



LDRAC recommendation on management measures for fish population units and marine ecosystems, to be adopted by the Annual Meeting of N.A.F.O.

State: approved by the Executive Committee

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NAFO's Scientific Council met in Germany from June 3rd to 16th, during the meeting the scientists evaluated the state of the population units and replied to the questions put forward by the Fisheries Commission. LDRAC convened in Brussels, on July 27th, an *ad hoc* group to analyse the annual report by the Scientific Council and to draft a recommendation for the European Commission relevant to the annual meeting of NAFO, which is to take place in Canada from September 19th to 23rd. LDRAC thanks the invitation to take part in the preparatory meeting for the annual meeting of NAFO, which is to take place in Brussels, on the 1st of September, confirming that LDRAC will attend the meeting.

Introduction

NAFO is one of the most credible RFMOs in the World, as it is made up of several specialised permanent committees, one of which is the Scientific Council made up of scientists from all the contracting parties, whose remit is to evaluate the halieutic resources in the waters of the Coastal States and in the regulatory area, as well as to advise the Fisheries Commission in long-term sustainable management issues. NAFO adopted management models for fish populations based on the precautionary principle. The degree of involvement of the Fisheries Commission's actions is reflected in 7 fishing moratoriums for the 19 stocks and 11 species under NAFO management, some of which have been in force for over a decade.

NAFO has also pioneered the adoption of measures for protection and prevention of significant adverse impacts on vulnerable marine ecosystems, in compliance with the guidelines of the General Assembly of United Nations, more specifically of resolution no.-61/105. In this line of action, fishing is preventively forbidden in 13 zones included in Subarea-3 and protected zones have been established surrounding seamounts, in which bottom fishing is prohibited. Any new fishing activities to be carried out in the external area for conventional fishing, defined through a footprint, follow particular conditions, provided for under a protocol, the most relevant being the pre-assessment of possible impacts to vulnerable marine ecosystems and the permanent presence of onboard observers.



The Scientific Council concluded, in general, that the majority of fish stocks in Subarea-3, of interest to commercial fishing, evidence positive signs of recovery, as a result of a combination of continued low fishing mortality rates, with the emergence of relatively abundant year-classes. Such favourable circumstances are bringing the biomass for some stocks under moratorium close to the relevant biomass limits, which allows to foresee the possibility of reopening some fisheries in the Grand Banks within the next 3 years. In order for this to happen it is of the essence that the by-catches of stocks under moratorium be maintained at the lowest possible levels.

Despite having equal weight to any other contracting party when adopting decisions, the European Union may not ignore that it represents, at the heart of NAFO, 9 Member States, therefore the EU must adopt a position of leadership at the Fisheries Commission, with the aim to combine environmental sustainability with the adoption of management measures that may guarantee the socio-economic viability of the fleets of aforesaid MS. LDRAC is available to become a priority interlocutor for the European Commission, prior to and during the annual meeting.

Population units under evaluation

- Greenland Halibut SA2-3KLMNO

The Fisheries Commission adopted for this stock, in 2003, and upon a proposal by the European Union, a 15-year recovery plan, whose aim is to recover the exploitable biomass 5+ above 140,000 tons. The XSA (*extended survivor analysis*) assessment, based on which the population has been estimated, has always shown high sensitivity towards the input data. The uncertainties in the model and the discord between its pessimistic results and the identification through fishing of a significant increase in the GH stock size have encouraged the Fisheries Commission to adopt, in 2010, a Management Strategic Evaluation (MSE), based on the analysis of the trends in 3 research campaigns, which are generally used to calibrate the evaluation of the state of the stock. This option adopted a Harvest Control Rule (HCR) to determine the TAC for the period 2011-2014, conditioned by a maximum oscillation of 5% both ways.

The exploitable biomass 5+ has been growing consecutively between 2004 and 2008, during the first 5 years of execution of the recovery plan, due to the strong reduction of the fishing mortality rate during aforesaid period. A light contraction has been recorded of the biomass 5/9 since 2010, as a result of weak recruitments. This effect is being attenuated with the threefold growth, since 2006, of the biomass 10+, whose reproductive capacity has already replaced the recruitments of 2009 and 2010 above the average in the historical series. This component of the biomass already represents 25% of the total biomass 5+. It is unfortunate that the Scientific Council is evaluating the stock based on catch estimates which since 2004 exceed the approved TACs,



ignoring the official statistics of NAFO and of the contracting parties that enjoy quota for GH. The use of catch levels higher than the actual ones has rendered the Scientific Council's vision more pessimistic with regard to the state of the stock, despite acknowledging that there is recovery in all the relevant indices.

If we were to exclude the Scientific Council's estimates on GH catches, which are not consistent with official statistics nor with the results of the strict inspections at sea and on shore, conducted on all vessels with a special licence to catch this species, there would be no exceptional circumstances to justify not determining the TAC for 2012 according to the MSE model, having recourse to the Harvest Control Rule (HCR)

Recommendation: LDRAC recommends that the TAC for 2012 be fixed using the model and rule adopted by the NAFO Fisheries Commission in 2010, with a 5% reduction with regard to the TAC 2011, from which a maximum catch of 16,326 tons would ensue.

- Other Stocks evaluated

- **Cod 3M**

Up until the beginning of the 1990s, the cod fishery in division 3M (*Flemish Cap*) had an exceptional importance for the European Union, for the Faroe Islands, for Norway and to a lesser extent for Canada, who operated this resource in waters of the Grand Banks. During 3 decades of very significant annual catches, the stock lost its capacity to renovate itself naturally and between 1994 and 1998 catch levels fell radically. The fishery was closed in 1999 and some scientists asserted that this cod population had become extinct and without the least possibility to recover some day. Nature has great surprises in store for us and the stock recovered, the fishery was reopened in 2010 with a TAC of 5,500 tons.

The total biomass, and especially the spawning biomass for this stock increased almost exponentially since 2005, and SSB is 4 times above the biomass limit, with a value that is the most robust since the end of the 1980s. The reproductive maturity for this cod population is more precocious than a decade ago and takes places between the ages of 3 to 4 years, as a function of the significant weight increase in the year-classes.

The Scientific Council has forecast 3 multi-annual scenarios for the period 2012-2014, with 3 different fish mortality rates. In all three forecasts the spawning biomass and the total biomass increase sustainably, even for the *status quo* mortality rate, to which a TAC of 18,657 tons would correspond for 2012. The Scientific Council evaluates the $F_{0.1}$ for this stock at 0.13. By rule, in demersal fisheries $F_{0.1}$ is almost always a value close to that of the natural mortality rate M , which is 0.20 for this cod population. The Scientific Council suspects that, pursuant to the experience in evaluating other stocks,



the $F_{0.1}$ stated in the forecast for this cod population might be underestimated. If all three mortality scenarios developed by the Scientific Council's study offer the possibility of growth in the stock size in the next 3 years, it is not suitable to sacrifice fishing yields, opting for the most restrictive scenario.

Cod is a predator at the top of the food chain for the species that coexist in division 3M, known to be highly voracious and territorially dominant over other populations. The stock's fast growth is causing a serious imbalance in the ecosystem, considering the way in which cod behaves, which is the likely reason for the contraction of shrimp stocks, and also jeopardising the levels of biological safety for the redfish population in the area of the Flemish Cap.

Recommendation: LDRAC recommends that in the absence of any risk to the middle-term sustainability for this stock, the European Commission defend the adoption of the TAC issuing from the intermediate scenario, whose mortality rate may be close to $F_{0.1}$, once such a limit reference point is revised by the Scientific Council in 2012. Along these lines, the corresponding TAC of 14,495 tons is clearly sustainable and therefore must be supported by the European Union. We suggest that the Scientific Council be requested to perform an evaluation of the eventual adverse impacts on other stocks that derive from the increased size of the cod population, that is reaching levels rarely ever recorder in the historical series.

2.2.2 - Redfish 3M

This stock is managed in accordance with the reference TAC of 20,000 tons, if only to estimate the quotas for the contracting parties, and the fishery closes since 2010 at 10,000 tons. The stock's mortality rate has remained stable, at rather low levels. The biomass increased successively between 2003 and 2008, due to the combined low catches and survival of good recruitments. After the aforesaid period there has been a decrease in the stock's biomass due to reasons other than fishing, and a reduction in the number of females has been recorded. The Scientific Council acknowledges a noticeable increase in natural mortality, which may be related to the strong appearance of the cod population in division 3M which would be feeding on redfish. The scientists made 3 forecasts based on different fishing mortality scenarios. Even at $F=0$ the spawning biomass would be reduced from now to 2014. After that year, good year-class recruitments for the exploitable stock would reverse the trend. The management of this stock does not depend on fishing levels, though it ought to take into account ecosystem concerns, to be clarified by the Scientific Council.



Recommendation: Despite the fact that the spawning biomass is above the average of the historical series, the decreasing trend is worrying. The TAC of 6,500 tons recommended by the Scientific Council is understandable and its aim is to stabilise the size of this stock

2.2.3 – Yellowtail flounder 3LNO

The biomass for this stock has grown consecutively since 1994. In 2010 the relative biomass is practically at its highest point and 1.7 above the MSY biomass. Fishing mortality has been contained at very low levels, around 1/4 of FMSY, considering that Canada, benefiting from 98% of the TAC, has not exhausted its quotas in the last few years. The TAC is 17,000 tons, since 2008, having been fixed by the Fisheries Commission with a broad safety margin in relation to a TAC which results from maximum sustainable yield fishing mortality rates. The Scientific Council has forecast fishing yields (TACs) for 4 different fishing mortality scenarios. All the forecasts project TACs, in 2012, within the interval of 20,000 to 30,000 tons, well above the TAC for 2011. The recommendation suggests a TAC that is not above 85% of FMSY (+ 25.000 tons).

Recommendation: The European Union determined of its own accord that its quota of 85 tons would be set to 0. Direct fishing is prohibited and may only be effected as by-catch, within CEM limits. This option must be pursued in 2012. The recommendation by the Scientific Council for the management of this stock must be supported.

2.2.4 – White hake 3NO

Following the excellent recruitment in 1999, the fishery became productive in 2002 and 2003, with catches above 6,000 tons. After those years catches of white hake have been maintained at lower levels, of 1,000 tons / year. Total catches in the historical series have peaks that seem to reflect random levels of abundance for this species in the regulatory area. In 2009, the Fisheries Commission adopted a reduction of the TAC from 8,500 to 6,000 tons. If the stock were to emerge in the fishing ground accessible to the Community fleet, it would be convenient to have a TAC with the current level in order to be able to fit the catches.

Recommendation: There is a low level of predictability in the occurrence of good year-classes for this species, that emerges periodically and after being recruited for the exploitable stock, provides good fishing yields. Such an uncertainty leads to recommend that the TAC be maintained at the current level of 6,000 tons, in order to preserve the Community's fishing quota.



2.2.5 – American plaice 3LNO and 3M / Witch flounder 3NO / Capelin 3NO

American plaice 3LNO is a stock under recovery; the forecast is that the fishery may be reopened in 2014. These 4 stocks record spawning biomass levels below the biomass limit, whereby the ban on directed fishing currently in force is justified, in conformity to the recommendation by the Scientific Council. By-catches must be kept at the lowest possible levels.

Recommendation: LDRAC supports the continuation for the fishing moratoriums directed to these stocks, with a view to the recovery of their spawning stock biomasses.

Stocks not evaluated in 2011 by the Scientific Council, at the Grand Banks

Of direct interest to Community fishing

3.1 - Redfish 3LN

A fishing moratorium for this stock was implemented from 1998 to 2009. The fishery was reopened in 2010 with a TAC of 3,500 tons, which was maintained for 2011. The biomass indices of the research campaigns between 2006 and 2010 revealed signs that the stock is enjoying sustained growth. The current biomass would allow for a fishing mortality rate above that which had been adopted following the scientific recommendation. (1/6 FMSY)

Recommendation: LDRAC supports maintaining the current level of TAC at 3,500 tons. In 2012 a full evaluation will be conducted for this stock, from which, bearing in mind its high biological safety, a more robust TAC than the current one may issue.

3.2 - Redfish 3O

The European Union, Russia and Canada are contracting parties with significant quotas assigned to this redfish population, oscillating between 6,000 and 7,000 tons, for a TAC which has been stabilised at 20,000 tons ever since it was fixed in 2005. This stock lacks an analytical evaluation, according to the production model, as is the case for redfish in the stock 3LN. The Canadian campaigns do have the necessary data to implement it, so the reasons leading to the postponement of this decision are not understandable. There are records of continued increases in the biomass indices and abundance in the campaigns, since 2003, and they are 4 times above the average for the 2001-2003. The current TAC, despite not being fully exploited, is perfectly sustainable. The European Union is making a good use of its quota.