The North Sea Regional Advisory Council

NSRAC

PAPER 6

Review of the Cod Recovery Plan

Response to the Commission's Non Paper on Cod Recovery

Summary

This paper succeeds an earlier position paper from the North Sea RAC which presented initial opinions on cod recovery, following the cod symposium. The current paper responds to the subsequent Commission non-paper *Next Steps in Fisheries Management in Relation to Cod Recovery*. It addresses the review of the cod recovery plan and the management of demersal fisheries which catch cod.

The NSRAC accepts that the rebuilding of cod stocks requires fishing mortality on cod to remain low. However, significant efforts have already been made to reduce fishing mortality upon cod and major reductions in fishing effort have already been made by some Member States.

The management of fisheries other than for cod is important and should be considered from the outset when considering measures for rebuilding cod stocks. Cod recovery should be an integral part of management planning for all fisheries which have a significant impact upon cod. A more adaptive management regime is now required which will allow new information to be incorporated into management as it is acquired. The rebuilding of cod stocks requires a periodic re-evaluation of management goals, scrutiny of the effectiveness of management measures, and the integration of new information into subsequent management decisions.

Within that overall framework, the NSRAC's approach is to try to reconcile two objectives. To rebuild cod stocks to more sustainable levels, while allowing a viable fishing industry, including a whitefish sector, to continue to operate. Further across-the-board reductions in permitted days at sea, following the current system, will neither achieve effective cod recovery nor maintain the viability of the industry.

Scientific advice on cod is currently hampered by deficiencies in the data, leading to uncertainties. It is important for the Commission to take action to improve the quality of the cod assessments, to improve data on cod discards levels in the different fisheries, to

reduce the discarding of cod and to protect emerging year classes of cod so that they will contribute to the spawning stock.

The Commission's non-paper presents a choice between simpler regulations, with more freedom for individual fishermen on how to operate but bigger restrictions on the size of the fleet, with the alternative option of more targeted measures that "decouple" fishing activities so that individual stocks can be managed better.

The NSRAC rejects the first of these two options. Further reductions in fishing activity will unduly penalise fishermen engaged in legitimate fisheries. The approach is too strongly centred upon cod and will affect adversely fisheries for those species which are abundant.

The alternative proposal, to "decouple" legitimate fishing activities from the capture of cod is a move in the right direction but must avoid placing an unnecessarily heavy regulatory burden upon fishermen. The NSRAC also questions whether there is sufficient data to manage the fisheries by restricting the uptake of cod quotas to by-catches in fisheries that are not directed at cod.

The NSRAC suggests that a management regime is required which provides incentives for fishers to adopt measures to rebuild cod stocks.

It is now evident that the 2005 and 2006 cod year-classes are more abundant than other recent year-classes, and that increased efforts must be made to avoid catching or discarding these fish. Indeed, finding ways to protect these two year classes seems to offer the best available prospect for the rapid recovery of cod stocks. To promote the survival of these young fish the NSRAC gives its strong support to three initiatives:

A real time area closure pilot project (Annexe II)

An observer programme pilot project (Annex III)

Individual vessel cod rebuilding plans (Annex IV)

Further proposals will come forward in due course from the NSRAC's Development Groups, in the form of specific management plans for the different fisheries of the North Sea. In the meantime, the initiatives put forward in this paper offer a way forward which is different from the Commission's choice of general effort reductions or more rigid segmentation of the fleet. They provide incentives to fishermen to bring about "decoupling". The NSRAC now wishes to discuss with the Commission how these initiatives might be taken forward as pilots in 2008, with the possibility of wider application in 2009 as part of a revised cod recovery plan.

1. Introduction

1.1 This paper responds on behalf of the North Sea Regional Advisory Council to the non-paper from the Commission on ***Next Steps in Fisheries Management in Relation to Cod Recovery*****.**

1.2 This paper follows and extends a position paper from the North Sea RAC which was presented at the Vienna ExCom Meeting and subsequently sent to the Commission. That paper presented the initial opinions of the North Sea RAC on cod recovery, prepared with the benefit of the insights obtained from the cod symposium.

1.3 In that earlier paper the NSRAC opined that cod rebuilding plans must be tailored to particular sea areas. It considered that there might be a case for drawing a distinction between the northern North Sea and the southern North Sea, where there was evidence that distinctly different oceanographic regimes now prevailed. The NSRAC encouraged the Commission to adopt a new regional management framework.

1.4 The NSRAC wished the approach to rebuilding cod stocks to be based on sound and comprehensive knowledge of the stocks. The NSRAC was concerned that the current state of scientific knowledge was poor. The Commission and Member States were responsible for commissioning and funding the relevant science and should reconsider their approach. The value of scientific advice could and should be improved through closer cooperation between scientists and fishers. The NSRAC suggested that regional data workshops should be established to promote that cooperation.

1.5 It was pointed out at the cod symposium that cod recovery should not compromise unnecessarily the legitimate interest of fishers in catching other more abundant species. Some of those fisheries were already the subject of their own management plans, and others were moving towards the preparation of long term management plans. The NSRAC believed that cod recovery was an integral part of management planning for all fisheries which had a significant impact upon cod. The rebuilding of cod stocks should be a key feature of management plans for those fisheries, rather than an additional burden imposed upon them. In addition, a more adaptive management regime was now required which would allow new information to be incorporated into management as it was acquired. The rebuilding of cod stocks required a periodic re-evaluation of management goals, scrutiny of the effectiveness of management measures, and the integration of new information into subsequent management decisions.

1.6 The NSRAC was sceptical of the data underpinning the Commission's conclusion that the overall reduction in effort required by the cod recovery plan had not been achieved. It called for a more careful and up-to-date evaluation of the changes in effort which had taken place.

1.7 The NSRAC noted that the Commission was currently managing the North Sea demersal fisheries through a combination of TACs and effort controls. Days at sea limits were applied to the fleets on the basis of a number of gear categories and measures had become increasingly complex, principally in response to specific requests for derogations. The NSRAC expressed concern that the current effort management regime offered perverse incentives for fishers to adopt smaller meshes in order to obtain more days at sea. It suggested that all parties should work together to devise a new management regime which provided incentives for fishers to adopt measures to rebuild cod stocks.

1.8 The NSRAC was especially concerned that with cod stocks recovering in the North Sea and Skagerrak the current restrictive quotas were leading to heavy discarding. Steps should be taken to address this problem. Technical measures had a role to play. Spatial measures, and in particular real-time area closures, could also play a major part in reducing that risk. The major obstacle was an administrative one. The NSRAC echoed the view expressed by the representative of the Norwegian Fisheries Ministry at the cod symposium that the institutional obstacles to such closures within the EU should be tackled. Small *ad hoc* regional management groups could act very swiftly to implement real-time area closures. The NSRAC also noted the success of measures which improved the selectivity of fishing gears in reducing discards.

1.9 The NSRAC position paper concluded that the issues it had raised could only be resolved through close discussion at a regional seas level of the measures for rebuilding cod stocks.

2. The Commission Non-paper

2.2 The subsequent Commission non-paper addresses the review of the cod recovery plan and the management of demersal fisheries where cod are caught. It outlines a possible way forward for the demersal fisheries in the North-East Atlantic area.

2.3 First, the non-paper considers whether cod stocks should be rebuilt by managing the size of the fleet and by setting overall limits on fishing effort. The Commission believes that this approach is the simplest, and that it avoids affecting vessel operations by restricting where vessels fish, the gear they use or the mixture of species retained on board. The non-paper warns that in order to allow cod to recover under this simple, non-targeted approach it would be necessary to bring overall effort levels down very substantially.

2.4 The non-paper then considers an alternative approach, which is to seek to "decouple" fisheries that target different stocks, and to manage each of the resources separately and better. It suggests that this approach would remove the need to reduce overall effort and fleet capacity to the level that the weakest stock can withstand. However, this approach would mean developing and applying more complicated regulations, with more restrictions on the flexibility of operations at sea.

2.5 The non-paper suggests that on balance, the "decoupling" approach may be preferable. Cod recovery should be achieved with as few negative effects as possible upon other fisheries. It suggests that stakeholders would prefer rather more fishing opportunities for stocks other than cod, even if this implies an additional regulatory burden. A decoupled approach could allow improved management of the stocks, with a better matching of fishing effort and capacity to the productive potential of each of the resources.

2.6 Decoupling could in principle be achieved by detailed technical measures - by regulating the structure of fishing gear and the related catch composition. An

alternative approach proposed by the Commission is simply to restrict the uptake of cod quotas to by-catches in fisheries that are not directed at cod. This second approach has not been used in the past, but the Commission suggests that it might prove appropriate in those areas where the cod is so far depleted that fisheries directed at cod are no longer justifiable, either in conservation or economic terms.

2.7 The Regional Advisory Councils, ACFA and Member States were invited by the Commission to provide their opinions on the matters and questions raised.

3. Comments on the options presented in the non-paper

3.1 The NSRAC concurs with the non-paper, the cod symposium and STECF advice that, while environmental and other conditions, including predation levels, may not currently be ideal for cod, they are certainly not so poor as to make cod recovery impossible or impractical. The experience of fishers in the North Sea and Skagerrak strongly suggests that cod are already on their way towards recovery. Indeed the latest scientific surveys reported by ICES show that the number of young cod has increased and could contribute substantially to the recovery of the North Sea cod stock.

3.2 The NSRAC accepts that the rebuilding of cod stocks requires fishing mortality on cod to remain low. Significant efforts have already been made to reduce fishing mortality upon cod. However, the NSRAC is critical of references in the non-paper to spare effort being available and to the latent fleet capacity being too large. Major reductions in effort have been made by some Member States and remaining effort has been closely controlled. More selective fishing gears have been progressively introduced by the fishing fleets. Fishing mortality rates have declined.

3.3 The NSRAC emphasises that the management of fisheries other than for cod is important and should be considered from the outset when considering measures for rebuilding cod stocks. That point was explicitly made in the report of the cod symposium and in the NSRAC's earlier position paper.

3.4 The NSRAC endorses the adoption of an area-based approach which is proposed within the non-paper, as originally suggested by the NSRAC.

3.5 The NSRAC notes that the non-paper shows a lack of recognition that most fisheries catch a mix of species. Fisheries are more complicated than the non-paper recognises and "decoupling" may present severe management and compliance difficulties.

3.6 The non-paper proposes that "decoupling" might be managed by restricting the uptake of cod quotas to by-catches in fisheries that are not directed at cod. However, the monitoring of by-catches across a wide range of fisheries presents formidable problems and has not proved possible for all fisheries in the past. The NSRAC questions whether there is sufficient data to operate such a system.

3.7 The choice presented by the Commission is between:

- Simpler regulations with more freedom for individual fishermen on how to operate, but with bigger restrictions on the size of the fleet or on the overall level of fishing activity, primarily to protect cod, or

- Targeted measures that "decouple" fishing activities so that individual stocks can be managed better.

The NSRAC is not willing to accept the first of these two options. Further reductions in fishing activity will unduly penalise fishermen engaged in legitimate fisheries. That approach is too strongly centred upon cod and will affect adversely the fisheries for those species which are abundant. The NSRAC also rejects the Commission's proposal to restrict the uptake of cod quotas to by-catches in fisheries that are not directed at cod.

3.8 The second option, to "decouple" legitimate fishing activities from the capture of cod is a move in the right direction, but it must avoid placing an unnecessary regulatory load upon fishermen. The earlier paper on cod recovery from the NSRAC pointed out that the rebuilding of cod stocks should be a key feature of management plans for the various fisheries, rather than an additional burden imposed upon them. A management regime is required which provides incentives for fishers to adopt measures to rebuild cod stocks. The NSRAC now suggests that management of those fisheries can be taken forward by combining elements of the Commission's ideas with a number of measures not considered in the non-paper. These measures include:

- real time area closures to protect aggregations of small fish,

- greater use of on-board observers to verify low cod catch and discard rates, and

- the introduction of individual vessel cod rebuilding plans; that is, fishery management plans which allow fishers to design their operations to take account of the need to rebuild cod stocks.

3.9 The NSRAC recognises that careful monitoring of catches and discards will be an essential feature of future management plans and that there is a need for further development and application of monitoring techniques.

4. The NSRAC's approach to cod recovery

4.1 The Commission's non-paper underplays the significant efforts already made to reduce cod mortality. The scientific advice on cod is hampered by deficiencies in the data, leading to uncertainties. What we can agree is that cod stocks have been at historically low levels in recent years, and are now recovering. Our task now must be to:

- improve the quality of the cod assessments

- improve data on cod discards levels and patterns in the different fisheries
- reduce the discarding of cod
- protect emerging year classes of cod so that they will contribute to the spawning stock.

4.2 The RAC's approach to these issues has been to try to reconcile two objectives. To rebuild cod stocks to more sustainable levels, while allowing a viable fishing industry, including a whitefish sector, to continue to operate. Further across-the-board reductions in permitted days at sea, following the current system, will neither achieve effective cod recovery nor maintain the viability of the industry.

4.3 The case for moving from a biomass target to a fishing mortality target commanded consensus at the cod symposium and has since been accepted by the Commission. However, the Commission's implicit assumption that a mortality target should be set to be equivalent to the target of a 30% increase in biomass may not be appropriate. That biomass target has proved unattainable: the Council has not been ready to adopt the measures it implied. There is a strong case for adopting a more gradual approach to reducing fishing mortality on cod – by setting targets which are attainable. For example, an annual 10% reduction in fishing mortality to move the stock towards safe biological limits would be consistent with the other long term management plans currently in force.

4.4 As the earlier position paper from the NSRAC pointed out, the cod recovery plan and its measures must be based on the best, most recent science, including information and knowledge generated by industry/science partnerships. New ways must be found to take greater account of real time observations by fishers and scientists, and to gather information on the fish stocks from a wider range of sources. The NSRAC now proposes that the Commission should establish regional data workshops as a matter of urgency. The workshops should bring together data from national institutes, a wide range of other scientific sources, fishers and industry/science partnerships. Meetings of the workshops should precede the ICES assessment working groups.

4.5 Any conclusions drawn on cod recovery, for example on the impact of each fishery, must be based on sound data. The NSRAC welcomes the reference in the non-paper to the need to improve data on discards, but wishes to see specific measures from the Commission to make this happen for all fleets catching cod.

4.6 The non-paper is less forthcoming than the Commission's communication on discards on the need to provide fishers with incentives to bring about change. The NSRAC urges the Commission to move away from planning different measures for different gear categories and to start thinking about introducing incentives for vessels to move away from exploiting cod across all gear categories. Those incentives could take a number of forms, as set out in the initiatives described later in this paper.

4.7 The NSRAC believes that the way forward is for all parties to work together within a regional management framework aimed at the development of long term

management plans for particular fisheries. Issues of how far and how fast can only be resolved by discussions which involve participants in those fisheries.

5. Effort Control

5.1 The Commission's line of argument on effort reductions is inconsistent. On the one hand, the Commission says that the current days at sea system has not had the desired effect. It has only reduced fishing mortality by about 15% overall (because the large effort reduction achieved by the whitefish sector has not been matched elsewhere). On the other hand, the Commission appears to be arguing that as the 120mm+ gear category still accounts for the largest element of cod catches and should therefore bear the brunt of further effort reductions.

5.2 At the cod symposium the Commission pointed out that the estimated overall effort reduction of only 15% could also be explained by an effort shift (and hence increased fishing mortality) into the 80-99mm trawl segment and the 100-119 mm trawl segment. This counter-productive situation was also noted by ACFM. It is therefore remarkable that in its non-paper the Commission now seems to accept STECF's view that the allocation of more days-at-sea to vessels using a smaller mesh size is not a negative incentive. Even if STECF's conclusion were correct then it is still impossible to explain to fishermen, the processing and trade sector and the wider public that under the current regulation fishermen are forced to use smaller mesh than is suitable for their fishery in order to obtain sufficient days-at-sea to fish their quota entitlements. The inevitable result is unnecessary discarding. This perverse situation has repeatedly been brought forward by the NSRAC in the context of cod recovery and flatfish management. It must be addressed.

5.3 The 2007 advice from ACFM indicates a much greater reduction in fishing mortality than that assumed in the non-paper (36% compared with 15%).

5.4 The Commission's non-paper adopts an uncritical view of effort control. Restriction of time at sea is, along with reductions in TACs, is the principal instrument which has been put in place to achieve cod recovery under the extant plan. Attention is drawn in the non-paper to various ways in which overall levels of effort have not reduced in line with expectations, but the usefulness of effort control as an instrument in is neither challenged nor discussed. It is important to look again at first principles, and to consider the problems encountered with effort controls in other parts of the world, before adopting them uncritically.

5.5 The Commission hosted a seminar in Brussels in March 2007 on the economic dimension of fisheries management. Professor Lee Andersen, of the University of Delaware was unequivocal in his view that effort control created incentives for fishers to fish more intensively during the reduced time they were at sea. As a result, effort control was not capable of delivering stock recovery.

5.6 Experience from Iceland also suggests that a hard look must be taken at effort control as an effective instrument for achieving cod recovery. The Icelandic authorities abandoned effort control after the annual effort allocation had been

reduced to 80 days per vessel. The patterns of fishing activity described by Professor Andersen, including "capital stuffing" had become apparent.

5.7 The Commission is focusing strongly on closing loopholes which it believes are thwarting the reduction of fishing effort to levels compatible with rapid cod recovery. The NSRAC suggests that as part of the review of cod recovery a closer look has to be taken at the overall role of effort control. Although effort control may have a part to play alongside other measures in some fisheries there are grounds for questioning the overall contribution that effort control is able to make to rebuilding cod stocks.

5.8 What is certain is that effort control increases the costs of fishing, potentially to the point at which fishing is no longer viable. Moreover, individual fishers will respond to effort controls in ways which are economically rational to them but which are not always consistent with the objectives of cod recovery.

5.9 A particular problem which has arisen with effort control is that it has restricted the ability of fishers to catch the full quotas allocated to them for other species.

5.10 Since the effort regime was put in place new developments have taken place in the fleets which have gone beyond the regulations. An example is the development of a twin-rig and outrig flatfish trawl with a low cod by-catch that is currently obliged by the regulations to use a smaller mesh net or face a penalty in the form of fewer days at sea (resulting in plaice discards that would not occur with the larger mesh). The NSRAC has stressed the importance of having a management system which is able to adapt to changing circumstances.

5.11 Finally, the NSRAC points out that the data on capacity developments in the non-paper (tables 1 and 2) are not suitable for any conclusions to be drawn on effort developments. The data presented comprise the gear type notifications of the Member States at the beginning of the year and do not reflect the actual use of those gears during the year (and hence the associated effort). The Commission should see to it that STECF (and other scientific bodies) use the data on deployed effort (which should be available from the national statistics data basis) rather than 'paper' capacity data.

6. Effort Capping

6.1 The Commission's non-paper asks whether the current days-at-sea system should be improved and simplified, or whether there should instead be ceilings on kW effort deployed by Member States in specific areas and using specific fishing gears. In its earlier paper the NSRAC commented on system which allocated effort to Member States for distribution and detailed management at national level. Some participants supported this approach and pointed to the additional flexibility that it would bring. Others stressed the difficulties associated with this approach, notably the need to agree allocation keys at national and vessel level. The NSRAC has now looked more closely at this subject following the presentation of a paper on area effort ceilings (Annexe 1).

6.2 The paper suggests that in 2008 the Commission should allow Member States the flexibility to operate one gear grouping under a kW effort ceiling, while the remaining gears continue to operate under the existing days-at-sea arrangements. This derogation would give Member States the opportunity to test the benefits and issues associated with effort ceilings.

6.3 There is some support from NSRAC participants for this proposal. This proposal would help Member States to take internal decisions. A kW effort ceiling could be calculated for each cod recovery zone, which would allow capped levels to better reflect the state of cod stocks in each area. Capping of effort would provide security that the level of effort would not exceed a given level. It would allow Member States to experiment with allocations under a given ceiling.

6.4 There are caveats from other NSRAC participants. A mixture of two different effort regimes will create difficulties. There will be a problem in summing the effort and there may also be management problems. Different Member States have different systems for measuring kW and in some cases the power of individual vessels has been understated. Before such a system is introduced it will be necessary to ensure that measurements are properly standardised. Overall, it would be better to allocate kW-days on the basis of relative stability. Other participants believe that the NSRAC should be pressing for removal of effort controls and that acceptance of this proposal will result in effort controls remaining firmly in place.

6.5 It is evident that there is no consensus on effort-capping and that the approach will need further refinement and explanation if it is to be endorsed by all NSRAC participants. The NSRAC will be providing a separate paper with comments on the Commission non-paper on Effort Management under Annex II of the TAC Regulation.

7. More selective fishing gears

7.1 The NSRAC has already emphasised that as cod stocks recover restrictive quotas are leading to heavy discarding. Technical measures have a role to play in reducing discarding. The NSRAC has noted the success of measures which improve the selectivity of fishing gears in reducing discards in specific fisheries and in other regional seas like the Baltic.

7.2 Improved gear selectivity is addressed in the Commission's non-paper. It points out that he matter has been under study for some years and that no simple practical solution has been found. Cod is the largest-bodied abundant commercial fish in the North Sea and also has the habit of seeking to escape from trawl cod-ends by swimming downwards. While it is feasible to design fishing gear that retains cod but allows haddock, *Nephrops*, sole and plaice to escape, it has not proven possible to identify a fishing gear that reliably lets cod escape but retains other commercially valuable catches. STECF has not been able to recommend measures to improve size-selectivity beyond the current 120mm mesh sizes.

7.2 The NSRAC considers that more selective fishing gears have a wider significance beyond the contribution they could make to rebuilding cod stocks. Such gears can assist in moving fisheries towards the long term goals of lower fishing mortality, higher yields and reduced levels of discarding. While there may be no simple, universal solution to improving gear selectivity, the NSRAC suggests that useful measures may be adopted at a regional level. The NSRAC also restates its view that larger meshes, where they can be used, have a major contribution to make in terms of reducing the capture of juvenile cod. There is an urgent need to remove perverse incentives which encourage a move towards smaller mesh sizes in the North Sea fisheries.

7.3 The NSRAC has not yet addressed the specific comments made in the Commission's non-paper on the various fisheries of the North Sea and Skagerrak. A number of Development Groups have been established by the NSRAC to consider the development of long term management plans for those species. Progress has so far been slow because of the financial obstacles placed in the way of the RACs over the past year. Now that it is possible to fund meetings of these Development Groups progress should be more rapid.

8. Closed Areas

8.1 The NSRAC has previously commented that there may be a role for closed areas in well-identified instances, but the effects can be neutral or even negative if effort is simply displaced to other areas.

8.2 The Commission's non-paper notes that despite exhaustive analysis by STECF, no practical candidates for closed areas to protect cod have been identified. It agrees with the NSRAC that there may be specific uses for particular closed areas in well-identified cases. It points out that there may be a case for closure of an area of the North Fladen grounds to help reduce the impact of *Nephrops* fisheries on cod.

8.3 Existing closed areas are being evaluated by STECF as part of the review of technical measures planned for 2007. An STECF sub-group will examine these issues in detail in September 2007. The NSRAC awaits the findings of that sub-group. The Commission's proposals for closed areas in the North Sea and Skagerrak, including suggestions of restrictions on fishing in the northern part of the Fladen ground, will be considered by the NSRAC's Development Groups.

9. New Approaches

9.1 The NSRAC has proposed that a new regional management framework is required for the North Sea, based on better and more comprehensive knowledge of the stocks and incorporating a series of management plans for the key fisheries.

9.2 Within that framework the NSRAC is willing to take up the challenge from ICES for fisheries to avoid catching species that are identified as critical. It endorses

ICES wish for industry-initiated programmes to minimise catches of species which are clearly identified as being in a critical state.

9.3 The NSRAC also accepts the point made within the Commission's non-paper that the 2005 and 2006 cod year-classes may be more abundant than other recent year-classes. Increased efforts must be made to avoid catching or discarding these new year-classes. A rapid rebuilding of cod stocks is possible if these young fish can be protected until first spawning. Indeed, finding ways to protect these two year classes seems to offer the best available prospect for the rapid recovery of cod stocks.

9.4 Against this background the NSRAC draws attention to and gives strong support to three initiatives:

A real time area closure pilot project (Annexe II)

An observer programme pilot project (Annex III)

Individual vessel cod rebuilding plans (Annex IV)

9.5 These initiatives share a common aim of minimizing the catch of juvenile cod and reducing the discarding of cod in order to boost to the numbers of cod surviving to spawn. Together with other proposals which will come from the NSRAC's Development Groups they offer a way forward which is distinctly different from the Commission's choice of general effort reductions or more rigid segmentation of the fleet. The initiatives are essentially bottom-up, and are based on providing incentives to fishermen to bring about "decoupling".

9.6 These initiatives have received the general support of NSRAC participants. The NSRAC now wishes to discuss with the Commission how these initiatives might be taken forward as pilots in 2008, with the possibility of wider application in 2009 as part of a revised cod recovery plan.

ANNEXE I

Cod Recovery Zone Effort Caps

Background

The Commission's non-paper on the future of the EU cod recovery plan asks whether the current days-at-sea system should be improved and simplified, or whether there should instead be ceilings on kW effort deployed by Member States in specific areas and using specific fishing gears.

Cod Recovery Zone Effort Caps

In order to better answer this question, this paper suggests that in 2008 the Commission should allow Member States the flexibility to operate one gear grouping under a kW effort ceiling, while the remaining gears continue to operate under the existing days-at-sea arrangements. This derogation would give Member States the opportunity to test the benefits and issues associated with effort ceilings.

Cod Recovery Zone Effort Caps might operate in the following way in 2008:

1. Member States could volunteer to operate one gear grouping under a kW effort ceiling;

2. Where a Member State chose to operate one gear grouping under a kW effort ceiling, all of their vessels notifying these gears would operate under national/domestic allocation arrangements, rather than the allocations stated in Table 1 of Annex IIa;

3. The kW effort ceiling would be based on an agreed percentage of the Member States' average annual kW effort level over 2004, 2005 and 2006;

4. The kW effort ceiling could be calculated for each CRZ region, which might allow the cap levels to be better reflect the state of cod stocks in each area;

5. All effort in the CRZ with the gear grouping chosen would count against the cap, except trips which were independently observed to catch less than 5% cod, plaice and sole.

6. Gear groupings which were not under the effort cap would continue to operate under the existing days-at-sea arrangements.

Notes

(1) A system based on a Member State 'pot' of effort potentially offers greater flexibility. Member States would have a clear opportunity to design something better than what we have at the moment. For example, Member

States could choose to allocate additional days to vessels operating under a domestic Cod Avoidance Plan, so long as the overall effort with the gear grouping did not exceed the cap.

(2) CRZ effort caps would be set on actual effort. If the 2008 pilots were successful, Member States would have given the Commission a more precise tool to control effort levels.

(3) Member states could still allow vessels to notify two gears for a management period where one gear was subject to domestic arrangements and another gear was subject to Table 1 of Annex IIA. A similar averaging calculation could be applied to the one that exists at present. Most importantly, whichever calculations were agreed would, as at present, have to ensure that effort could not be increased through a vessel notifying two or more gears.

(4) A main output of the recent cod symposium in Edinburgh was that the European Commission should adopt a more regional approach to fisheries management. An ‘effort cap’ system not only compliments such a desire but acts as the first step in a multi layered process towards such a goal.

ANNEX II

Real-Time Area Closures (RTCs)

A Proposal for Member State Co-operation

1. There is widespread support for the introduction into the Community of a real time closure (RTC) system of a type similar to that which operates in the Norwegian EEZ.

2. RTC of those fishing grounds where smaller fish are discovered to be abundant can be a useful tool for reducing discards of undersized fish and for protecting juvenile fish. RTCs are an essential tool in a package of management measures designed to avoid all discards.

3. This proposal is for a pilot project involving the co-operation of [Denmark and the United Kingdom][1] to test and develop a system of Real Time Closures under the legal constraints of the Common Fisheries Policy.

4. A pilot project will inform any forthcoming proposals from the Commission to introduce a system of RTCs for the avoidance of discards in support of any intention to prohibit discards.

5. The pilot project would be conducted [in ICES Areas IV and VI][2]

6. The pilot project will aim to avoid the capture of [undersized cod (*Gadus morhua*)][3].

7. Co-operating Member States will:

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[1] The extent of co-operation is yet to be determined. The greater the extent of co-operating Member states, the more potential problems in establishing a Community-wide system will be raised and - hopefully - resolved. The lesser the extent of co-operation, the more likely it is that a pilot project will be established in good time, with sufficient regard for local conditions. The fullest extent of MS co-operation that could be envisaged covers UK (England & Wales, Scotland, Northern Ireland), Denmark, Sweden, Germany, Netherlands, Belgium, France and Ireland. *So far, UK (Scotland) and Denmark have indicated a willingness to co-operate along similar lines.*

[2] The geographical scope of the project needs to be agreed between co-operating Member States. Options include the whole cod recovery zone, ICES Area IV only, the fishing grounds covered by the North Sea cod stock (IIa, IIIa, IV and VIId) or any other combination: e.g. IV & VI or IV & IIIa. Measurement of effect is best achieved by basing the area covered on biological stock units; but MS co-operation is most easily achieved by basing the area covered on a continuous area of common regulation. *The Scottish interest is in covering Areas IV and VI*.

[3] The purpose of closing an area needs to be clear and agreed in order to develop appropriate criteria for a closure mechanisms and also in order to establish an evaluation method. Options include aiming for the avoidance of undersized (i.e. illegal if landed) fish or aiming for the avoidance of juvenile fish (as in the Norwegian system). Factors to be taken into account in reaching an agreement include the sector's willingness to co-operate in a pilot project, likelihood of MS co-operation and the biological impact of a measure. Sector co-operation is unlikely to be forthcoming if a pilot project prohibited the capture of marketable, legal fish captures. A juvenile avoidance system would have the greatest biological impact and maximise prospects of stock recovery but - like the Norwegian system - it would close areas to avoid the capture of sexually immature fish which could otherwise be legally landed and/or of market value. This consequence would undermine sector confidence in the pilot project, as would any system designed to avoid the capture of mature fish. *Scottish and Danish interests are in avoidance of undersized fish, noting the different MLSs in Areas IIIa and IV.*

a. Agree sampling programmes for monitoring abundance of undersized fish[4].

    i. [Member States to use existing control authorities at-sea inspection activities to conduct on-board sampling for the purpose of identifying the abundance of undersized fish in catches].

b. Agree levels of abundance triggering RTCs[5].

    i. [An area where there is a high abundance of small fish shall be an area in which 40 or more individual fish below the minimum landing size per hour's fishing effort are observed in samples of no fewer than three samples within a 48 hour period].

c. Agree the size of closures to be introduced around areas identified as containing high abundance[6].

    i. [Following the identification of abundant undersized fish in no fewer than three observed samples taken within a 48 hour period in the same quadrant of an ICES rectangle (225 nautical miles squared, or one-quarter of an ICES rectangle), that quadrant shall be closed]

d. Introduce or use existing national powers to close identified areas in their own zone to their own fleets[7].

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[4] There are a number of factors limiting the sampling programme, including: the degree of uniformity between co-operating Member States that would required in order to discourage protectionist measures (e.g. closure of sandeel fishing grounds by UK authorities); the degree of scientific confidence in sampling programmes - species identification etc.; the observer resources available to Member States; and the potential risks associated with the use of observers for multiple purposes (seeking to avoid corruption of scientific data or existing programmes). *Scottish interest is in avoiding the costs associated with establishing an independent observer scheme by using existing resources:* ***either*** *by recourse to existing scientific resources for identifying areas of abundance and other scientific purpose* ***or*** *by recourse to the use of existing control resources for identifying areas of abundance for closure and other management purposes (e.g. establishing a low track record of catching marketable cod/sole/plaice.*

[5] Rationale and methods for adopting the criteria need to be agreed between co-operating Member States. Sampling methods need to be consistent with resources made available, and effective. The choice between relative and absolute measures of abundance need to be made: in this proposal, absolute measures of abundance are preferred as being less disruptive to small scale fishing and carrying less risk of negative displacement effects. Annex 1 provides rationale for the *Scottish interest, which is in closing areas where 40 or more individual fish below the minimum landing size per hour's fishing effort are observed in no fewer than three samples within a 48 hour period.*

[6] The dimensions of the area to be closed will need to be agreed between co-operating Member States, and the agreement will need to balance several different factors, including the capacity of co-operating national authorities to enforce agreed area closures, the residual fishing opportunities for active fleets and the risk of displaced fishing effort having unintended and negative biological consequences. Options include an area surrounding the sample area (e.g. 5 or 10 or 15 nm radius), the entire ICES rectangle around the area in which abundance is identified (900 nm2), or the quadrant around the area in which abundance is identified (225 nm2). In general, the smaller an area of closure, the greater the risk of negative effects from displaced fishing effort - and the more areas will need to be closed for an impact to be measurable at the stock level. For these reasons, the Scottish interest is in closing the *quadrant surrounding the area in which abundance has been identified.*

e. Agree a method of informing other co-operating MSs of the closed areas in their own zone.

f. Agree, on being informed of a RTC in another the area of jurisdiction, to introduce or use existing national powers to close those areas to their own fleets within [48] hours of receiving notification from the co-operating MS[8].

g. Agree to specify those fishing activities which shall be prohibited within the closed areas[9].

    i. All fishing with mobile demersal fishing gear shall be prohibited within the quadrant to be closed.

h. Agree the period for which RTCs will be maintained.

    i. Area closures shall be maintained for a period of [three weeks][10].

i. Agree a maximum number of closures which may be in force at any one time[11].

j. Agree a method of selecting sites for closure in the event that more sites than the maximum number are identified as meeting the criteria for closure.

8. Where co-operating Member States need to agree, it should not be understood that the same rules, criteria or procedures always need to be adopted in different co-operating Member States. Uniform application minimises the risks of fear within the sector of MSs taking discriminatory unilateral measures, and is useful experiment in identifying the issues that the Commission is likely to encounter in proposing Community-wide measure. However, differential applications may allow a more locally tailored approach and they need not be discriminatory if they meet a minimum and agreed standard in support of a common aim.

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[7] *In the Scottish zone within UK fisheries limits, closures would be introduced under powers of 1967 Sea Fishing (Conservation) Act and would apply to all UK vessels. Administrative closure of an area …*

[8] *Scottish notification system would require at least 24 hours notice to Scottish fishing vessels, using the powers under Sea Fishing (Licensing and Notices) Regulation 1994 (SSI 2813/94). Further, the competence of a Member State to restrict the fishing activity of its own vessels beyond its own jurisdiction is, at least, challengeable under existing EC law. Co-operation of the fishing sector is therefore essential without a derogation from the relevant laws for the co-operating Member States for the purposes of conducting this pilot project.*

[9] Types of fishing activity to be prohibited in closed areas will need to be agreed. Prohibition of fishing activity without significant impact on the protected target - e.g. undersized cod - in any area where other important activities take place would undermine sector confidence in the pilot project. The risk of closure of known fishing grounds for Norway lobster, crangon, shrimp, herring or sandeel fisheries, for example, will need to be understood and managed. *Scottish interest is in closing identified fishing grounds to all fishing with mobile demersal fishing gear.*

[10] The length of closure period needs to take account of co-operation from fishing sector and likelihood of more concentrated areas of abundance being observed during the period of closure than resources would allow to close.

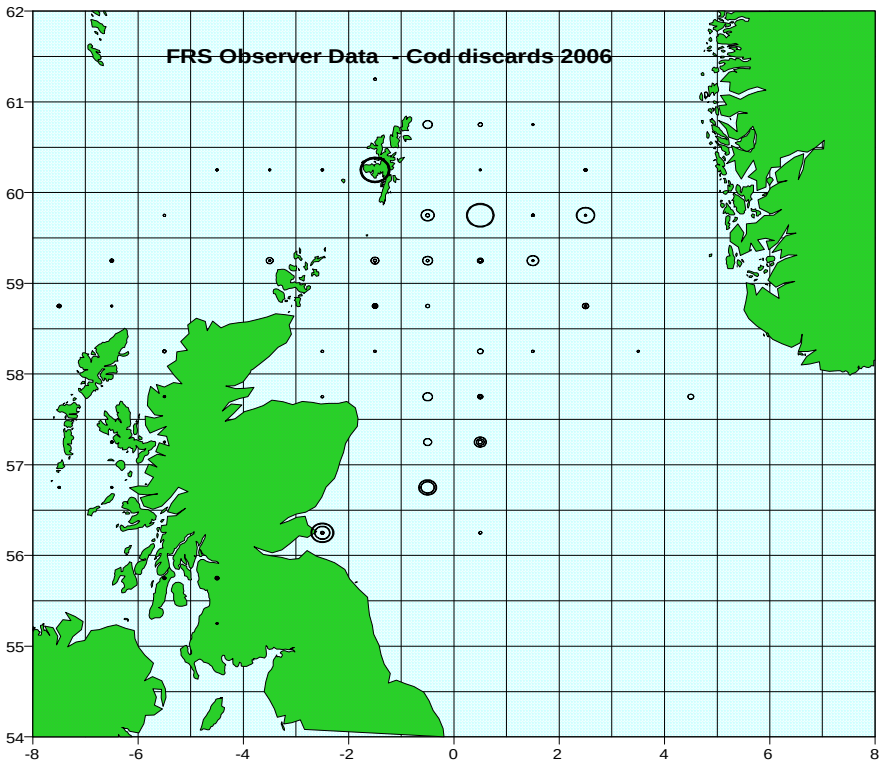
[11] Existing capacity of Scottish fisheries control resources suggests that a maximum number of eight RTCs could be enforced in the Scottish zone within UK fishing limits at any one time. This limit informs the selection under paragraph 5.c (the size of closures to be introduced).

9. Establishing Areas of High Abundance

1. FRS discard observation data has been examined to establish threshold levels determining areas of high abundance of undersized cod. The observations cover most traditional Scottish fishing grounds in the North Sea and West of Scotland areas, and record the numbers of discarded cod by size ranges.

2. Data is derived from 91 separate trips of between 3 to 10 days conducted during 2006, when the relatively abundant 2005 year class was aged 1. The data is presented as the number of undersized cod discarded per hours fishing effort:

Catch of cod <35mm (MLS) numbers/hour 2006 FRS observer programme[12]



3. The full data set for each trip is available.

[12] Concentric and bold-lined circles indicate rectangles in which more than one FRS observation trip was undertaken. Concentric circles represent separate trips with different rates of undersize capture, bold lined circles represent more than one trip with the same rate of undersized capture.

4. The numbers of cod caught during each trip are recorded against the statistical rectangle where most of the fish were caught within a demersal sampling area.

5. Numbers were recorded by four categories:

    a. Numbers < 20 cms
    b. Numbers <30 cms
    c. Numbers< minimum size
    d. Numbers > minimum size

6. As this exercise was done simply to give an overview of what use could be made of existing observer data, no attempt was made to display the data by gear type or time period.

7. During the period of this coverage, there were several statistical rectangles where sampling occurred on more than one occasion. Where this happened, no attempt has been made to combine the data. The data that was available has been simply plotted and in some cases, the differing observed rates can still be seen in the output.

8. For future purposes observer data can be displayed at a more detailed level. Fisheries management Database has length frequency data for the main species recorded at haul level, with a position associated with these data. However, this would require new reports to be designed and additional support from GIS Services at FRS.

9. Initial conclusions that can be drawn from the overview data:

    a. At different times the volume of undersized cod caught by fishing in an area can be substantially different.

    b. In different places the volume of undersized cod caught by fishing at the same time can be substantially different.

    c. Significant captures of undersized cod on a Scottish fishing trip are those where more than 30 - 40 individual undersized fish per hour's fishing effort are caught.

    d. The length of the fish selected as being targeted for avoidance has a significant impact on the location of most abundant suites. A focus on the avoidance of fish under 20 cm suggests would suggest the closure of different areas, at different times than a focus on the avoidance of fish under 35cm.

ANNEX III

Observer Project Pilot

In September 2007 the NFFO and SFF will be launching a pilot observer scheme to assess the viability of one of the special conditions in Annex IIa of the Effort Control Regulation. Where vessels take less than 5% of cod they are entitled to additional days at sea. Section 8d of the annex provides that one way they can demonstrate they have done this is to have an observer on board for the duration of the fishing trip.

The pilot scheme is being jointly funded by the EU and the UK Government (Scottish executive Marine Directorate and the Marine Fisheries Agency). Observers are being supplied by MRAG - a specialist consultancy.

ANNEX III

Cod Avoidance Plans: A Concept Paper for Discussion

Background

The Commission's non-paper on the future of the EU cod recovery plan poses two mutually unpalatable alternatives. In order to bring about a rapid recovery of cod stocks in European waters the Commission argues that it is necessary to reduce fishing mortality on cod much further than the measures in place appear to have done so. This, it argued, can be done by suppressing effort on cod by reducing TACs and effort allocations across all those fleets which catch cod. Alternatively, fleets which catch only small amounts of cod could be *decoupled* from cod fisheries with separate, less restrictive effort ceilings. Although such fisheries would face less severe restrictions, it is acknowledged that decoupling would involve much more bureaucratic arrangements than have applied hitherto, with sub-area and gear effort ceilings and a much more restrictive regime on transfers of vessels and effort across fleet boundaries.

Cod Avoidance Plans

As an alternative to these two approaches we propose *individual vessel cod rebuilding plans.* We envisage that Cod Avoidance Plans would operate in the following way:

1. The vessel operator would volunteer to prepare a Cod Rebuilding Plan;

2. Those vessel operators opting to prepare a plan would discuss the matter with member state authorities who could provide advice on the content of the plans. (Such guidance would be the subject of a prior consultative exercise);

3. The vessel operator (with assistance, if requested) would prepare a specific cod rebuilding plan for that vessel for the coming 12 months;

4. The vessel's Cod Rebuilding Plan would specify ways in which the vessel would operate in the coming year to avoid catching cod above that covered by the vessels' legitimate quota. This could be through:

    - spatial avoidance
    - temporal/seasonal avoidance
    - selective gear
    - or any other method devised by the vessel operator

5. The vessel operator would undertake, through these means, to keep cod catches within the vessel's quota allocations and in any event, below 5% by weight over an agreed time period.

6. The Cod Rebuilding Plan would be submitted to the member state authorities for approval;

7. If the vessel's Cod Rebuilding Plan is approved the vessel would either be exempt from effort control measures for the coming year, or would be granted more days-at-sea, depending on the efficacy of the plan;

8. Conditions: vessels participating in the cod avoidance plan scheme would undertake to provide enhanced data on fishing activities, including estimates of discards, and would agree to engage in initiatives with scientists to improve the monitoring of catches and discards;

9. Vessels breaching their conditions would be required, at least, to operate for the rest of the year and the subsequent fishing year, within the effort control regime;

10. Safeguards: in order to provide confidence that the cod avoidance plans would not be abused, a number of safeguards would apply:

    - An observer programme on a number of vessels in the fleet, together with engagement with scientists in catch and discard monitoring initiatives;
    - enhanced data reporting, including self-sampling
    - cross-checking of cod catches with other similar vessels operating in the same area

Notes

(1) Technical advances in the ability to make fishing gear more selective have not been matched by an institutional structure which incentivises the application of such gear. By specifying and agreeing the outcome (low catches of cod) the ingenuity and knowledge of fishermen will be directed to finding ways to reduce catches of cod. At present no such incentive structure exists.

(2) Catches – inclusive of landings and discards. Acceptable by-catch limits to be agreed but probably about a 5% maximum.

(3) An approach based on Cod Rebuilding Plans would be consistent with:

    - the objectives of the cod recovery programme;
    - the Commission's initiative on discards;
    - improved selectivity – the objective of the new revised technical conservation regulation.