

Request to ICES for Scientific Advice for 2008

1 Background

1.1 Requirements in the amended Convention

Reference is made to the Memorandum of Understanding of 2007 between NEAFC and ICES.

According to the 2006 amendment of the NEAFC Convention, the objective of the Convention is to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable, environmental and social benefits.¹

When making recommendations for management measures the NEAFC Commission shall

- a) ensure that such recommendations are based on the best scientific evidence available;
- b) apply the precautionary approach;
- c) take due account of the impact of fisheries on other species and marine ecosystems, and in doing so adopt, where necessary, conservation and management measures that address the need to minimise harmful impacts on living marine resources and marine ecosystems; and
- d) take due account of the need to conserve marine biological diversity.

The Commission shall provide a forum for consultation and exchange of information on the state of the fishery resources in the Convention Area and on the management policies, including examination of the overall effects of such policies on the fishery resources and, as appropriate, other living marine resources and marine ecosystems.

The ecosystem approach has been reviewed regularly by the NEAFC Commission. There is general agreement that the way forward is incrementally adding elements that integrate environmental concerns in the fisheries measures.

1.2 International trends

The UNFSA *UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks* states maximum sustainable yield has developed into a limit reference point for fishing mortality in well managed fish stocks rather than a target. The “Plan of Implementation of the World Summit on Sustainable Development”,² Johannesburg 2002, agreed³ that, to achieve sustainable fisheries, stocks should be maintained or restored to levels that can produce the maximum sustainable yield and aim to achieve these goals for depleted stocks on an urgent basis and where possible not later than 2015.

¹ Article 2 of the 2006 amendment to the Convention

² http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf

³ 31. To achieve sustainable fisheries, the following actions are required at all levels:

(a) Maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015;

1.3 Scientific basis for management measures for fisheries

UNFSA is rather prescriptive with respect to determining stocks status. Annex II of the UNFSA stresses the use of precautionary reference points. Two types of precautionary reference points should be used: conservation, or limit, reference points and management, or target, reference points. Limit reference points set boundaries which are intended to constrain harvesting within safe biological limits within which the stocks can produce maximum sustainable yield. Target reference points are intended to meet management objectives. Some authors suggest that the MSY should be the limit reference point rather than the target.

Stock assessments render valuable insight into exploitation rates that have been sustained in the past. However, as stated by many authors, generally assessments are notoriously weak in estimating the present state of the stock and, therefore, represent a poor basis for predictions.⁴

The differences in estimated fishing mortality and spawning-stock biomass in the same year from subsequent assessments, as shown in retrospective analyses even in the best assessments, causes problems that have to be addressed by management i.a

- Do annual TACs result in a desired level of fishing mortality?
- Can the uncertainty in the advice be made explicit to allow managers to gauge the true risks involved in their decisions?
- Can the advice be presented in a way so the science is more transparent and stakeholders and managers can deal with uncertainty up front?

The ecosystem approach and, in general, the impact of fisheries on species other than target species and habitats is expected to be added incrementally and integrated into the measures already in place in the years to come. This involves area management for which NEAFC seeks specific advice.

2 Specification of requests

2.1 Standard recurring advice

NEAFC requests ICES to provide, not later than 12 October 2007, advice on the status of fish stocks in the NEAFC Convention Area in accordance with the MoU between ICES and NEAFC. Reference is especially made with respect to **ANNEX 1. Ecosystems and stocks for which advice is given:**

Advice is provided regarding marine ecosystems within the geographical scope of this agreement. The particular stocks are those listed below. In the case of the stocks for which a Client Commission has specific responsibility, the primary request to ICES shall be made through that Client Commission.

Advice shall normally be provided for each calendar year. However, for stocks where measurement precision is low compared to the expected magnitude of changes in stock size advice may be provided at intervals greater than each year. For short-lived species and highly seasonal fisheries the timing of the advice shall be adapted as appropriate;

and **ANNEX 2: Recurring advice required from ICES:**

⁴ Background information is found in a note from the NEAFC Secretariat doc. PECM2007/02/.

“Recurring advice shall be given in the context of ecosystems and fisheries.

“The recurring advice shall include information on the state of marine ecosystems and human impacts including historical developments in main parameters and information on the present state and recent development of stocks. The recurrent advice shall provide information on state of stocks and fisheries including - when available - historical developments in spawning stock biomass, total stock biomass, fishing mortality, landings and discards.

The recurring advice regarding fisheries management will include advice on long term management strategies and short and medium term implications of these as detailed below.

Implementation issues shall be specifically addressed in the advice. Regarding fisheries management advice ICES will evaluate implementation issues and the outcomes of specific management measures. Specifically, when new regulations are introduced ICES shall provide evaluations of these when sufficient information is available.

When IUU (Illegal, Unregulated and Unreported) fishing is indicated to take place ICES will consider the effects on the stocks of such fisheries in the advice.

When providing its advice regarding fisheries ICES shall take account of all available information and the context of fisheries management including information from the fishing industry, ecosystem considerations, environment and hydrographical conditions, regulations in force that affect fisheries, factors affecting fishing operations and information about the fisheries, development of fisheries technology and relevant performance changes and other relevant factors that affect fishing or fish stocks.

Advice from ICES shall in all cases take account of the accuracy and precision of the available assessments and forecasts. Information about the accuracy and precision of assessments and forecasts shall be presented and considered in the advice.

If ICES is aware of implementation problems regarding agreed management plans the advice should highlight this and consider these issues in its advice on short term implications of these management plans.

If agreed management plans or recovery plans exist which ICES does not consider in accordance with the criteria defined in the NEAFC Convention or if no agreed management plans exist, ICES shall advice on management measures (including options for management plans) which ICES finds in accordance with the NEAFC Convention. If significantly different, the advice shall be given separately for a risk avoidance approach, based on the Precautionary Approach, and an MSY approach within the limitations of the Precautionary Approach. The short term implications of such measures shall be provided.

The short term implications will, when adequate data are available, be expressed as quantified consequences of the management measures currently implemented for that stock or fishery. For the management year (or years in the case of multi-annual management regimes), the short term consequences of relevant management measures should be given for relevant intervals of action while reflecting the uncertainties regarding expected outcomes.

In those cases where the uncertainties in the evaluation of outcomes are such that a quantitative distinction between management measures is not possible ICES shall provide quantitative or qualitative information regarding expected outcomes of relevant management measures over intervals of action which reflect the uncertainty in the evaluation. In cases where data are insufficient to provide the basis for quantitative advice ICES shall provide information on the reasons for this deficiency and advice on management measures which, given the uncertainties, are considered consistent with the NEAFC Convention.

Ecosystem approach

The advice shall be based on an ecosystem approach. This will be implemented incrementally so that any information on the interactions between fisheries, the fish stocks and the marine ecosystem is considered and incorporated in the advice as it becomes available; specifically, taking ecosystem and environmental considerations into account when providing the recurring advice mentioned above, ICES will:

- a) Assess the extent to which fishing disturbs the marine ecosystems and, where reference levels have been established, compare the impact to the reference level chosen.

- b) Provide any new information regarding the impact of fisheries on other components of the ecosystem including small cetaceans and other marine mammals, sea birds and sensitive habitats.
- c). Inform NEAFC of any notable impact of other factors on and imbalances in ecosystem structure that may prejudice the stocks of commercially valuable species and its long term exploitation;
- d) Propose reference points as guidance for management purposes in an ecosystem context.

ICES will in addition give warnings of any serious threats from fishing activities alone or in conjunction with any other relevant activity to local ecosystems or species as soon as ICES is aware of such threats.

Provision of information

In support of its advice ICES shall provide NEAFC with:

- a) A full methodological description of the assessment and advisory procedure for each stock, updated whenever a significant change is made;
- b) Estimates of landings, fishing mortality, recruitment and spawning stock together with information or estimates of the uncertainty with which these parameters are estimated. These data shall be provided electronically;
- c) Estimates of relevant reference points for management;
- d) On request, complete data records used for assessment purposes shall be provided. These data shall be provided electronically;

Such information should be provided whenever significant changes are made or can be detected, but not normally more frequently than implied by the schedule in Annex 3. However, NEAFC should be informed immediately of any new information indicating a previously unforeseen biological emergency.”

2.2 Non-recurring advice

Regarding redfish stocks in the North Atlantic (ICES areas I, II V, VI, X, XII and XIV and the NAFO regulatory area).

*a. NEAFC requests ICES to provide information on the stock structure of *Sebastes mentella* fished in pelagic and demersal fisheries, i.e. relationship between the redfish in areas I, II, V, VI, X, XII and XIV and NAFO regulatory area;*

b. NEAFC will seek specific advice from ICES along the lines of that given recently regarding deep-sea species on the appropriateness of the introduction of potential management units for redfish in the Irminger Sea and adjacent waters.

Background for the request

NEAFC has noted that ICES advises that deep water fishes be managed based on indications of stock discrimination, an example is the advice in 2006 on Black scabbardfish in Subareas I, II, III, and IV and black scabbardfish in Sub-areas V, VI, VII, and XII. This is cited below

Although there is no conclusive evidence for stock discrimination, the indications for a northern and southern component can be used as a basis for management areas. The northern component comprises fish exploited by trawl fisheries in Subareas V, VI, VII, and XII, while the southern component is exploited by a longline fishery in Subarea IX.

NEAFC understands there are also indications on stock discrimination in redfish (*S. mentella*) as reported by ICES, e.g. in 2007 on Oceanic *S. mentella*

The stock definition is still under review and there are concerns that the current approach based on a single stock, without recognition of its possible components, does not capture the stock dynamics.

and in an answer to a specific request from NEAFC on the stock structure of the *S. mentella*

In 2007 one working paper taking a genetic approach presented some data that suggested the following grouping of redfish stocks in the North Atlantic: 1) Irminger Sea Deep Zone, 2) western Icelandic Shelf; and 3) a widely distributed component occurring in the Irminger Sea Shallow Zone including Subarea II.

This taken together with the discussion that took place in 2004 around the *S. mentella* stock structure can be interpreted that there are indications of different components also for oceanic *S. mentella*.

NEAFC invites ICES to provide as part of the presentation of the advice to elaborate on the similarities and difference between the deep water fish and redfish advice.

c. In order to allow the Contracting Parties to formulate and implement a recovery and subsequent management plan for pelagic redfish in the Irminger Sea and adjacent waters, NEAFC will request ICES to recommend appropriate harvest control rules which also take into account the need to avoid disproportionate exploitation of redfish in different geographical areas.

The objective of any future management plan shall be to establish such levels of catches and fishing effort which will result in the sustainable exploitation of pelagic redfish in the Irminger Sea and adjacent waters. This management plan should take due account of the best scientific evidence available

d) ICES coordinated scientific survey for pelagic *sebastes mentella* in ICES Areas I and II.

*The Contracting Parties agreed to conduct a scientific survey for pelagic *Sebastes mentella* in ICES Sub-areas I and II during August-September 2008 to measure the horizontal and vertical stock distribution and provide an abundance estimate. The survey will be organized by scientists appointed by the contracting parties and chaired by Norway. The plan will be presented to ICES not later than 15 April 2008. ICES is requested to evaluate and advice on the appropriateness of the plan not later than 10 May 2008. A report from the survey will be submitted to ICES not later than 10 October 2008.*

ICES is requested to evaluate the outcome of the survey not later than 10 November 2008.

2. Regarding vulnerable habitats and deep-water species.

a. Vulnerable deep-water habitats in the NEAFC Regulatory Area.

NEAFC requests ICES to continue to provide all available new information on distribution of vulnerable habitats in the NEAFC Convention Area and fisheries activities in and in the vicinity of such habitats.

Particularly relevant is information assisting NEAFC in evaluating appropriateness and effectiveness of the temporary closures of the Faraday, Hecate, Antialtair, Altair seamounts and the area on the Southern Reykjanes Ridge. NEAFC also requests advice on other possible actions to protect vulnerable habitats in the Regulatory area. NEAFC requests that such information should be available not later than November 2007.

b. Identification of vulnerable marine ecosystems and definitions and assessment of fishing activities that may cause significant adverse impacts on such ecosystems

Referring to paragraph 83 of the UN General Assembly Resolution 61/105 which, among other things, calls on regional fisheries management organizations to protect vulnerable marine ecosystems from bottom fishing activities that would have significant adverse impact on such ecosystems, NEAFC requests ICES to:

a) Develop initial methodologies for the identification of vulnerable marine ecosystems and of individual bottom fishing activities that may cause significant adverse impacts on such vulnerable marine ecosystems, drawing on relevant international information and objective standards and guidelines as may have been developed, as deemed appropriate for this work;

c) Assess, at least on a preliminary basis, using the best available scientific information and assessment methodology, whether individual bottom fishing activities would have significant adverse impacts on identified vulnerable marine ecosystems or the long-term sustainability of e.g., deep sea fish stocks, with a view to reporting these findings to NEAFC and ensuring that additional conservation and management measures, where required, are recommended.

c) Develop appropriate scientific methods for the longer term monitoring of the health of vulnerable marine ecosystems, incl. areas closed for fishing

d) Develop procedures for monitoring bottom fishing, i.e., new fisheries, fisheries in new areas, and fisheries using new technologies in order to assess the effects of this activity on fish stocks and ecosystems

NEAFC requests ICES to provide an answer to this request not later than 9 June 2008.

d. Deep Sea fisheries.

NEAFC requests ICES to evaluate the use and quality of VMS data and records of catch and effort to be received from NEAFC in order to provide information on the spatial and temporal extent of current deep-water fisheries in the NE Atlantic. If data quality allows such analyses, these should be provided with particular emphasis on activity in the NEAFC Regulatory Area.

NEAFC reiterates its request that ICES develop suitable criteria for differentiating fisheries into possible management types (e.g. directed deep-water fisheries, by-catch fisheries etc.) and to apply these criteria to categorise individual fisheries in order to enable NEAFC to develop fishery-based management initiatives. Shortcomings in data quality that impede this exercise should appear in the evaluation under pt 1.

ICES is also asked to compile data on documented historical or present spawning/aggregation areas of blue ling in the NEAFC Convention area.