



for a living planet

The Scottish Conservation Credits Scheme

Moving fisheries management towards conservation

Why do we need to move fisheries towards conservation?

Across Europe fisheries management has largely failed. Many of Europe's fish stocks are overexploited, or outside safe biological limits. Fisheries across Europe are characterised by fleet overcapacity, heavy subsidies, low economic resilience and a decline in the volume of fish landed. The Commission has recognised these problems and is addressing them in the reform of the Common Fisheries Policy (CFP) presently underway. But this reform will not happen until 2013, and for many fish stocks this may be too late. Solutions exist now, and must be implemented immediately.

The Scottish fishing industry lands about 70% of total UK landings. The main species targeted by the demersal whitefish fleet are cod, haddock and whiting, caught in a mixed fishery. Quotas are set for each of these species independently, which makes respecting each quota for each different species a significant challenge. This is one of the root causes of discarding, the practice of throwing marketable fish back into the sea as they cannot be landed. Recognising the importance of addressing the issue of discards, and in order to improve fisheries management now, not in several years time, the Scottish Government set up the Conservation Credits Scheme.

This was made possible as in the EU Council in December 2007 Member States were given the flexibility to run their own days at sea scheme as a pilot ahead of future EU-wide implementation of "effort pot" schemes. The Scottish Government took up this opportunity and on 1st February 2008 the Scottish Conservation Credits Scheme was launched.

What the scheme is

The Conservation Credits Scheme has strong conservation orientated objectives. It works to improve fisheries management by adopting best practices in stock conservation. It is an innovative scheme and the first of its kind in EU waters. It has had to build consensus towards solutions that secure economic returns along with a long term future for fish stocks. Industry has had to make many short term sacrifices in recognition of the long term benefits the Conservation Credits Scheme should provide. The scheme has been successful in gaining the commitment of industry. It has also gained international recognition, with several other countries replicating either part of or the whole scheme. As the name implies, the Scheme credits fishermen for adopting conservation measures with a currency of value to them – additional days at sea. Furthermore, the measures adopted under the Conservation Credits Scheme in 2008 provided a sound foundation for implementing the revised EU Cod Recovery Plan of December 2008. Meeting the requirements of this recovery plan, which has been assessed as being consistent with the precautionary approach by ICES "if implemented and enforced adequately"¹, have largely been the focus of the Scheme in 2009.

Who is involved?

The Scheme is run by Scottish Government and advised by a steering group of around 25 members that brings together decision makers (government), end users (the fishing industry) and other stakeholders (including scientists and NGOs). The steering group meets monthly to assess the progress of the Scheme and discuss matters arising. This forum gives all members a degree of ownership, which helps ensure buy-in from the fishing sector.

The Conservation Credits Scheme has brought the reality of conservation to the understanding of all players in the fishing sector. This can be seen by the high level of compliance when the scheme was voluntary in 2008 with 94% participation, wide spread recognition of closures and a high level of adoption of more selective fishing gear. In 2009 the scheme is compulsory so all eligible vessels in the Scottish fleet must comply with these measures.

Where WWF fits in

WWF is a key member of the Conservation Credits Scheme Steering Group, attending the monthly meetings. As most members of the Steering Group are industry/government, the presence of WWF is important to ensure that the scheme is implemented in a manner which we believe truly supports the delivery of conservation objectives. Being

part of the Conservation Credits Scheme Steering Group gives WWF the perfect opportunity to monitor how well the Cod Recovery Plan is being enforced in Scottish waters, and be in the right place to measure whether the actual commitments made will be sufficient to deliver the necessary reduction in cod mortality.

One of the key areas of concern for WWF in recent years has been the state of North Atlantic cod stocks on both sides of the Atlantic, and if it is adequately implemented the EU-Norway agreement/revised EU Cod Recovery Plan should deliver on the key priority areas of this work in European waters, in particular the cod avoidance measures and high grading ban to reduce discarding and cod mortality.

Finally, the Steering Group meetings are an excellent opportunity to liaise monthly with many of the key players of the Scottish fishing sector, and have enabled us to build up solid working relationships and a high level of trust. This open relationship enables WWF and the government/industry to openly discuss and exchange ideas and work together to achieve more sustainable fisheries in Scottish waters.

Measures set up under the scheme

Under the revised Cod Recovery Plan in 2009 there is a commitment to reduce cod mortality by 25%. The Conservation Credits Scheme has opted to achieve the reduction through a two tiered approach, first by cod avoidance (thereby reducing discards) and then by a reduction in effort (reducing total catch). Cod avoidance is being done by a number of measures. These include:

CLOSURES

(real time, amber avoidance areas, seasonal and permanent)

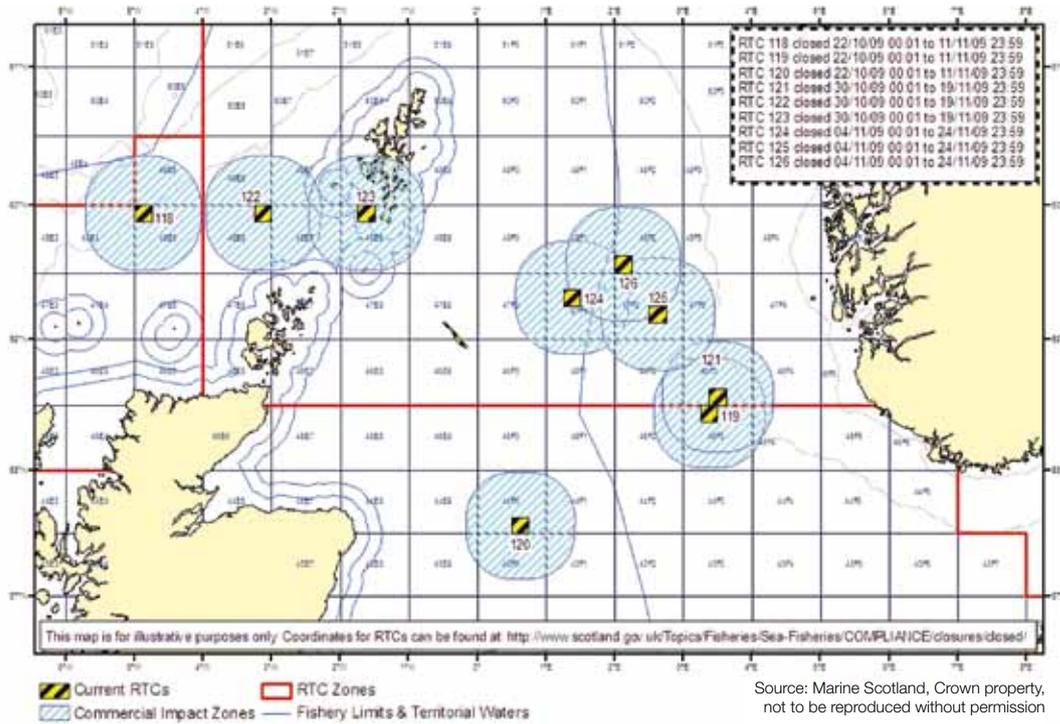
A series of Real Time Closures (RTCs) have been set up in Scottish waters. The mechanism for triggering a RTC is either a predetermined number of cod (all cod, not just spawning cod) per hours fishing in a sample, or the analysis of Vessel Monitoring System (VMS) data and associated landings. There should be a maximum of 9 closures in place at any given time with an aim of having at least 6 closures in place at all times. Samples are taken either by Scottish or Norwegian inspection vessels, and fishermen are encouraged to advise the government about areas of high cod density.

The RTC is set automatically for a period of 21 days, which has been shown to be long enough for cod aggregations to disperse. Each RTC has an area of a maximum of 50 square miles, and there cannot be more than three RTCs in a given Commercial Impact Zone (of 25 miles radius). Vessels are notified of the closures by letters to associations, email, radio, etc... In 2008 RTCs were implemented on a voluntary basis and compliance was almost 100% by fishermen both from the Scottish fleet involved in the Scheme and by foreign vessels fishing in Scottish waters. In November 2009 the Scheme is well on the way to achieving the target number of 140 RTCs, which should lead to a reduction in cod mortality of around 10% this year.

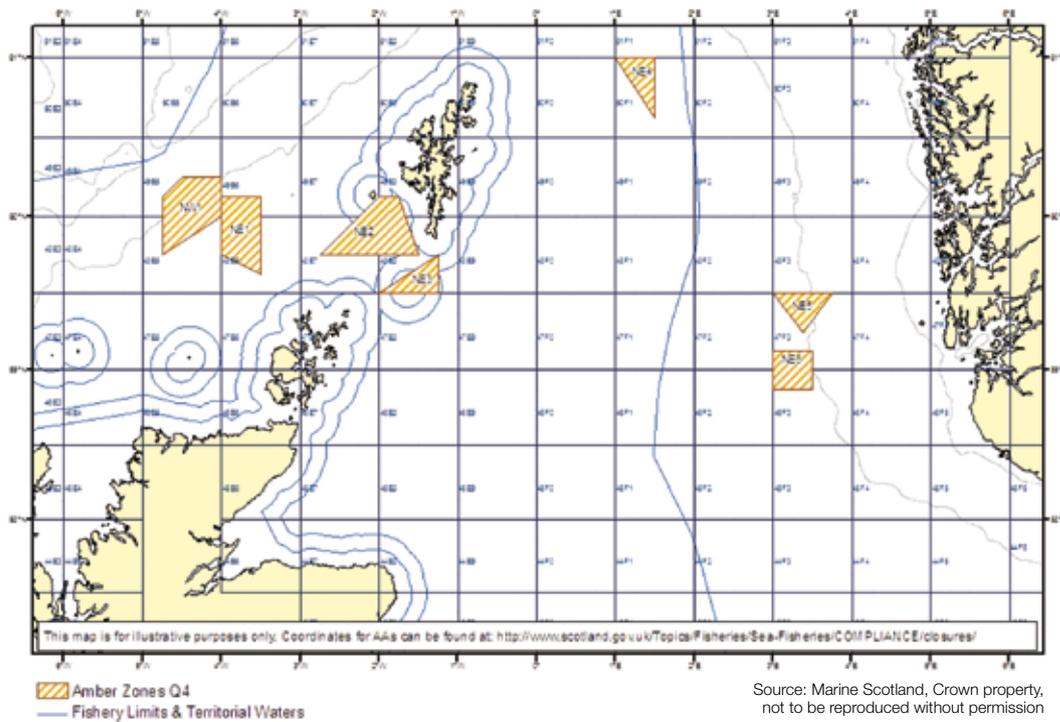
The second level of conservation areas in Scottish waters are called "amber" areas. These areas are identified by cross-referencing VMS position data with landings data extrapolated from vessel log books; the data can be aggregated over any chosen period (1 month - 12 months) and using various thresholds of landings per unit effort. Using the average data for all vessels operating in a certain square a gradient of probability of high cod abundance can be obtained for a given time period. These amber areas are revised quarterly. Vessels can sign up to avoid these areas to earn additional days-at-sea. Vessels not signed up to avoid these amber areas may fish in them without impunity.

Finally, Scotland has determined there should be a number of permanent or seasonal closed areas. These include the permanent "windsock", which has been in place for a number of years and the seasonal "long hole", which is closed from December to April, when it is sampled and a decision taken as to whether or not it should be reopened. This area is well known as an important place for spawning cod. Further seasonal closures include Pappa Bank (January until March), the Coral Edge (January until February) and the Stanhope Ground (February to April). Unlike the long hole, these latter three areas are automatically re-opened at the end of the closed period.

Real Time Closures on 11 November 2009



Q4 Amber Areas 1 November 2009 to 31 January 2010



GEAR REGULATIONS (one net rule, selective gear)

Participants in the Conservation Credits Scheme have to comply with a "one net rule". This ensures only the regulated gear is used and facilitates enforcement.

Both the Cod Recovery Plan and the wider EU regulations stipulate that selective gear must be used by the fleets targeting whitefish in the cod recovery zone. *Nephrops* vessels must insert a square meshed panel in their nets, while whitefish vessels must adopt cod avoidance gear when 90% of the quota has been caught.

There should be significant incentive to adopt selective gear, as given the high grading ban (see below) and the difficulty in marketing smaller cod, there is a good reason not to catch these fish in the first place. Some selective gear types are tried and tested such as the square-mesh panel in the *Nephrops* trawls, while in other fisheries there is still scope for initiatives and development. The Scottish government is encouraging and supporting a number of trials initiated by industry including cod selective designs such as the Orkney and Shetland trawls. However, it is now time to move forward from trials towards the widespread adoption of selective gears, which should be made mandatory in all boats which catch cod (as a target or bycatch species). This is particularly relevant given that now (November 2009) as vessels reach close to 90% of their cod quota, rather than adopting selective gear, they are reportedly increasing discard levels.

HIGH GRADING BAN

High grading is the retention onboard of only the larger, fresher, better fish, and discarding of less valuable but still marketable catch. A high grading ban is now in place in the North Sea as a result of a November 2008 agreement between the EU and Norway, subsequently translated into EU legislation at the December 2008 Fisheries Council. However, it is only an offence when the vessel has sufficient quota to cover the catch. This is not easily enforceable at sea but can be detected by the size distribution of landings, and vessels systematically landing consistent catches of large fish will be required to carry an observer.

OBSERVERS (human and onboard cameras pilot project)

WWF Scotland has long advocated the use of onboard observers as an important tool in fisheries management². Fully documenting fishing trips helps combat data deficiency and provides records of total catch and levels of discards, all of which contribute to improved scientific advice. Observer coverage should be adequate to provide information on all segments of the fleet.

Both Marine Scotland Science (MSS) and the government deploy a number of observers on board fishing vessels. MSS observers record all catches of the white fish and *Nephrops* fleets, this information is used primarily by national scientists and the International Council for the Exploration of the Sea (ICES) for stock assessments. A second observer initiative run by the government and the Scottish Fishermen's Federation (SFF) focuses mainly on cod catches, and has also done considerable work in trials of new gears.

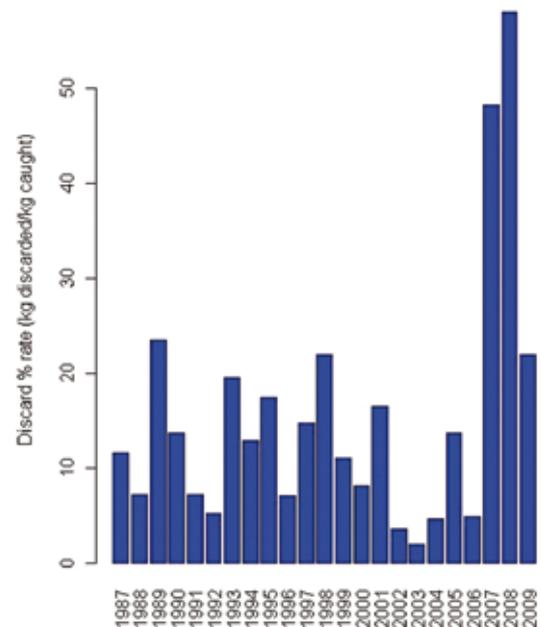
New technology makes the deployment of observers, in the form of onboard cameras, easier and more economically viable. Initial research is being carried out into using Closed Circuit TV (CCTV) observation systems on board fishing vessels. This system of observation has already been trialled in Denmark and has been shown to be effective³. In Scotland trials are underway on both whitefish and *Nephrops* vessels, selected to ensure wide coverage of fishing patterns and areas.

EFFORT MANAGEMENT

However, this suite of measures will not achieve the 25% decrease in cod mortality required by the Cod Recovery Plan alone, so there has also been a reduction in fishing effort with a cut in the number of days at sea vessels can operate for.

Achievements of the scheme

Discards remain a huge problem in Scottish waters and work must continue to ensure they are reduced further. Initial data from 2009 are encouraging for some stocks such as cod. The reduction in cod discards



North Sea Cod, discard percentage weight, demersal fish trawls

Source: Marine Scotland Science

seen in the North Sea is a direct result of the conservation measures implemented under the Conservation Credits Scheme. However, for other stocks, such as haddock and whiting the situation continues to be worrying⁴. Therefore the measures set in place to protect cod, as the focus of the Conservation Credits Scheme, now need to be extended to protect further stocks or areas.

The measures set out in the Conservation Credits Scheme are all included in the recommendations laid out by Seafish in their report on "Profitable Futures for Fishing"⁵. A healthy ecosystem is the only basis for a profitable fishery. Fisheries resources are a valuable commodity, and optimising market opportunities for fisheries products is essential.

Adoption of the measures set out under the Conservation Credits Scheme has put participating fisheries in a good position to enter assessment for certification by the Marine Stewardship Council (MSC). Already 50% of all Scottish fisheries by value are MSC certified, and many more are undergoing the assessment process at present, including haddock and *Nephrops* fisheries.

Public perception is increasingly important in access to markets, and fish from stocks in a poor state, which are not exploited sustainably, will suffer from reduced markets. Being able to prove fish are caught sustainably, either by MSC certification, or by other means including fully documented fisheries (CCTV) gives the fishery an edge over their competition, opening new markets and ensuring long term contracts with processors. Exploiting stocks sustainably and reducing discards benefits not only the stocks themselves, but fishermen's profits too.

Way forward

Despite the considerable steps taken by the Conservation Credits Scheme, more still needs to be done. At the end of 2009 many stocks assessed by ICES are still considered to be overfished, and their recommendations for fishing opportunities in 2010 are reduced quotas or no fishing effort at all for most stocks. Furthermore, at present the uptake of TACs is measured only by landed catch, paying little attention to the levels of fish actually caught and the fraction discarded. Quotas should set limits on the total amount of the stock that can be removed, whether that catch is subsequently landed or discarded. In October 2009 Scottish, UK, Danish and German Ministers signed the Aalborg declaration⁶ calling for a system of catch quotas in a fully documented fishery (using onboard CCTV). This approach must be adopted across the EU.

4 Pers. comm. Nick Bailey, Marine Scotland Science. November 2009.

5 Seafish. August 2009. Report on Profitable Futures for Fishing available at: <http://www.scotland.gov.uk/Topics/Fisheries/Sea-Fisheries/ScottishFisheriesCouncil/ProfitableFuturesforFish>

6 Joint statement available at http://www.fvm.dk/Admin/Public/DWSDownload.aspx?File=%2Ffiles%2Ffiler%2FEnglish%2Ffisheries%2FJoint_statement_okt2009.pdf

2 WWF Scotland. November 2006. Best practice and funding options for Observer Programmes around the world. Available at: http://assets.wwf.org.uk/downloads/observer_report01.pdf

3 Results available at: [http://www.difres.dk/dk/publication/files/23102009\\$204_09_samlet.pdf](http://www.difres.dk/dk/publication/files/23102009$204_09_samlet.pdf)

One of the measures that must be implemented in the Cod Recovery Zone is the implementation of a network of RTC. UK and Denmark have already implemented RTCs, other countries still have some way to go. On a broader scale, given the positive results and widespread adherence to the Conservation Credits Scheme in Scotland, similar schemes should be developed in other countries. Westminster is already undertaking preliminary discussions with industry in mind of establishing their version of the Conservation Credits Scheme, and other countries are already looking towards the Scottish example⁷. However, for any participatory or co-management scheme to be a success, the planning process is essential. Ensuring an appropriate suite of conditions and a robust process will increase the likelihood of long term success, and lessons should be learnt from other similar schemes⁸.

In conclusion

Scotland is at the forefront of implementing the EU-Norway agreement and EU regulations of December 2008. At WWF we are showcasing the Conservation Credits Scheme as an example of how cod mortality can be cut with a suite of technical conservation measures as well as effort reduction. This Scheme must continue to be a priority in the future of Scottish fisheries management, enabling cod and other commercially important stocks to continue to recover.

The fact all the key stakeholders are involved in the development of the Scheme not only means the fishing industry feels involved in management decisions, but, in the words of Mike Park, executive chairman of the Scottish White Fish Producers Association and Conservation Credits Steering Group member: *“Following the success of Conservation Credits, Scotland’s fishermen now have an enthusiasm for exploring new ideas. These latest [selective gear] trials are part of our ongoing commitment to sustainable harvesting and long-term planning, long may it continue.”*

WWF Scotland, December 2009

7. For example: http://www.fishnewseu.com/index.php?option=com_content&view=article&id=2246&Itemid=54

8. Chuenpagdee, R. and Jentoft, S. 2007. Step zero for fisheries co-management: What precedes implementation? *Marine Policy*, 31: 657–668.



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