod (Div. 3N and 3O; Div. 3M)

   Redfish (Div. 3L and 3N; Div. 3M)

   American plaice (Div. 3L, 3N and 3O; Div. 3M)

   Witch flounder (Div. 3N and 3O)

   Yellowtail flounder (Div. 3L, 3N and 3O)

   Capelin (Div. 3L; Div. 3N and 3O)

   Squid (Subareas 3 and 4)

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 dynamic-pool 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. 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 evaluated in relation to spawning stock size. As general reference points the implications of fishing at $F_{0.1}$, F_{1985}, F_{1985} plus and minus 25%, F_{max} and of maintaining catch levels at the 1985 level in 1987 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 1987 and the long term.

   b) For those stocks subject to general production-type assessments, 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 (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 on which only general biological and/or catch data are available, no standard criteria on which to base advice can be established. The evidence of stock status should, however, be weighed against a strategy of optimum yield management and maintenance of stock biomass at levels of about two-thirds that of the virgin stock.

   d) Values of F corresponding to the reference points should be given and their accuracy assessed.

   e) Spawning stock biomass levels that might be considered minimal for maintenance of sustained recruitment should be recommended for each stock.

   f) Presentation of the result should include the following:

      i) for stocks for which analytical dynamic-pool type assessments are possible:

         - a graph of yield and fishing mortality for the past 10 years,
         - a graph of spawning stock biomass levels and subsequent recruitment for the past 10 years,
         - a graph of catch options for the year 1987 over a range of fishing mortality rates (F) at least from -25% to 25% of F in 1985,

- a graph showing spawning stock biomasses at 1.1.1988 corresponding to each catch option,
- graphs showing the long-term average catches, catch per unit effort and spawning stock biomass against fishing mortality rate,

ii) for stocks for which advice is based on general production models, the relevant graph of production on fishing mortality rate,

In all cases the three reference points, actual F, F_{max} and $F_{0.1}$ should be shown.

In addition the following specific questions should be addressed:

For cod in Divisions 2J, 3K and 3L

a) What is the evidence for stock separation of cod in Divisions 2J, 3K and 3L i.e. what stock divisions exist, if any?

b) What proportion of the biomass of the cod stock(s) in Divisions 2J, 3K and 3L, is available, on average, seasonally and annually, in the Regulatory Area?

c) What proportion of the biomass of the cod stock(s) in Division 3L, is available, on average, seasonally and annually, in the Regulatory Area?

d) What would be the catch associated with fishing mortality levels of $F_{0.1}$ and F_{max} for the cod stock(s) in Division 3L?

e) What programme of research will be necessary to answer these questions on an ongoing basis?

For capelin in Division 3L

What proportion of the biomass of capelin is available, on average, seasonally and annually, in the Regulatory Area?

For squid in SA 3 and 4

What proportion of the biomass of squid (Illex) is available, to be fished on average, seasonally and annually in the Regulatory Area?

For cod in Div. 3M

What will be the effect on stock status if the fishing mortality on cod younger than 3 years is reduced by 50%? The Council should consider options for achieveing such a reduction.

For Greenland halibut in Subarea 2 and Div. 3KL

a) What is the evidence for stock separation of Greenland halibut in Subarea 2 and Divisions 3KL, i.e. what stock divisions exist, if any?

b) What proportion of the biomass of the Greenland halibut stock(s) in Subarea 2 and Divisions 3KL is available, on average, seasonally and annually, in the Regulatory Area?

c) What proportion of the biomass of the Greenland halibut stock(s) in Division 3L, is available, on average, seasonally and annually, in the Regulatory Area?

d) What would be the catch associated with fishing mortality levels of $F_{0.1}$ and F_{max} for the Greenland halibut in Division 3L?

e) What programme of research will be necessary to answer these questions on an ongoing basis?

For roundnose grenadier in Subareas 2 and 3

a) What is the evidence for stock separation of roundnose grenadier in Subareas 2 and 3, i.e. what stock divisions exist, if any?

b) What proportion of the biomass of the roundnose grenadier stock(s) in Subareas 2 and 3, is available, on average, seasonally and annually, in the Regulatory Area?

c) What proportion of the biomass of the roundnose grenadier stock(s) in Division 3L, is available, on average, seasonally and annually, in the Regulatory Area?

d) What would be the catch associated with fishing mortality levels of $F_{0.1}$ and F_{max} for the roundnose grenadier in Division 3L?

e) What programme of research will be necessary to answer these questions on an ongoing basis?