



## NSRAC Advice

### Evaluation of the cod recovery plan

#### 1. Introduction

- 1.1 January 2010 marked the end of the first year of the revised cod recovery plan, adopted in November 2008. Under the provisions of the new plan fishers in the North Sea, Skagerrak, Kattegat, and Eastern Channel initially faced an reduction in effort of 25% and in 2010 subsequently faced an additional reduction amounting to around 13%
- 1.2 Against this background it is appropriate and timely to consider how well the effort regime has operated in the different member states of the EU, whether it is achieving its objectives and what its consequences are. The North Sea RAC is well placed to provide an overview for the North Sea. The key questions are:
- How has the kW.days scheme operated in practice?
  - What has been the relationship between effort restriction and quota uptake?
  - Have there been any discard issues?
  - What is the future outlook for effort control?
- 1.3 The NSRAC initially invited comment from its participants on these topics. Then, following a Focus Group meeting on the 7<sup>th</sup> April 2010 in Brussels, this paper was produced and agreed by the NSRAC Demersal Working Group.
- 1.4 The basis of the Commission's cod recovery plan was that restrictive TACs had failed to prevent an increase in fishing mortality and halt the decline in cod stocks. Blame for this failure was levelled at high levels of unreported landings and discards. From 2003 onwards TAC and quota limitations were complemented by effort control in the form of days at sea limitations applied to various gear categories in a cod recovery zone. However, the Commission quickly concluded that this approach was complex and generated pressures for derogations that undermined the purpose of the plan to the extent that it was questionable whether it had been sufficient to bring about cod recovery. A new cod recovery plan was therefore adopted in 2008, covering four cod stocks: cod in the North Sea, Skagerrak and Eastern Channel, cod in the Kattegat,

cod to the west of Scotland, and cod in the Irish Sea. The new recovery plan would set TACs and effort limits according to predefined rules in response to the latest scientific advice.

- 1.5 Under the initial cod recovery plan the harvest control rules required that the TAC each year be fixed at a level that would result in a 30% increase in spawning biomass (SSB), until the precautionary level ( $B_{PA}$ ) was achieved. That was the level of biomass that scientists consider to be a safe level to avoid stock depletion. However, the resulting TAC was constrained to be within 15% of the previous year's TAC, provided that the stock biomass was above the level that gave a high risk of stock collapse ( $B_{LIM}$ ). If the stock was below  $B_{LIM}$ , more stringent TACs would be fixed. An additional and important component of the cod recovery plan required that the effort of fishing vessels fishing for cod should be adjusted in line with the changes in fishing mortality.
- 1.6 During the first phase of the cod recovery plan (2003-2008), reductions in fishing effort were primarily focused on the part of the fleet that caught most cod; defined as that part of the fleet using mesh size over 100mm. As a consequence there was a considerable transfer of effort from gears traditionally targeting cod (demersal trawls > 100 mm mesh size) to smaller mesh trawls (using mesh sizes between 70/99mm). There was a perverse incentive for fishers to move away from gears that traditionally targeted cod, and which were subject to the biggest reductions in effort, towards smaller mesh gears where cod was taken as a by-catch. Because of this transfer, the net reduction in fishing mortality was not thought to have been significant. The Commission concluded that the plan had achieved a much smaller reduction in the fishing effort on cod than had been intended.
- 1.7 The new cod recovery plan put forward in April 2008 placed more emphasis on effort limitation. A simplification of the fishing effort management system was proposed, together with a more flexible approach in adapting the rate of reduction in fishing mortality to different stages of recovery. The new plan was based on a reduction in cod mortality by 25 per cent in 2009 followed by subsequent annual reductions of 25% or 10% depending on whether the spawning stock biomass was assessed to be above or below  $B_{LIM}$ . A fishing mortality target of  $F_{0.4}$  was set. There were specific mechanisms to encourage the reduction of discards and to encourage the application of cod-avoidance programmes by linking these measures with days at sea allocations. Member states were allocated a kilowatt days 'pot' for each gear category in each sea area but, significantly, a member state could 'buy back' days at sea for its fleets through various measures. TACs for North Sea cod continued to be agreed separately with Norway. The new arrangements came into force early in 2009.

## **2. State of North Sea cod stocks**

- 2.1 The latest phase of the cod recovery plan is to last three years and there is a view that it may be premature to review it half way through. The formal requirement is to review it no later than the third year of implementation. However fishers have emphasised that the effects of the effort reductions required by the plan have been disproportionately severe. It is important to evaluate the plan now, before effort reductions do more damage.
- 2.2 The spawning stock biomass of North Sea cod is still below  $B_{LIM}$  but the stock is increasing, demonstrating that cod recovery is taking place. Fishing mortality lies between  $F_{LIM}$  and  $F_{PA}$  and there has been a downward trend in recent years. However, in the last year of assessment the human consumption target for  $F$  of at 0.4 was met, but there was 100% of discarding on top of that. Total fishing mortality had been above the 0.4 target and was closer to 0.8. Poor recruitment of cod had persisted since 2005. Recovery will be maintained if  $F_{0.4}$  can be met, but that was not the case last year because of increasing discards.
- 2.3 With low spawning stock biomass and poor recruitment it is necessary to adopt a precautionary approach. The cod recovery plan is designed to deal with a maintained level of low recruitment. The plan's aim is to conserve young fish and take a bigger yield from the older fish and it is based on reaching the target fishing mortality of 0.4. The NSRAC accepts that  $F_{0.4}$  is a sensible target, and is concerned that it is not being met because of discarding.
- 2.4 There is no linear relationship between effort and fishing mortality, and it cannot be guaranteed that the required reduction in  $F$  can be met by reducing effort. Moreover, reducing the TAC for cod is not the way ahead as this would increase discards still further.

## **3. Deficiencies in the cod recovery plan**

- 3.1 The NSRAC is committed to achieving cod recovery. However, it has concluded that the new cod recovery plan is not working as intended by the Commission and Council. If effort reductions continue they will result in an overcapitalised and inefficient industry. The system for managing effort has also proved to be administratively complex and costly and this runs counter to the need to simplify and reduce the regulatory burden within the CFP.
- 3.2 Although unreported landings may now have been eliminated there is still a major problem with the discarding of cod. According to the latest ICES evaluations, for every cod landed in the North Sea at least one additional cod is being discarded. Total removals of cod have not declined in the way the plan had intended. There is a hole in the plan and it is caused by discards.
- 3.3 The fishing industry requires mechanisms for achieving relief from the inexorable year on year reductions in effort. These reductions are having a severe effect on

fishing businesses. The focus of the plan has proved to be quite narrow and it has promoted a waste of economic resources. A vicious circle has been set up where effort has been cut and quotas increased but the resultant abundance of cod has led to an increase in discards leading in turn to further effort cuts, creating economic difficulties for vessels. The plan lacks an economic dimension. In many cases vessels have adequate quota for non-cod species, but cannot take this quota and maintain their income because of the days at sea restrictions imposed under the cod recovery plan. Very diverse fleets, with considerable earning power from other species, are being prevented from operating effectively. Fishers now see all avenues to making a profit being closed and this has adverse implications for the fisheries management system as a whole.

- 3.4 The NSRAC fully accepts the target fishing mortality target which has been set and points out that considerable progress has already been made in the recovery of North Sea cod. Nevertheless, overall, the year on year effort reductions resulting from the plan have undermined the rate of progress of recovery by increasing the discarding of cod.
- 3.5 The NSRAC has continually emphasised the importance of reducing discards and recognises, with the Commission, that there must be a safe and secure way of ensuring that discards have been reduced. Discard reductions in the different fleets must be verifiable.
- 3.6 The provisions for cod avoidance and discard reduction within the plan have been welcomed by fishers and fishery managers. However, although some of these provisions have been well utilised, others have not.
- 3.7 Article 13 ostensibly provides a mechanism for increasing effort allocations in return for conservation measures which reduce discarding and reduce fishing mortality. In practice, these opportunities have not been taken up; perhaps for two reasons:
  - The text of the article is obscure and difficult to comprehend and the process of exchange is protracted. It takes a long time for STECF to evaluate the measures being taken
  - The standard of proof required is set too high

In general fishers are keen to buy in but the recovery plan lacks the necessary flexibility for them to do so.

- 3.8 Similarly, Article 11 allows for vessels to achieve exemptions from the plan where cod catches make up less than 1.5% of the total catch of the group of vessels concerned. In practice it has proved impossible to obtain exemptions for a number of fleets which are known to catch few cod because of problems in providing sufficient data.
- 3.9 Responsibility for achieving reductions in fishing mortality has been given to member states. The currency for achieving those reductions is receiving additional days at sea. However, reducing effort year on year has removed the currency for providing

incentives to fishers. Effort is now so scarce for some gear categories that the cost of leasing it is prohibitive. Trading of effort was possible initially but effort is now so scarce that trading is no longer possible.

#### **4. Possible solutions**

4.1 There is now a need to bring the perceptions and experiences of fishers together with those of the Commission and Council. Fishers are witnessing cod recovery at sea, but the delay in preparing stock assessments results in fishery managers having a different perception. There must also be recognition by the Commission of the economic hardship and inefficiencies created by the year on year effort reductions and the corrosive effect these are having on the willingness of fishers to cooperate in reducing discards. The targets of the cod recovery plan cannot be achieved in one bound. A more adaptive approach is required which accepts that mistakes have been made and seeks to rectify these.

4.2 Focus must now be placed on reducing discards. The current plan is flawed in this respect. Effort control was supposed to limit the total removals of cod but has failed to do so. A solution has to be found to unlocking two major obstacles:

1. The escalation of effort reduction which is now undermining cod recovery
2. The barriers which have prevented the flexibilities present in the plan from being implemented.

There is strong support within the NSRAC for a “land more and discard less” policy, and for fishers being provided with the incentives to enable them to achieve that aim.

4.3 Effort restrictions have played their role in cod recovery but have now become counter-productive. Initial effort reductions, along with other accompanying measures, may have reduced fishing mortality but that is no longer the case. The simultaneous operation of both an input (days at sea) and an output (TAC) regime has created problems. Discarding of juvenile cod has now been supplemented by economic or regulatory discarding of quality fish with a market value. The Commission had assumed a simple and linear relationship between cod mortality and levels of effort. This perception is now outdated and discredited. There is strong feeling within the fishing industry that the rationale for effort control has now gone; unrecorded landings no longer exist and effort control is a complex and elaborate encumbrance that contributes little or nothing to further reductions in fishing mortality. Effort levels are linked to one species only – the cod. Yet fleets depend on a range of other species for their income. Many fishers are now opposed to the continuation of a regime based on effort restrictions.

4.4 One of the successes of the cod recovery plan has been that it has shown that it is possible to reduce fishing mortality on cod in a wide variety of ways without restricting effort, through the application of incentives. The facility to engage in “cod avoidance” arrangements in return for buy-back days has been a welcome part of the

plan. Fishers have shown in a number of instances that they can take responsibility for ensuring that removals of cod are contained, and that they are seen to be contained. Removal allocations based on relative stability can be met and demonstrably shown to be met. In these circumstances there is no need to subject vessels to further effort controls.

- 4.5 There appears to be an issue over whether member states are utilising the provisions of the plan properly, to provide the incentives to make cod avoidance work. In the wider context of reforms to the Common Fisheries Policy it is important to move towards results based management. In its current form the plan is not doing sufficient to achieve that new approach. The plan must help fishers to gain a proper economic return from fishing, while acting to reduce fishing mortality on cod.
- 4.6 Under Article 13 member states can ask for more effort where the Commission can see the effects of cod avoidance and discard reduction in terms of reduced fishing mortality. Where reductions in F can be validated by STECF then adjustments in effort can be made.
- 4.7 In that context there are arguments in favour of moving to the position of landing all fish and for a limit to be placed on total removals rather than landings. There are advantages in moving to an arrangement where fishers can more easily convince the Commission that there has been a reduction in fishing mortality.
- 4.8 So far, it would seem that no member state has submitted a plan for achieving relief from the effort regime under Article 13. This facility appears to be an important one, offering incentives in terms of relief from effort reductions. However, the fact that it has not been taken up with vigour suggests that there is a need for dialogue over its provisions. It is clearly an important part of the plan, but one which is very difficult to fulfil in practice. There is a requirement for greater flexibility in enabling member states to move to a validated catch quota scheme as a substitution for the effort restriction regime.
- 4.9 If the objective of effort control is to stop illegal landings and reduce discarding then there would appear to be no obstacle to removing those effort controls once that objective has demonstrably been achieved by a particular section of the fleet. The key word here is 'demonstrably'. Clearly there must be confidence that fishing mortality has been reduced. That can perhaps best be achieved by validating total removals. ICES is already geared up to allocate fishing mortality to different fleet sectors.

## **5. Conclusions – the way forward**

- 5.1 Cod stocks in the North Sea are recovering. A low target for fishing mortality has been agreed and many fishers maintain that there is no longer any reason to adopt measures over and above a legally observed TAC.

- 5.2 The cod recovery plan must be judged on its effectiveness in continuing the process of rebuilding cod stocks. It is evident that the latest phase of the cod recovery plan has not been a success. Year on year reductions in fishing effort have failed to maintain the initial downward trend in fishing mortality on North Sea cod; discards are increasing. Reductions in days at sea are causing massive economic difficulties for fishing businesses. Under the current plan the only foreseeable future for many fishers is bankruptcy. The focus of the plan is too narrow. It must become more flexible and adaptive, and address the problem of the economic waste that it is causing.
- 5.3 There is no argument over the setting of a stringent target for fishing mortality. The real issue is discarding.
- 5.4 There is strong support for the inclusion in the plan of effort rewards in return for cod avoidance and discard reduction. Those rewards have been well utilised by some sectors of the fleet.
- 5.5 However, year on year reductions in effort are now undermining the process of cod recovery and putting the viability of fishing vessels at risk.
- 5.6 The NSRAC accepts that the Commission requires fishers to adopt safe and secure ways of reducing cod discards, and that any claimed reductions should be verifiable.
- 5.7 But the fishing industry requires greater flexibility in the mechanisms which will allow fishers to achieve relief from the effort regime.
- 5.8 Article 13 (7) ostensibly purports to provide a mechanism to obtain relief in return for actions to reduce fishing mortality on cod. In practice the process is poorly understood, unduly protracted in duration, and requires too high a standard of proof. The plan must recognise that 100% proof is difficult to obtain.
- 5.9 The NSRAC is of the opinion that further effort restrictions can be taken off the agenda if fishers are made responsible for recording accurately all cod removals. There is access to tabulated cod removal allocations, based on relative stability. If fishers operate to those removal allocations then they will be achieving the reductions in fishing mortality which are required. There is no longer a case for reducing days at sea any further.
- 5.10 The burden of proving compliance would rest with fishers themselves. They would need to demonstrate to STECF's satisfaction that what was allegedly caught was what was actually caught.
- 5.11 Pilot projects will allow us to assess the ability of a catch-quota system to reduce discards, reduce stock mortality, and see if the system encourages fishermen to fish more selectively. They will also allow us to assess the ability of REM technology to verify a catch-quota system and provide improved scientific data. They will provide useful evidence on whether the system is a suitable option to pursue for CFP reform in 2012.

- 5.12 There will need to be discussions with Norway, which shares the North Sea cod stock, over any move towards recording total removals of cod (i.e. towards 'catch quotas').. Although there is a nominal discard ban imposed on Norwegian vessels it is currently not possible to verify that their landings conform to the catches. This issue might be addressed at the EU/Norway negotiations in relation to the review of the cod management plan due in 2011.
- 5.12 The NSRAC accepts that there must be a robust system for confirming that total removals of cod are accurately recorded. There are many options for achieving such surety, including:
- Remote electronic monitoring systems
  - Full observer programmes
  - Partial observer programmes with catch profiling
  - Verifiable vessel management plans
- 5.13 Provision for such changes could be included in an additional article within the cod recovery plan encouraging vessels to move in the right direction. It would be for individual vessels to decide whether to take on the additional task of catch accountability in return for relief from the effort regime.
- 5.14 Such changes, if implemented, would reflect some of the aspirations for reform of the CFP. It would be a move towards results-based management. It would implement an adaptive approach. The changes would represent a move away from a system of prescriptive management to one where industry took responsibility for its actions.
- 5.15 The NSRAC recognises that a review of the cod management plan with Norway is scheduled for 2011 and that an economic impact assessment will be an essential part of that review from a Commission perspective. It will be important to start assembling appropriate economic data now, with help from fisheries economists.
- 5.16 The NSRAC is firmly opposed to any further effort reductions in the North Sea. Such reductions would further discourage fishers from entering into innovative management arrangements and discourage them from behaving in a positive manner.

# Annexe

## Experiences in different member states

### Scotland

Scotland has managed its own effort regime within the overall UK pot of kWdays. The effort situation altered dramatically in 2009/10 as a result of the new effort baseline and the 25% reduction in fishing mortality required as a result of the new cod recovery plan. The effort regime had run reasonably well in the first year, although the effort levels granted were less than required, causing harm to some sections of the fleet and especially the TR1 (demersal trawls equal to or larger than 100mm) sector. For the first time the *Nephrops* fleet (TR2 - demersal trawls equal to or larger than 80mm and less than 100mm) had also felt the impact. The Scottish Government introduced a Conservation Credits Scheme and assessed the contribution of Conservation Credits measures to be worth 11.2% of the maximum allowable fishing effort (45% of the effort withdrawn). The whitefish fleet (TR1 gear) was the sector faced with the harshest economic burden. Had the Scottish Government not been in a position to reclaim days at sea, through cod avoidance schemes, then effort in the whitefish sector would have been exhausted in October 2009, with the *Nephrops* fleet following soon afterwards.

In many cases, especially the traditional finfish sector where haddock, whiting, cod and saithe were the main species, the most restrictive element of the current management regime was the quota entitlement. Lack of sufficient quota in relation to fish catches - which had increased as a result of increases in cod abundance - led to the discarding of fish that would otherwise have returned a value at the market place. The North Sea *Nephrops* fishery has been fortunate in that effort and quota seemed to be in line with each other, although the sector suffered greatly from a reduction in value of the product. In other cases, the inability to put to sea so that all quotas could be utilised caused frustration. The monkfish fishery which took place to east of the shelf edge, and was largely pursued by vessels from Shetland, clearly suffered through restricted effort levels. Monkfish very rarely aggregate and thus the vessels engaged in the fishery required more time at sea to gather a financially rewarding catch.

Discards of juveniles decreased significantly in all of the demersal fleet sectors. However, this very positive decrease was replaced by economic or regulatory discarding of quality fish with a reasonable market value. The Commission assumed a simple and linear relationship between cod mortality and levels of effort. The Scottish Industry contends that this perception is outdated and discredited. It has been proved in Scotland, through the development of a regional approach, that it is possible to reduce mortality on cod in a wide range of ways, through the application of incentives. A fundamental rethink of the Commission's approach is now required.

## England

The UK exceeded its total UK effort for 2009/10 resulting in the closure of the English fishery in January 2010. There were fears that further closures would be necessary at the end of 2010.

A series of publically funded decommission schemes over the period 1993 – 2009 reduced that fleet that historically targeted cod as part of a mixed demersal fishery to a handful of over 10 meter vessels and a rather larger number of under-10 meter vessels. Additionally, there has been a significant transfer of effort from targeting mixed demersal species to targeting *Nephrops*. A significant fleet targeting flatfish with beam trawl, otter trawl and seine net also operates in the North Sea. Finally a small number of larger vessels engage in a targeted saithe fishery.

There is little doubt that the current effort regime has had a detrimental economic impact. Although the circumstances vary according to a range of factors, including indebtedness, the economics of operating a whitefish vessel means that it would be unviable to operate on the allocation of days allowed in 2009 unless it was possible to transfer effort (in some cases purchase additional kW.days). What is less certain is the effect of the effort regime in terms of reducing fishing mortality. The facility to engage in “cod avoidance” arrangements in return for buyback days was a welcome part of the new cod recovery plan and the English fleet has enthusiastically, if less publically than its Scottish counterparts, supported real time and seasonal closures, and gear modifications. However, the scale of the effort reductions (25% in the first year) placed a great strain on the industry. There is a great deal of concern about the impact of future reductions and whether there is an end point.

What is clear beyond doubt is that the hope that the kW.days approach would bring a simpler, fairer, more coherent, application of effort control than the flat-rate approach was seriously misplaced. Administrations have found the process of allocating kW.days more rather than less complex. Initial allocations, transfer arrangements, sub-national control totals are all difficult components of the new arrangements that have not yet been finally resolved.

Although the level of cod discarding by English vessels is relatively low by comparison with some other fleets, discarding of cod despite the cod avoidance provisions of the new plan remains the main impediment to rapid cod recovery in the North Sea.

There is a strong feeling that the rationale for effort control has now gone; unrecorded landings no longer exist and effort control is a complex and elaborate encumbrance that contributes little or nothing to a reduction in fishing mortality.

## Denmark

The simultaneous operation of both input (days at sea) and output (TAC) regimes running at the same time has created problems for the Danish fleet. The two systems have not meshed well together. The effort regime is also undermining the rights based management system, newly introduced in Denmark. Currently, fishers investing in fishing rights did not

have the time or opportunity to catch their entitlement. Only 90% of quota was taken up in the Skagerrak and North Sea and as little as 36% in the Kattegat.

As a consequence of a technical error in the calculation of the Danish effort for the baseline – a reduction beyond that which is stipulated by the management plan has taken place in 2009. Thus, the days available to segments TR1 and TR2 in the North Sea and TR2 in Kattegat have been reduced by 29, 32, and 29 % respectively. Segments that did not have problems have been hit extremely hard by this extraordinary reduction.

Danish fishers consider it is intolerable to have ever decreasing effort levels. There is particular concern that effort levels are linked to one species only – the cod. Yet the fleet depends on a range of other species for its income.

There is the particular problem for Kattegat that reductions in effort are linked to the poor quality of assessment. An annual reduction of 25 % is stipulated unless scientists agree on the assessment. Danish fishers do not believe that this will be possible in a foreseeable future and consequently the fleet, mainly targeting *Nephrops*, will be gone in a few years.

In the North Sea, despite a growing cod stock, the recovery plan stipulates further reductions in effort because the governing factor is the mortality rate. This has the perverse consequence that fishers are forced to reduce activities even when they can see the situation is improving. Not an easy thing to explain to people who may go bankrupt and lose their life's savings.

## **France**

The French administration has been discussing the reference thresholds allocated to the fleet with the Commission following earlier discussions held during the last Council of Ministers. Updated effort data provided last year has still not been taken into account. The effort regime introduced in the new cod regulation has introduced a huge administrative load to assure its management.

The restrictions were likely to have a particular impact on fleets that caught very little cod. For example, the saithe fleet fell within the TR1 gear category (that suffered successive effort reductions), but caught less than 1% cod. Exemptions to the effort regime had been sought for this fleet but have not yet been granted, even if the condition of 'catching less than 1.5% cod' required under article 11 of the regulation was fulfilled.

If the saithe fleet is not removed from the effort regime they will be required to catch the French North Sea Saithe quota (which is fished at the MSY level) very quickly.

Another concern is the rigidity of the mechanisms for transferring effort between groups which has prevented rapid transfers. It seemed likely that quotas would outstrip days at sea, even in fisheries not catching cod. Global effort regime as proposed for all metier of the North Sea is not directly linked to cod fishing mortality and has a perverse impact on the fleet which is not catching cod.

One requirement of the TAC and quota regulation for 2009/2010 was that utilisation targets for the cod quotas were imposed for each quarter of the year; if at the end of the quarter, the utilisation of the cod quota was more than 10% above the target, the member state concerned had to put in place measures to ensure that its vessels changed to more selective fishing gears to reduce cod by-catches. Projects are underway in France to develop more selective fishing gears to avoid the capture of cod. The larger mesh 'eliminator' trawls proposed by the Commission have been investigated, as well as selective grids. However, no improvements in selectivity have been obtained using the larger mesh nets, and discards have not been very different from those with conventional nets. Indeed, the first analyses of the results showed that more small whiting had been caught with the larger mesh net. Results with grids had been more encouraging. Further trials at sea are now planned.

Real-time closures were introduced in France in 2009 in the English Channel (trigger: number of cod > 50cm per hour of fishing). The impact and effectiveness of these real time closures in reducing cod fishing mortality should be assessed in order to evaluate their role in the recovery of the cod stock in the North Sea.

## **The Netherlands**

The Dutch Fleet mainly targets flatfish (sole and plaice). These species are the main economic drivers of this fleet. In recent years fishing effort has been substantially reduced, because of two subsequent scrapping schemes. The main fishing effort is realised by beam trawlers with an insignificant by-catch of cod (<5%). This BT 2 segment has more than sufficient days, because of the scrapping schemes. In recent years, part of the Dutch fleet has seen a transition to twin rigging and fly shooting, but (again) targeting flatfish, not cod. The well functioning Dutch co management system is based on ITQ, not effort. Despite all this, the Dutch fleet came under the influence of both the cod recovery regime and the multi annual flatfish plan. Earlier in the cod recovery plan these Dutch vessels had not received sufficient days at sea, because of lack of reference period. This was compensated by swapping BT 2 days to TR1 and TR 2 days, at a very expensive rate of exchange. In 2009 the TR1 and TR 2 segments of the fleet had taken more days at sea than they were entitled to. Many of the twin riggers and fly shooters were not targeting cod but were still limited in their days at sea. A long term solution was sought and found by exchanging BT2 days for TR1 days at a more realistic rate, backed by a cod avoidance plan for these fleets. A combined industry/ministry think-tank has now been set up for defining specific technical, seasonal and spatial measures for reducing discards to be included in this plan.

## **Germany**

A kW.days regime had been operated in Germany, but it had proved to be a great burden on fishers. The administration had tried to determine the effort of every vessel and to allocate effort accordingly but there had proved to be many complications especially with some vessels operating in both the Baltic and North Sea. Quota swaps were being made but it had been very difficult to work out days at sea entitlements. Beam trawlers had been forced to go from 120 mm to 80 mm - fishermen were being punished for using large meshes. In

2009 there had been full utilisation of effort within the TR1 category. All other categories had underutilised their effort. Problems were expected with the TR1 sector in 2010. Germany had sought derogations for three categories of vessel under article 11, but the Commission had refused. Further attempts will be made to seek derogations. There were problems in transferring days at sea into the TR1 category. Many days of effort had to be transferred to the TR1 category from other categories to provide only a few days at sea.

Better mechanisms are needed for matching effort to quota over the year. The Commission has created problems over the mechanisms for gaining additional effort. The German fleet was opposed to a regime based entirely on effort and would prefer to have a quota system regulated by the principle of relative stability. German fishers were not happy with accepting CCTV systems in return for additional days at sea and would like to explore other possibilities for obtaining rewards in return for decreasing discards.