



North Western Waters Regional Advisory Council

Position paper on Cod Management

June 2012

Re-booting Fisheries Management in the West of Scotland and Irish Sea Demersal Fisheries

Breaking the Cycle of Decline

1. Background

In March 2012, a NWWRAC Focus Group met in Dublin and discussed the stocks and management situation in the West of Scotland and Irish Sea demersal fisheries.

In its work the Group drew heavily on:

- the [ICES annual stock assessments for cod in the West of Scotland and Irish Sea](#)
- The recent [ICES benchmark process](#) for Western Waters Roundfish (WKROUND)
- [STECF's evaluation of the EU Multi-annual Management Plan for Cod](#)

It was agreed that:

- I. Conservation measures in the Irish Sea and West of Scotland have been dominated by cod for over a decade. These impact on a wide range of other fisheries; they have however palpably failed to rebuild cod biomass to precautionary or even limit reference levels; this experience contrasts with the North Sea where a modest but steady recovery is underway; and with the Celtic Sea which has remained outside both the EU Cod Recovery Plan (2003-2008) and the EU Multi-annual Management Plan for Cod (2009-present), but which has demonstrated strong recruitment driven rebuilding of the cod stocks;

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- II. Although there appear to be strong parallels between the conservation status of the cod stocks and stock dynamics in the West of Scotland and the Irish Sea, there are also important differences in the characteristics of these fisheries;
- III. Economically important nephrops fisheries are the dominant feature of both West of Scotland and Irish Sea fisheries;
- IV. A truncated age structure in both West of Scotland and Irish Sea fisheries suggests a high mortality rate, although the precise balance between fishing and natural mortality (and especially the role of seals) is uncertain and contested; although the views expressed in neither group is entirely homogeneous, there can be significant differences between the industry and ICES scientists perception of the direction of stock trends;
- V. Management measures have been hampered by weak assessments and data deficiencies. Despite the requirement of article 14.4 of Control Regulation (EC) no 1224/2009 which establishes the obligation of registering discard data in logbooks, inadequate information on discards by metiers is still a major source of data deficiency undermining confidence in the assessment.
- VI. Information used for tuning the assessment have recently been lost due to the curtailment of important stock surveys; this further impairs the strength of the assessment and confidence in it;
- VII. According to [STECF report](#) on the effectiveness of the EU Multi-Management Plan for Cod, the management measures in place, insofar as they have been based on TACs and effort control, have been relatively ineffective; this has principally arisen because:
 - TACs constrain *landings* but not *catches*;
 - The evidence suggests that there is no linear relationship between reductions in fishing effort and reductions in fishing mortality.
- VIII. In the West of Scotland, stronger landing controls and very low TACs over the period 2002 -2011 have transformed catches (landings) into discards; in the Irish Sea the main fleets targeting cod have been reduced to a small handful of vessels;

- IX. Crucially, the combination of decreasing TACs, effort control, technical conservation rules (catch composition rules), and enforcement regime has created a trap in which fishermen are afraid to record their discards accurately because of the possibility of either immediate enforcement actions (such as closure of the fishery) or in the slightly longer term, more punitive management measures that the information may trigger; this may be the single most significant factor which undermines the quality of the assessment in both the West of Scotland and the Irish Sea;
- X. There are signs that pockets of misreported cod may be re-emerging arising from the imbalance between the TAC, the availability of cod on the grounds and the high levels of discards;
- XI. The extent to which we are witnessing some kind of regime shift affecting the abundance of cod stocks as a result of ecosystem change is a live but open question;

Against this background, the Focus Group concluded that the EU *management response* to ICES advice, and the *fisheries response* to management measures, has resulted in a spiral in which, poor data, high discards, mistrust, low TACs and uncertain assessments, have created a vortex from which it is has been difficult to break free.

The Group's conclusion was that doing more of the same (lower TACs, reduced days-at-sea) will not break us out of this cycle of decline in the near future, if ever. Instead, a determined political initiative, backed by all parties (fishing industry, fisheries managers, scientists and NGOs) is required to *reboot* the fisheries management system and put it on a the road to a sustainable footing.

2. Proposal

In order to break out of this cycle of decline, the following proposal is suggested for discussion and consideration:

At the core of this proposal is the view that fixing the broken management regime is *inextricably intertwined* with repairing the stock assessment. For so long as the assessment is undermined by incomplete catch statistics and inadequate tuning arrangements, management strategies will be informed by inadequate science in which it is difficult to have confidence.

All parties - fisheries managers, fisheries scientists, the fishing industry and other stakeholders (including NGOs), therefore have a deep interest in resolving these twin issues.

A *multi-layered but integrated* approach in term of cod management is advocated, addressing:

- TAC setting
- Effort control
- A move to a form of fully documented fisheries
- A collaborative partnership between scientists and industry
- Discard reduction and, in some cases, elimination
- Cod avoidance strategies
- Data deficiencies

This will require:

1. A TAC set at a level more in line with the current level of total *catches* in order to break the spiral and avoid the discard of large cod. This would amount to a substantial increase in the TAC (similar to sole in the Channel in 2005) and this proposal could also be applicable to other fisheries in reflecting the total catches (landings + discards).
2. A *quid pro quo* industry commitment to *full documentation* of catches of cod adapted to the characteristics of each specific fishery. In particular, it should not add constraints on fisheries having very low impact on cod. This would not necessarily follow the exact template of catch quotas projects currently being trialled by a number of member states using CCTV as a verification tool, but would achieve the same outcomes: an elimination of discards of mature cod, a significantly higher degree of confidence in catch statistics, incentives aligned with management objectives.

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Observers, and/or reference fleets, for example, could be used to monitor the full documentation of catches of cod with the aim of achieving the same outcomes.

3. An industry commitment to the implementation of measures to ensure that catches of cod above the TAC are eliminated; thereby eliminating discards of mature cod whilst remaining consistent with the required adjustment of TACs in line with the level of total catches.
4. Close involvement of the industry ICES scientists and gear technologists in the process of designing selectivity and avoidance measures aimed at ensuring only cod for which quota is available is caught;
5. A suspension, or at the minimum a freeze, on effort control;
6. An adaptation of catch composition rules specified in the Cod Management Plan and 850/98 to ensure that all cod above the minimum landing size that is caught can be landed legally.

3. TAC Setting

A TAC more in line with current catches would provide an accurate picture of the fishery and reliable data on the level of real catches (i.e. landings + discards).

In the West of Scotland a TAC set at a level more in line with current catches would represent a significant departure from recent practice, and a substantial increase in the landings of cod. ICES advice suggests, however, that recent practice in the West of Scotland has resulted in four cod being discarded for every one landed; our suggested approach if catches are constrained to the TAC, should result in an overall *reduction* in fishing mortality, all other things being equal. The TAC to date has not constrained *catches*, only landings.

In the Irish Sea, the evidence points to a much a lower absolute level of cod discards that was initially estimated. This is due to the fact that the fishery in Northern Ireland has been subject to what has been described as the most extensive programme of enhanced data collection in Europe, since 2007 in which on-board observers are rotated through the fleet and in addition vessels, after training, undertake self sampling.

ICES advice suggests that some additional form of unwanted mortality is in play, in both fisheries, resulting in a truncated age structure. The ICES proposal (not followed by the Council) was to set the TAC at zero, with a 1.5% cod by-catch provision.

In both cases, rebooting the management regime requires a departure from the habitual approach of setting a TAC independently of other components of the fisheries management system; notably, consequences for discards, overall unintended consequences, the fisheries response, implications for enforcement, and the implications for total fishing morality.

A new approach of the type suggested above requires a political decision by the Commission and Council of Ministers (and European Parliament if this package of measures subject to co-decision) to break with the now discredited approach of simply setting TACs at the lowest possible level. ICES and STECF science is clear that this has been an inadequate management response to the current conservation status of the cod stock, even when underpinned by effort control.

Although the approach proposed appears radical, and is not without risk, there is a precedent. In 2005, the TAC for (Western Channel Sole (Area VIIe) was set in line with current *actual* (rather than reported) landings. This one-off adjustment amounted to an increase from previous years in the region of 700%.

This was an adjustment to the TAC designed to put the fishery, management measures and stock assessments on track after years of misreporting and mismanagement. It is widely regarded as a success in terms of step change towards a sustainable fishery in the area.

4. Industry *Quid Pro Quo*

If fisheries managers are willing to make a break with the past practice of setting the TAC at a low level, in the hope that a new approach will achieve the required reductions in fishing mortality, it is reasonable to expect the industry participating in fisheries with an impact on cod to respond in kind through participation in cod avoidance and discard reduction activities.

STECF has suggested that the element of the Cod Management Plan that has been effective in terms of avoiding cod, reducing discards and reducing cod mortality, has been those provisions that allow member states to provide incentives to vessels willing to undertake specific measures to avoid catching or discarding cod and which provide verifiable evidence that confirms this change in fishing pattern.

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Realizing the economic value in cod previously discarded is one way of providing such an incentive.

Additional quota at individual vessel level would strengthen the economic resilience of the fishery as a whole and its ability to absorb the transitional costs of moving to a more sustainable regime. We consider that this could have three principal dimensions:

1. Comprehensive and complete recording of catches tailored to the specifics of the fisheries concerned. This could be done through incentivised approaches such as observers on board, reference fleets or any approach resulting in adequate reporting.
2. The implementation of cod avoidance strategies from a menu approach:
 - More selective gear
 - Real time closures (although in a confined space such as the Irish Sea and Minches this is thought to have limited applicability)
 - Spatial and temporal avoidance through skipper choice
3. Reduction of cod discards, through:
 - Avoidance
 - Minimisation
 - Incentive structures

5. Fisheries Science Partnerships

The breakdown of trust between fisheries managers, scientists, and enforcement authorities has been one of the most corrosive effects of the failure of the management regime over the last 15 years. Rebuilding that trust will take time but as we have seen with various forms of fisheries science partnership this can be achieved quite quickly through successful ground level collaborations. A fresh start, with the potential for all parties to come out of the process of adjustment as winners, is a major prize. Aligning economic incentives with management objectives (rather than conflicting with them) is a fundamental dimension of the proposed approach. STECF has pointed out that to be effective incentives must make sense at vessel or individual enterprise level.

6. Effort Control

A TAC set just below current catch levels would provide scope for significant incentive to participate in full documentation and cod avoidance programmes; exemption from the effort regime would be a further incentive.

It goes without saying that good ideas can be spoiled by poor implementation and the design of the incentives programmes would be critical. There is however an ever expanding experience of incentive-focused projects in a variety of member states to draw on. These need not be followed slavishly but can be used to inform projects and tailored to conditions in the Irish Sea and West of Scotland.

The future of the effort regime in the form of the EU Multi-annual Management Plan for Cod is under review, although it may be some time before it is revised, not least because of the political logjam associated with co-decision.

Nevertheless it is clear from STECF and from the comments of member states that effort control has not been the panacea envisaged by some. STECF's view is that its primary benefit has been to encourage/force vessels to adapt their fishing patterns to avoid cod in various ways. The degree to which this has had an effect in reducing fishing mortality on cod has been closely related to:

- the availability of a cod avoidance arrangements in each member state;
- the complexity of the schemes and the ease of which it has been to navigate their bureaucratic obstacles;
- The magnitude of the incentives available in relation to each vessels economic situation – quota, exemption from effort control or additional allocations of effort.

As discussions are already under way on an interim regime, it is not necessary to repeat here the importance of a freeze on the annual automatic reductions but it is clear that the type of *new start* envisaged by this paper would not be compatible with the effort reductions required under the current discredited but stalled Cod Management Plan.



7. Conclusion: An Integrated Approach

Cod avoidance, discard reduction, reducing fishing mortality on cod, securing the support of the principal stakeholders, expelling mistrust, dealing with the endemic problem of data deficiency and strengthening the stock assessments must be dealt with as part of a single integrated approach.

Although in some respects, the suggested approach could be considered a radical departure, it would be built on some firm foundations:

1. The exhaustion of the current policy approach and the evident lack of progress after more than 10 years.
2. The strengthening collaboration between the fishing industry and fisheries scientists through dialogue in the NWWRAC, access to STECF and ICES meetings and at member state level various forms of fisheries science partnership.
3. Recognition of the need to move to forms of fully documented fisheries consistent with the specific characteristics of each fishery, in order to avoid economic and administrative burden disproportionate to their overall impact on cod.
4. The potential direction of CFP reform towards a regionalised, results focussed, bottom up policy approach.
5. The appetite for engagement within the fishing industry and the possibility of aligning incentives with management objectives.

We therefore commend the approach described above for consideration.

Annex I.

ICES Cod Benchmark for West of Scotland and Irish Sea

February 2012

West of Scotland Key Points

- Problems with catch data used in assessment (historic)
- Big change in discard pattern after introduction of Buyers and Sellers legislation (shift from 1-2 year-olds to much older)
- Some signs of re-emergence of area misreporting
- Problems with catch information have been transformed into problems with discards information
- Seal predation is a significant factor in mortality on cod
- There are other unknown sources of mortality in play
- Survey previously undertaken has been curtailed leading to a loss of the time series
- Stock structure: genetic studies confirm the presence of two sub-populations
 - Southern/Coastal in Minches and around Irish Coast: seriously depleted – only remnants to rebuild
 - Northern/Shelf: majority of current catches
- Primary requirement for confidence in the assessment is the reintegration of catch data into the assessment
- Truncated stock structure; the assessment is largely driven by stock structure; the population is dominated by young fish which implies very high levels of mortality
- Sea mammal Research Unit: dramatic revision – Big increase in grey seal population up to 1980s then flat – no exponential increase
- In models seal predation doesn't really affect trends
- Data deficiency is a major problem for this stock; only a few trips are sampled and these may not be representative (observers presence may influence fishing patterns)

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Irish Sea Key Points

- Very similar to West of Scotland
- Stock structure: Population dominated by young fish
- Problems with catch data replaced by problems of discard data
- New tagging data suggests remarkable affinity with the Irish Sea (i.e. little out migration of mature cod from Irish Sea – overwhelmingly resident population)
- Data includes egg survey and fisheries science project
- Data exploration exercise
 - Stock status
 - Stock trends
 - Different assessment models trialled: very similar results:
 - ✚ High total mortality
 - ✚ Small increase in Spawning stock biomass
- Management objective: improvement in stock structure: with higher numbers of older fish a resurgence in the cod stock would be probable
- Issue of *catchability* is being explored: Q1 finds many more older fish than Qs 3 and 4 – higher in the water column?
- Single most important in improving the assessment is to get good quality catch information
- Confidence in the model results is low
- Data trap:
 - If data is provided enforcement consequences follow – catch composition rules
 - If data is not provided poor science leads to poor management decisions

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