NSRAC

Initial advice to the European Commission concerning management measures for North Sea plaice

REQUEST FOR ADVICE

The European Commission asked the North Sea Regional Advisory Council (NSRAC) for advice "on the implementation of a recovery plan for North Sea plaice and a long-term management plan for sole". A draft of this advisory document was prepared by an interim NSRAC Flatfish Working Group and submitted to the NSRAC Executive Committee on the 5th of November 2004. The Executive Committee accepted the advice presented in the draft submission with some reservations. The Executive Committee members representing the environmental NGOs and the recreational angling sector considered that the advised measures on TACs, discards and effort reduction were insufficient but welcomed the advice as a first step. The Flatfish Working Group was asked to revise the advice in the light of the comments received during the Executive Committee meeting. The advice was adopted through a written procedure on the 12th of November 2004.

With respect to the request for advice, the NSRAC would like to make the following observations:

- The formulation of the Commission's request was very broad and did not include any specific aspects or proposals for consideration. The NSRAC therefore had to define its own basis for the advice, using the ACFM advice on the 2005 TAC, the European Commission non-paper presented at the consultation meeting in Copenhagen, the North Sea Commission stock survey and various papers submitted by the fishing industry and by the environmental NGOs;
- The NSRAC is not (yet) equipped with an appropriate biological and economic knowledge network to facilitate the discussions leading to its advice. In the case of this advice on plaice management, the absence of external experts hindered the development of advice on the setting of (new) management targets. Therefore, and in view of the previous point, the NSRAC decided to give an initial advice on the general principles for a flatfish management strategy. For the same reason, an assessment or quantification of the biological and economic effects of the proposals made in this document could not be carried out, but is considered necessary.

Addressing these issues is outside the scope of this advisory document and will be forwarded to the Executive Committee meeting in February 2005.

GENERAL CONCLUSIONS

Considering the review of the preliminary assessments by the North Sea Commission Fisheries Partnership on 4-5 October, the Commission's consultation meeting on plaice recovery on 14 September, the ACFM advice on plaice and sole for 2005 and in view of the actual experiences in the fishery, the NSRAC concludes the following:

1. The assessment of the stock situation has changed again this year. The uncertainties regarding the current state of the plaice stock are a major long-term problem hindering the management of the North Sea flatfish fisheries;
   The World Wide Fund for Nature (WWF), Seas At Risk (SAR), the European Anglers Alliance (EAA) and the European Fishing Tackle Trade Association (EFTTA) however, are of the opinion that uncertainty should not preclude the sound management of stocks. Where there is great uncertainty, such as is the case for North Sea plaice, the application of the precautionary approach is necessary;
2. The inclusion of discards data in the plaice assessment is an improvement, but the need for further improvement remains;
3. The estimated spawning stock biomass (SSB) has increased to 192,000t. With the accompanying changes in the precautionary reference points, the estimated SBB is now between B_{lim} and B_{pa};
4. Fishing mortality (F) for human consumption (Fhc) is further declining , but overall the assumed F is still high and seems to be mainly due to discards. F is between the new F_{pa} and F_{lim};
   WWF, SAR, EAA and EFTTA find the discards levels unacceptably high, being a waste of marine resources and hindering long-term sustainability of the fishing industry;
5. In view of the main criterion the Commission has used so far to determine whether or not a stock is in need for a recovery plan (estimated SBB is below Blim), the implication of the present ACFM advice on plaice would be that there is no need for a plaice recovery plan. This also means that the need for an immediate and completely revised management strategy for the mixed flatfish fishery, such as proposed in the Commission's non-paper based on the 2004 assessment, is less urgent and not justified in view of the resulting socio-economic consequences on the fleet, the supply chain and fishing communities both in the short and longer term.
   WWF, SAR, EAA and EFTTA, however, take the position that such a strategy <u>is</u> very urgent given the ICES advice to reduce effort by 55% and the high discards level in the 80mm plaice fishery, which has been observed to be up to 80%;
6. Although, in accordance with the Commission's criteria, a rapid recovery plan may no longer be required at this stage, there is a need for a tailor-made medium to long term management strategy to address a number of current management problems in the different plaice fisheries, and in particular in relation to discards;
7. Industry support throughout the supply chain is essential for the implementation of any management strategy.

NSRAC advice

The NSRAC advises the Commission to implement a multi-annual management strategy for the North Sea flatfish fisheries over the next five years. This strategy should be developed in close cooperation with the NSRAC with advice from biological scientists and economists, and should include the definition of targets and the development of harvest control rules. While the multi-annual strategy is being developed, a kick-start should be made in addressing the current management issues and in particular the practice of discarding. This should be done through a substantial package of short to medium term management measures. The management package must include the improvements to data collection and stock assessment, effort reductions, technical measures and spatial measures.

The NSRAC also concludes that:

8. There are several types of fisheries for plaice in the North Sea with different impacts on the stock;
9. Current management measures do not always conform with sound principles for sustainability, an example being the allocation under Annex V of more days-at-sea for fisheries using smaller mesh sizes;
10. While new fisheries management measures can have severe socio-economic consequences on the fleet, the supply chain and fishing communities both in the short and long term, with the cod recovery programme as a striking example, an economic assessment is generally not included in the implementation process. This is an omission which must be addressed;
11. All management measures, including the existing cod recovery plan and publicly funded decommissioning schemes, should be evaluated on biological and socio-economic impacts on the short and long term.

NSRAC advice

The NSRAC is of the opinion that stock management strategies should promote sustainable fisheries and be tailor-made for different fisheries targeting the stock. WWF, SAR, EAA and EFTTA stress that sustainable fisheries should include ecosystem-based management, as is laid down in the Common Fisheries Policy.

Ex ante and ex post evaluation of management measures (including a biological, socio-economic and enforcement assessment) is in line with the principles of good governance as laid down in the European Commission's White Paper and must therefore be carried out. Since the Commission intends to base recovery measures for other species on the cod recovery programme, an evaluation of the cod recovery measures should be carried out within the next year. In this evaluation, the impacts on the plaice stock and plaice fisheries should also be considered.

ELEMENTS OF THE PLAICE MANAGEMENT PACKAGE

Improving the stock assessment for plaice

Considering the ACFM advice on plaice, the NSRAC concludes that the uncertainties in the assessment have to be addressed to form a sound basis for future management strategies. In particular, it concludes that:

12. The discard rates used in the assessment are based on an extrapolation of a limited data set from the 80mm Dutch beam trawl fleet;
13. Long term discards data sets from other countries are available, but have not been used because of 'standardisation' problems;
14. The Dutch fishing industry has disputed the representativeness of the available scientific discards data in the 80mm fishery and, in cooperation with fisheries scientists, has started its own extensive discard sampling programme on 1 October 2004;
15. Discards survival is not taken into account in the assessment, but is an important variable. However, the existing scientific estimates on discards survival rates are questioned by the fishing industry;
16. The ACFM advice shows opposite trends in the outcome of the assessment model and the outcomes from the scientific BTS-survey and the CPUE data of the 'flag vessels' (Dutch owned beamers under UK flag). These data indicate a significant stock increase;
17. There is some evidence of a changing spatial distribution of young plaice, which combined with the observed reduced growth rate and changes in the flatfish fisheries themselves, could lead to unintended extra fishing pressure on young plaice;
18. The potential of the North Sea fishing fleet in collecting data is under-utilised.

NSRAC advice

In view of its conclusions on the scientific basis for plaice management, the NSRAC advises on a number of immediate actions. It envisages an active role for the industry in providing data for future stock assessments, including further measurements of discards and the compilation of CPUE and spatial distribution data. In the short term, a wider discards assessment programme could provide more robust data for the 2005 assessment. In the medium to long term, these actions will contribute to reducing the uncertainties and assumptions in the assessment, increasing the industry's confidence in the assessment and result in a better basis for plaice management including shorter term (technical and spatial) measures and a multi-annual strategy. These actions include:

(a) Improvement of discards data:

- Expansion of the beam trawl sampling programmes in 2005;
- Inclusion of discards data for fisheries other than 80mm beam trawl based on an inventory of available discards data by ICES for use in 2005 assessment. If available data cannot be converted to the strict 'model standards', some flexibility on the part of the ICES will be required;
- Discards data collection should preferably be carried out by scientist or supervised by observers. Considering the high associated costs, discards collection programmes by the fishing industry, such as are now in operation in Scotland, Denmark and the Netherlands,

should be encouraged. These industry sampling programmes need to be implemented in close cooperation with scientists and be subject to regular audits. The programmes should be designed in such a way that the resulting data are suitable for use in the stock assessment as well as the development of management measures (see paragraph spatial measures).

(b) Assessment of survival rates:

- Scientific evaluation of the current method of estimating the survival rate of discarded plaice in the different North Sea fisheries starting in 2005;
- Start up of joint industry-science programmes on improving survival after hauling (2005).

(c) Research into other aspects of plaice stock development:

- Investigate how the observed higher catch success in the northern North Sea (which conflict with model outcome) relate to overall assessment (spatial trend or overall trend);
- Changing distribution pattern of young plaice;
- Causes for reduced growth rate;
- Effects of climate change.

Effort reduction

Although a recovery plan, with an associated effort scheme, for plaice is not required in light of the latest ACFM advice, a majority of the NSRAC is of the opinion that some form of effort reduction, particularly in the 80mm mixed flatfish fishery is needed. The NSRAC concludes that:

19. Within the international 80mm flatfish fleet, there is no consensus on effort reduction measures, i.e. some national fishing organisations oppose effort reduction in their 80mm fisheries;
20. The Dutch flat fish industry is still willing to reduce fishing effort as part of its own plaice management initiative that has been submitted to its government:
    - the requested decommissioning scheme for the Dutch beam trawl fleet to match capacity and quota will result in a 15% catch capacity reduction over a 1-2 year period and will therefore contribute to effort reduction on plaice and other flatfish and to the reduction of discards;
    - the Dutch fishing industry is committed to a tie-up scheme of a total period of 8 weeks in 2005 including the spawning period. This means that the quota management groups, monitored by the national authorities, will reduce the overall potential Dutch beam trawl effort by an extra 4 weeks compared to 2004 (2004: reduction from 52 weeks to 48; 2005: 48 to 44). As was the case in 2004, the ‘flag vessels’ in Dutch ownership will be asked to join this scheme during a yet to be established period;

    In response to the Dutch industry initiative, WWF, SAR, EAA and EFTTA consider a 15% effort reduction through decommissioning to be insufficient in the light of the ICES recommendation for a reduction in effort of 55%;
21. Complete closures of areas during spawning period seem to be counter-productive as effort will be reallocated to other areas, and will also disturb the market. In this light,

WWF and SAR are of the opinion that an overall reduction in effort is required in addition to the use of closed areas to avoid displacement of effort;

22. The effects of an effort reduction during the spawning period on the stock, as proposed by the environmental NGOs and the recreational angling sector , are disputed by the industry. From an industry point of view effort reduction during the spawning season is mainly a market measure and should therefore be left to the industry;
23. Amongst the international fishing industry, there is no support for effort reductions in other plaice fisheries other than those using 80mm mesh sizes.

NSRAC advice

The NSRAC is of the opinion that, in the period when plaice is not subject to a recovery plan, the principle of self-regulation should be applied to effort regulation in the flatfish fishery. Therefore the NSRAC welcomes the initiatives by the Dutch fishing industry and in particular the tie-up scheme, stressing the underlying principle that that the tie-up days cannot be used later in the year and that this should be monitored by the national authorities. It also advises that the effects of effort reduction in the spawning period on the development of the stock should be examined.

Spatial measures

The NSRAC discussed the use of spatial management measures as an instrument to manage plaice. It concluded that:

24. Real Time Closures (RTCs) of areas with large concentrations of undersized plaice would lead to a direct reduction of fishing effort on the young stock;
25. The effects of RTCs on the development of the stock are not yet possible to quantify;
26. RTCs have the full support of the fishing industry;
27. An international 'plaice RTC framework' has been set up by the European Association for Producers' Organisations. The first international plaice RTC has come into effect on 18 October 2004. The second followed on 1 November;
28. For the enforcement of the RTCs, the fishing organisations depend on the willingness of government authorities to provide VMS-data of 'trespassers';
29. Zonal measures are a prospective instrument for reducing fishing effort on young plaice:
    - due to quota restrictions, the effort distribution of mixed flatfish fisheries has shifted to the southern North Sea and near-by fishing grounds;
    - there is some evidence that young plaice move away from their nursery grounds and enter the fishing grounds sooner than before;
    - reduced growth rates increases the probability of being caught at smaller size.

    However, in the absence of sound data on the distribution patterns, a basis for zonal management is currently lacking;
30. The recent examination of the Plaice Box[1] concluded that "this evaluation provided no direct evidence that the Plaice Box has enhanced recruitment, spawning stock biomass and yield, as was its purpose" (p.6) and "the lack of pre-established criteria and of experiments

1 Grift R. *et al.* (2004). Assessment of the ecological effects of the Plaice Box. Report of the European Commission expert working group to evaluate the Shetland and Plaice Boxes. Brussels, 121p.

to address specific research questions, make the evaluation of the effectiveness of the place box difficult" (p.7);

31. WWF, SAR, EAA and EFTTA consider that the closure of the Plaice Box to all fishing vessels on a year-round basis would benefit the plaice stock, as the present limited closure still results in juvenile plaice being discarded by a significant amount of vessels that are allowed to fish within the box. Total closure would potentially benefit other stocks, such as sole;
    The fishing industry on the other hand, is of the opinion that the closure of the Plaice Box has resulted in less favourable food conditions and is the main cause for the failure of the box.

NSRAC advice

The NSRAC considers the introduction of RTCs to be a valuable contribution to stock management. It addresses the discards issue and gives responsibility for responsible management back to the fishermen. Although no legal framework for RTCs exists, the Commission should encourage member states to assist the fishing industry in their enforcement and in particular in agreeing on the provision of information on offenders. An evaluation of the current RTC framework would be necessary to improve any organisational shortcomings.

Zonal management could be a valuable (self-)management instrument on the medium to longer term. The NSRAC stresses that research into the distribution pattern of young plaice is a first requirement for the development of zoning schemes and, also in view of its importance for the stock assessment, should be commissioned by the European Commission next year. The data on RTCs and discard monitoring programmes could be an additional instrument. WWF, SAR, EAA and EFTTA are of the opinion that real-time monitoring of discards is needed in the beam trawl fishery to be able to use the data for the establishment of closed areas.

With respect to the Plaice Box, the NSRAC advices that a thorough evaluation based on scientific research and in close cooperation with the industry should be carried out, including the effects of bottom trawling on the food availability for plaice.

Technical measures

The NSRAC discussed the potential of technical measures as a management instrument in the plaice fishery and in particular mesh size changes and the related '80 mm zone' in the North Sea. It concluded that:

32. A number of NSRAC members, both from industry, environmental NGOs and the recreational angling sector are of the opinion that increases in the 80mm mesh are required to reduce plaice discards. Based on scientific data on meshes in relation to plaice catches, it was however concluded that any technical measures to reduce plaice discards in

the mixed flatfish fishery will result in significant loss of valuable sole catches (sources: ICES, 1981; Pvis, 2003[2]):

- in the 80mm, the loss of the size class 5 (minimum size) is already 50%;
- a mesh increase to 90mm results in complete loss of the sole size class 5 and 4;
- a mesh size increase to 100m will result in an 80% loss in weight and will result in a remaining revenue of the sole fishery of 25-30%;
- the effect of mesh increases to 90 and 100mm would seem to have little effect on plaice discards and stock development, as in practice the plaice by-catch in the 80mm fishery is generally of >21cm size only and increased mesh size would still target the 22-27cm category;
- shifting the '80mm zone' from 56ºN to 55ºN would result in a loss of 20-25% of the sole catch. Other externalities might include an increased use of illegal measures (blinders) and increased effort to the south of the zone (80mm);
- the sole stock is stable and above B_{pa} and does not require special management attention;

In view of the above data, the NSRAC could not reach consensus on immediate changes in technical measures for the 80mm fishery.

WWF and SAR stress that short term immediate measures should include an increase in mesh sizes, which will improve the survival rates for juvenile plaice;

33. Progress is being made with the development of an alternative to the beam trawl (the pulsating trawl), focussing on increased selectivity and less disturbance of the sea bed;
34. The current Annex V encourages fishermen to fish with smaller mesh sizes to obtain more days at sea. This is the case for all gear types registered as OTB (otter trawl/twinrig). This situation leads to extra fishing pressure on cod and plaice, which is a target species in some OTB-categories;
35. A separate comprehensive advice on Annex V will be required from the NSRAC;
36. The NSRAC could not reach agreement on changes in the minimum landing sizes as a management measure, since the issue could not be addressed sufficiently by the interim flatfish working group;

    WWF would like to see an increase in the minimum landing size for plaice to 30-32cm, which is above the size of first maturity of females. This would give a reasonable probability that female fish are able to breed for one or two years before they are removed from the stock;

    The fishing industry, EAA, EFTTA and SAR cannot agree with an increase of the minimum landing size for plaice. The fishing industry, EAA and EFTTA emphasize that this would result in increased plaice discards in the mixed fisheries. The fishing industry also points out that such a measure would lead to severe losses of marketable catch in the over 80m fisheries and would also lead to problems in the supply chain. SAR considers that changes in the minimum landing size for plaice cannot be seen in isolation from changes both in the landings size for sole and mesh size changes.

---

2 Rijnsdorp *et al.* (1981). Results of mesh selection experiments on sole with commercial beam trawl vessels in North Sea and Irish Sea in 1979 and 1980. ICES 1981/B:31.
Productschap Vis (2003), Statistical data. Rijswijk.

NSRAC advice

Decisions on fisheries management measures should be based on comprehensive cost-benefit analysis. Therefore, the NSRAC advises the European Commission to commission a number of 'technical measures experiments' in the mixed flatfish fisheries starting next year. Using beam trawl vessels, the effects of different mesh sizes and fishing zones on catch composition and on economics, both in short and medium to longer term, should be assessed. Fishermen should be compensated for any loss of income during those projects. The results of these assessments should form the basis for any decisions on technical measures in the mixed flatfish fisheries.

The NSRAC also advises that the results of the tests of the pulsating trawl should be given full consideration when available. If it is indeed possible to decouple plaice and sole catches using this new gear and reduce discards in general while maintaining an economically viable fishery, the NSRAC advises the Commission to enable the introduction of this alternative to the beam trawl.

The NSRAC is of the opinion that instead of a management system based simply on restrictions, a system of management is required, which provides incentives for fishermen who are willing to behave in a responsible manner and adopt appropriate and effective conservation measures. It advises that the counter-productive days-at-sea situation inherent in Annex V should be changed immediately in favour of a system where the use of larger mesh is rewarded with more days. The NSRAC offers to give a separate advice on Annex V as a whole.

The TAC in relation to the management package

With respect to the plaice TAC the NSRAC concluded the following:

37. The ACFM advice on plaice shows that:
    - the plaice stock is below B_{pa}, but above Blim. The stock has shown large fluctuations over the last 30 years, but seems to have been at relatively stable level for the last 10 years;
    - Between 1995 and 2004, the TAC for plaice has been reduced with 50%;
    - ACFM advises a 40% reduction in the TAC for 2005 to 35.000t. This advice is based on the 1999 EC-Norway agreement that the plaice stock should be managed to the 'green zone' (above B_{pa}) within a one year period;
38. Although there has not been a socio-economic assessment of the advised TAC, the NSRAC concluded that the advised TAC would have dramatic socio-economic consequences for all North Sea plaice and associated fisheries, the rest of the supply chain and fishing communities;
39. With the exception of WWF, SAR, EAA and EFTTA who feel that the application of the precautionary approach is fully justifiable in view of ACFM advice, the NSRAC concluded that the socio-economic consequences of a TAC in accordance with the advice are not justified in view of the conclusions on the stock situation within the ACFM advice.

NSRAC advice

The NSRAC – with a minority position from the environmental NGOs and the recreational angling sector who are of the opinion that the ACFM advice should be followed in accordance with the precautionary approach - are of the opinion that ACFM advice justifies a medium term management approach whereby the stock enters the 'green zone' over a longer period than one year. In view of the stock assessment, there is no urgency for rapid recovery through a TAC of 35.000t. Opting for stability in the TAC to at least the level of 2004 will not lead to stock collapse, provided this is combined with the package of measures the NSRAC proposes and the various industry initiatives. It will keep the socio-economic consequences manageable, which is a prerequisite to ensure sustained industry support for (i) the proposed management package and (ii) the development of a multi-annual management strategy, which should be implemented within the next five years (see the general conclusions).

Annex:
Participants in the interim NSRAC flatfish working group, 13 October 2004

Luc Corbisier, catching sector Belgium
Niels Wichman, catching sector Denmark
Flemming Kristensen, catching sector Denmark
Egon Sekkelund, catching sector Denmark
Andrew Allard, catching sector England
Geert Meun, catching sector Netherlands
Fenneke Brocken, catching sector Netherlands
Fiona Gowland, catching sector Scotland
Pim Visser, European fishing ports and auctions
Carol Phua, Seas At Risk, also representing WWF

Chair: Nathalie Steins