This briefing highlights some of the important issues in the December 2011 fisheries negotiations at which decisions on fishing quotas and limits on fishing time will be made for 2012.
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EXECUTIVE SUMMARY

Since 1983, the main instrument of the Common Fisheries Policy has been to set Total Allowable Catches (TAC), for certain species in specific sea areas, which fix the total amount of fish that can be landed by the fleets of the EU’s Member States each year.

TACs are set in an annual cycle culminating in the December Fisheries Council. The publication of scientific advice by the International Council for the Exploration of the Sea (ICES) in June is the starting point for a series of autumn negotiations at which TACs, quotas, and fishing effort limits are set for the following year.

The Scottish Government’s main priorities for the 2011 round of negotiations are as follows:

Proposed TAC for West of Scotland haddock and removal of haddock from catch composition rules

The scientific advice for West of Scotland haddock suggests that a large increase (410%) in TAC could be allowable. The Commission has proposed a much smaller increase (25%) following the draft management plan for haddock, currently under evaluation. The Commission is concerned that a large increase in TAC would have a detrimental effect on associated cod stocks. The Scottish Government believes that given increased haddock availability, discards will increase should the current rules remain in place. It has been pushing hard for removal of haddock from the catch composition rules which govern the percentage of haddock, cod and whiting which may make up each catch. These are a part of the emergency measures for the West of Scotland. In addition, the Scottish Government is looking at spatial and technical measures to target haddock more specifically so that the overall TAC can be increased without a detrimental impact on cod stocks.

Continued effort cuts in the Cod Recovery Zone

Under the cod recovery plan, fishing effort (measured in kilowatt days – i.e. calendar days multiplied by power of the vessel) is automatically cut annually. In 2012, continued effort cuts are proposed for whitefish on the West of Scotland and in the North Sea. The Scottish Government believes that this is unjustified as the cod recovery plan is due to be reviewed and is being held up by an institutional disagreement between the Council of Ministers and the European Parliament. The Commission has proposed an additional effort cut for 2012 following disagreement with the UK administrations about how effort is measured. Further cuts could impact on the effectiveness of the Conservation Credit Scheme which aims to reward fishermen who avoid areas of high cod abundance with extra days at sea.

Automatic TAC reductions for data poor stock

The Commission has suggested that for all stocks they consider as being data poor, the TACs should automatically be reduced by 15 or 25%. This would affect species of importance in Scotland such as monkfish and megrim. While for many species, there is an accepted lack of data on their condition, for other species, there is no lack or research but inherent difficulties in
measuring stock levels mean ICES cannot carry out full analytical assessments in the way required by the Commission. The Scottish Government believes that the automatic cuts as proposed are unfair and that other methods of assessing the stock’s health should be accepted where these use the best possible science. For example the Scottish Marine Lab has been carrying out surveys on Monkfish and Megrim, jointly with industry, for 6 years and has good data which they believe enable a sufficient understanding of the trends for those stocks.

Catch Quota Scheme

In 2010, Defra and Marine Scotland introduced a voluntary pilot Cod Catch Quota Scheme (CCQS), where participating vessels must retain on board and land all cod that is caught, regardless of size and marketability. This scheme means the boats catch less, but are able to land more. In 2011, the scheme was expanded to include 23 vessels. The Scottish and UK Governments would like to increase participation in the scheme in 2012, however to allow this Norway must agree to change the way the TAC is set to allow the estimated weight of discards to instead be landed. The Norwegian Government remains opposed to the scheme (due to the increase in landings it would represent), despite its desire to see the EU reduce discards. The scheme has been rolled over for 2012 but will not be expanded.

Mackerel dispute

The dispute the EU and Norway are having with the Faroes and Iceland over mackerel continues. While the stock has been in good shape, it can now be caught in numbers in Icelandic waters. Iceland declared a unilateral quota of 116,000 tonnes in 2009 increasing this to 147,000t in 2011. The Faroes have followed suit, increasing their 2010 quota to 85,000t and their 2011 quota to 150,000t. If such additional removals were to continue the sustainability of the stock would be threatened and there is a high risk the stock could fall below safe limits as early as 2014. The actions of Iceland and the Faroes have been condemned by the Scottish Government and the European Commission which is considering sanctions against the two countries. The Scottish Government’s objective remains a four party agreement in order to protect the stock and therefore the industry, though they state that all sides must be willing to negotiate and compromise. All parties are attending Coastal States negotiations on mackerel this autumn (see table 1 below for dates). The dispute has meant that there was no EU-Faroe agreement last year (trading quota) with a knock-on impact on the white fish fleet in Scotland.
Conservation policy is the most important pillar of the Common Fisheries Policy (CFP) (see Marsden (2011) for more detail on the CFP). Since 1983, the main instrument of the conservation policy has been to set annual Total Allowable Catches (TACs) which fix the total amount of fish that can be landed by the fleets of the EU's Member States each year. TACs are set for certain areas of sea, called ICES areas, which are identified with roman numerals. The most important areas for the Scottish fleet are ICES area IV, the North Sea, and ICES area VIa, the West of Scotland. The TAC for each stock is shared out in quotas which limit the amount of fish that can be landed by Member States. Quotas are shared out according to the principle of “relative stability”. This principle guarantees Member States a fixed percentage of a quota in a certain area from one year to the next which is based on historic fishing activity. Member States which have not fished in areas historically do not receive quotas for those areas. The process for setting TACs is outlined in the next section.

Quotas work relatively well when fishermen can catch one species at a time – herring or mackerel are examples of fisheries like this. Quotas have proved a less successful means of managing mixed fisheries when fish of several different species are caught in the same fishery. A good example of this is provided by the demersal fishery of the North Sea where each haul will bring up a mixed bag of different species. The main commercial species in the fishery: cod, haddock, whiting, Nephrops, monkfish, saithe, plaice, and sole are caught in different proportions on different fishing grounds at different times of year. If a fisherman’s quota for one species is used up, they are allowed to carry on fishing for other species, but any fish they catch for which they do not have quota must be dumped over the side, and very few discarded fish survive. This can mean more fish are caught than the population can sustain and if this happens repeatedly then the population of that species can decline. Fishermen also discard fish for other reasons, e.g. they may discard small fish if they catch larger fish on subsequent hauls (high-grading). Some information on discards is available to scientists, e.g. from sampling on-board fishing vessels, and these data are now increasingly used in assessments, so that quotas take account of total removals from a stock, instead of just the quantities landed.

These problems have led scientists to advocate for many years that quotas should either be accompanied by, or replaced, with controls on fishing effort, for example limiting the number of days that fishermen are allowed to be at sea. Controls on fishing effort were introduced following reforms of the CFP in 2002. Since the reform of the CFP in 2002, the EU has begun to take a longer-term approach to fisheries management by managing fisheries under long term plans. Two types of plans are being implemented based on the state of the stocks in question. Recovery plans are designed to help rebuild threatened stocks while management plans aim to maintain stocks at safe biological levels. The plans contain a formula for calculating TACs on the basis of scientific advice on the state of the stock. EU law requires that recovery plans must also include limits on fishing effort.

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1 ICES areas can be further subdivided, so for example, area IVa is the North North Sea. The Scottish fleet also fishes in ICES area Vlb Rockall.
2 When quotas were first introduced a reference period from 1973-78 was used to establish Member States shares in quotas.
3 Demersal species live close to the sea bottom, e.g. cod, haddock, whiting. Pelagic species live in the mid water e.g. herring, mackerel. Benthic species live on the bottom e.g. flatfish, Nephrops.
4 The full scientific name for this species is *Nephrops norvegicus*, common name: Norway lobsters or langoustines.
5 Scientists from Marine Scotland monitor discards on sampling trips onboard Scottish fishing vessels. ICES has complained about the fact that some countries refuse to provide it with data on discards.
6 Unless it can be shown that effort restrictions are not needed for stock recovery.
From a Scottish perspective, the most important of these has been the plan to recover cod stocks, which is now supplemented by a long-term management plan. In 2003, limits on the number of days at sea which could be spent fishing for vessels over 10 metres in length that were using fishing gear likely to catch cod were introduced. The long-term management plan also limits fishing effort. The Scottish Government has developed a scheme called “Conservation Credits” which implements the cod recovery plan in Scottish waters and which intends to reward Scottish fishermen with additional effort or days-at-sea where they can demonstrate that they are fishing in a manner which is likely to have a less severe impact on cod.

The Common Fisheries Policy is being reformed and substantial changes are expected to come into effect at the end of 2012. The European Commission proposals for the new regulations were published on 13 July 2011. These include a discard ban that would oblige fishermen to land all catches (except shell fish for example which can survive being discarded). The ban would be phased in by species groups starting in 2014 for some species with a full ban for all commercial species coming by 2016. The Regulation also proposes that quotas should be more easily tradable between fishermen and, potentially, Member States. Exchangeable quotas called Transferable Fishing Concessions (TFCs) would be introduced to deal with the issue of overcapacity. More information on the proposals is available in SPICe briefing SB11-70 (Marsden 2011).
PROCESS FOR SETTING QUOTAS

TACs are set on an annual cycle, culminating in the December Fisheries Council in Brussels. This annual cycle is shown in the diagram below.

Source: Scottish Government 2010

EUROPEAN PARLIAMENT’S ROLE

The entry into force of the Lisbon Treaty in December 2009 has changed the content of the autumn fisheries negotiations. The Treaty means that fisheries decisions must be made through the “ordinary legislative process” i.e. it gives the European Parliament co-decision powers over EU fisheries law. The only exceptions to the co-decision power are decisions on the fixing and allocation of fishing opportunities, which the Council will continue to decide upon alone, on the basis of a Commission proposal. This is taken to mean TACs, quotas, and any associated effort limits.

In the past, the annual TAC regulations have in practice dealt with much more than the fixing and allocation of fishing opportunities – they have included a great deal of so called “associated measures” - detailed technical measures such as area closures and fishing gear regulation. The ratification of the Lisbon Treaty means the European Parliament has a role in deciding on such measures. The European Commission accounted for this in 2009 when drawing up proposals for TACs and quotas by removing all measures not strictly related to the establishment of fishing opportunities from its proposal for TACs and quotas, and the Commission’s proposal for quotas for 2012 are similarly limited in its subject matter.

There is a dispute between the Commission and the Parliament about the Parliament’s powers in relation to Long-Term Management Plans (LTMP). New LTMP are not likely to be adopted until this dispute is resolved, probably after the introduction of the new CFP in 2013.
CHANGES TO THIS YEAR’S PROCESS

For the 2012 TAC setting, the Commission proposed moving to a two stage process. Since the advice for most stocks fished solely in EU waters is already available in July it should be possible to set TACs earlier. The Commission therefore came forward with two separate proposals: one for the 83 stocks decided by the EU alone (European Commission 2011c) which it suggested should be discussed at the November Fisheries Council. The second proposal dealt with the 66 stocks for which the fishing opportunities must be agreed with Regional Fisheries Management Organisations (RFMOs) or in the context of consultations with third countries (European Commission 2011b). The Commission believed that splitting the proposals would allow fishermen to plan ahead as they would have access to information on how much they can catch earlier.

Member States however, did not react positively to the proposal to split the negotiations since they believed two regulations for the same geographical area would create a more complicated procedure. The November Council of Ministers meeting took place on 14 November and included no discussion of the TACs. This means that all Atlantic and North Sea quotas will be decided in December, as usual (CFP reform watch 2011b).

KEY DATES IN THE 2011 NEGOTIATIONS

Fishing quotas for the Scottish fleet are set during several weeks of negotiations. These include external negotiations about fish stocks which are shared with non-EU Member States including Norway, Iceland and the Faroes, as well as negotiations between EU Member States which culminate in the December Fisheries Council. Following the 2002 CFP reforms, Regional Advisory Councils were established to advise the European Commission on fisheries management. RACs are composed of representatives of the fishing industry, and other groups with an interest in the CFP, such as environmental NGOs. The following table shows some of the key dates in the autumn fisheries negotiations in 2011.

Table 1 – important dates in fishing negotiations during 2011

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 May</td>
<td>The European Commission (2011) published its annual policy statement outlining the general approach to setting fish quotas for 2012.</td>
</tr>
<tr>
<td>29 June</td>
<td>ICES (2011) issued its scientific advice for most North Sea and West of Scotland fish stocks of interest to the Scottish fleet.</td>
</tr>
<tr>
<td>30 September</td>
<td>ICES advice on pelagic stocks, including mackerel.</td>
</tr>
<tr>
<td>26-28 October</td>
<td>Fisheries Council meeting in Luxembourg.</td>
</tr>
<tr>
<td>26 September</td>
<td>European Commission proposal on fishing opportunities for 2012 (EU waters).</td>
</tr>
<tr>
<td>10 November</td>
<td>European Commission proposal on fishing opportunities for 2012 (external negotiations).</td>
</tr>
<tr>
<td>7-11 November</td>
<td>STECF plenary meeting.</td>
</tr>
<tr>
<td>7-11 November</td>
<td>North East Atlantic Fisheries Convention (NEAFC) negotiations on fisheries in NE Atlantic in international waters beyond the 200 mile limit.</td>
</tr>
<tr>
<td>15-18 November</td>
<td>1st round of EU/Norway negotiations on North Sea shared stocks, including key shared stocks, such as cod, haddock, whiting, saithe and herring.</td>
</tr>
<tr>
<td>28 November-3</td>
<td>2nd round of EU/Norway negotiations.</td>
</tr>
<tr>
<td>December</td>
<td>Coastal States negotiations on mackerel, Ireland.</td>
</tr>
<tr>
<td>15-16 December</td>
<td>EU Fisheries Council meeting to decide on fishing opportunities for 2011.</td>
</tr>
</tbody>
</table>
UK QUOTAS IN RECENT YEARS

Fishing quotas are allocated to Member States and it is up to Member States how they allocate quotas to their fishing fleets. In the UK quotas are allocated to producer organisations. Quotas for boats under 10m and for boats which are not members of producer organisations are managed by fisheries departments. There are not Scottish quotas as such, although there are producer organisations which are exclusively, or mainly, made up of fishing boats registered at Scottish ports. To illustrate how quotas have changed, the table below shows the UK quotas for the seven most important quota species for the Scottish fleet in the waters of most importance to it over the last ten years.

Table 2 – UK quotas for selected species, 2002-11 (tonnes)

<table>
<thead>
<tr>
<th>Species</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Sea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cod</td>
<td>203772</td>
<td>10696</td>
<td>9507</td>
<td>8674</td>
<td>9037</td>
<td>7773</td>
<td>8628</td>
<td>11216</td>
<td>13067</td>
<td>10445</td>
</tr>
<tr>
<td>haddock</td>
<td>59805</td>
<td>33257</td>
<td>49537</td>
<td>44123</td>
<td>34574</td>
<td>36466</td>
<td>31672</td>
<td>27507</td>
<td>22698</td>
<td>22250</td>
</tr>
<tr>
<td>whiting</td>
<td>19608</td>
<td>7257</td>
<td>6784</td>
<td>6784</td>
<td>9162</td>
<td>11297</td>
<td>9336</td>
<td>8426</td>
<td>7391</td>
<td>8933</td>
</tr>
<tr>
<td>monkfish</td>
<td>9205</td>
<td>6245</td>
<td>6157</td>
<td>6157</td>
<td>8392</td>
<td>9233</td>
<td>9233</td>
<td>9233</td>
<td>9233</td>
<td>8115</td>
</tr>
<tr>
<td>Nephrops</td>
<td>13885</td>
<td>14005</td>
<td>16047</td>
<td>16047</td>
<td>24380</td>
<td>22644</td>
<td>22644</td>
<td>21513</td>
<td>21384</td>
<td>20315</td>
</tr>
<tr>
<td>herring</td>
<td>38101</td>
<td>56818</td>
<td>65220</td>
<td>65220</td>
<td>63333</td>
<td>50279</td>
<td>27185</td>
<td>24223</td>
<td>29832</td>
<td></td>
</tr>
<tr>
<td>West of Scotland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cod</td>
<td>2974</td>
<td>508</td>
<td>508</td>
<td>465</td>
<td>368</td>
<td>294</td>
<td>241</td>
<td>182</td>
<td>145</td>
<td>110</td>
</tr>
<tr>
<td>haddock</td>
<td>10996</td>
<td>5304</td>
<td>5304</td>
<td>7081</td>
<td>6294</td>
<td>5932</td>
<td>4743</td>
<td>2747</td>
<td>2053</td>
<td>1561</td>
</tr>
<tr>
<td>whiting</td>
<td>2457</td>
<td>1032</td>
<td>1032</td>
<td>917</td>
<td>780</td>
<td>585</td>
<td>438</td>
<td>329</td>
<td>246</td>
<td>185</td>
</tr>
<tr>
<td>monkfish</td>
<td>1572</td>
<td>1220</td>
<td>1220</td>
<td>1865</td>
<td>1442</td>
<td>1586</td>
<td>1586</td>
<td>1713</td>
<td>1713</td>
<td>1679</td>
</tr>
<tr>
<td>Nephrops</td>
<td>11102</td>
<td>11043</td>
<td>11043</td>
<td>12399</td>
<td>17257</td>
<td>19415</td>
<td>19415</td>
<td>18445</td>
<td>15677</td>
<td>13357</td>
</tr>
<tr>
<td>herring</td>
<td>17728</td>
<td>17728</td>
<td>17776</td>
<td>17788</td>
<td>20145</td>
<td>20145</td>
<td>16036</td>
<td>13549</td>
<td>14356</td>
<td>13865</td>
</tr>
<tr>
<td>mackerel</td>
<td>187596</td>
<td>187596</td>
<td>175164</td>
<td>128690</td>
<td>131713</td>
<td>149519</td>
<td>136522</td>
<td>181694</td>
<td>173663</td>
<td>152118</td>
</tr>
</tbody>
</table>

Notes: 1. West of Scotland haddock quota does not include Rockall haddock - in 2011 UK quota for Rockall haddock was 3022 tonnes.
2. Mackerel is UK quota for whole of North East Atlantic stock

The Scottish fishing fleet also has an interest in stocks of plaice, sole, saithe, megrims, and ling among the demersal species (i.e. bottom dwellers) and blue whiting among the pelagic species (i.e. fish that live mid-water between the bottom of the sea and the surface). Lobsters, crabs and scallops which are particularly important for inshore shellfish fisheries, are not regulated by quotas. The Scottish fleet has only very small quotas for industrial species (i.e. fish that are used to make animal food, mainly fishmeal) such as sandeel and sprat.
SCIENTIFIC ADVICE ON STOCKS AND QUOTAS FOR 2012

ICES APPROACH TO SCIENTIFIC ADVICE

The International Council for the Exploration of the Sea (ICES) advice is informed by three approaches to fisheries management:

- The ecosystem approach, which seeks to take into account the impact of fisheries on the marine ecosystem, and interactions between fish stocks and the marine ecosystem.

- The precautionary approach, which seeks to manage the uncertainty of scientific assessment of fish stocks to avoid the risk that they will collapse i.e. decline to a commercially unexploitable level.

- The maximum sustainable yield (MSY) approach. Maximum sustainable yield is a broad conceptual objective aimed at achieving the highest yield possible over the long term (an infinitely long period of time). It is non-specific with respect to: (a) the biological unit to which it is applied; (b) the models used to provide scientific advice; and (c) the management methods used to achieve MSY. The MSY concept can be applied to an entire ecosystem, an entire fish community, or a single fish stock.

For many stocks, ICES has established reference points for spawning stock biomass and fishing mortality, below which it is thought the stock is at risk of collapse. The diagram below shows stocks categorised according to these reference points following ICES advice in 2011.

Fig 1 - Precautionary stock plot based on ICES’ advice 2011

ICES (2011) has set out in more detail in an introductory section of ICES June 2011 advice how these three approaches are incorporated into its advice.

One of the commitments of the World Summit on Sustainable Development which the EU Member States signed up to was to: “Maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an
urgent basis and where possible not later than 2015” UN (2005). The MSY approach is becoming increasingly incorporated into ICES advice, as fisheries managers, ICES’ clients, seek to meet this commitment. The Commission has proposed that the commitment to reach MSY by 2015 should be included in the new basic CFP regulation (European Commission 2011d).

COMMISSION RESPONSE TO THE ADVICE

In previous years, the Commission used a scale of 11 categories to describe the state of fish stocks and how much the catch could be increased or decreased. This year they are proposing that there should be just two categories: 1) There is scientific advice for the stock, or 2) there is not. In the second case, the Commission proposes to apply the precautionary approach and reduce TACs by 15% or 25% until more reliable data are available. The Commission initially proposed that reduction would automatically be set at 25% but changed the proposal after a critical response to the initial communication. The Council has also voiced its objection to a systematic reduction of 25% (CFP Reform Watch 2011a) and when agreeing the TAC for certain Baltic Sea stock, lower reductions than those recommended by the Commission were agreed (Council of the European Union 2011).

In the initial proposal, the Commission also suggested the timescale for reaching Maximum Sustainable Yield. It was proposed that MSY should be met as quickly as possible (2012). Due to negative responses from consultees, this was changed in the final proposal to TACs going halfway to meet MSY by 2012.

ICES ADVICE ON QUOTAS FOR 2012

The table below shows implications of the ICES advice for the quota for the main stocks of interest to the Scottish fleet for 2012. It also indicates the relative value of these stocks by showing the value of landings by Scottish boats in 2010, the most recent year for which the Scottish Government provides data, and shows the UK’s quota for 2011.

Table 3 – ICES advice for 2012 and comparisons with 2011 (figures in tonnes)

<table>
<thead>
<tr>
<th>Stock</th>
<th>Where decided</th>
<th>Landings by Scottish boats 2010 (£m)</th>
<th>UK quota for 2011</th>
<th>UK quota implied by ICES and/or long term management plan for 2012</th>
<th>Likely proposed % change in TAC for 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS cod</td>
<td>EU Norway</td>
<td>23</td>
<td>10,445</td>
<td>Between -1 and -9</td>
<td>-8</td>
</tr>
<tr>
<td>NS haddock</td>
<td>EU Norway</td>
<td>25.4</td>
<td>22,250</td>
<td>+15</td>
<td>+15</td>
</tr>
<tr>
<td>NS whiting</td>
<td>EU Norway</td>
<td>7.3</td>
<td>8,933</td>
<td>+15</td>
<td>+15</td>
</tr>
<tr>
<td>NS Nephrops</td>
<td>Dec Council</td>
<td>38.9</td>
<td>20,315</td>
<td>Per functional unit</td>
<td>-11</td>
</tr>
<tr>
<td>NS monkfish</td>
<td>Dec Council</td>
<td>19.7</td>
<td>7,846</td>
<td>Reduce catches</td>
<td>-25</td>
</tr>
<tr>
<td>NS herring</td>
<td>EU Norway</td>
<td>3.5</td>
<td>29,832</td>
<td>+15</td>
<td>+15</td>
</tr>
<tr>
<td>WoS cod</td>
<td>Dec Council</td>
<td>0.3</td>
<td>110</td>
<td>Lowest possible level</td>
<td>-100</td>
</tr>
<tr>
<td>WoS haddock</td>
<td>Dec Council</td>
<td>6.8</td>
<td>1,561</td>
<td>+410</td>
<td>+25</td>
</tr>
<tr>
<td>WoS whiting</td>
<td>Dec Council</td>
<td>0.3</td>
<td>185</td>
<td>Reduce catches</td>
<td>-25</td>
</tr>
<tr>
<td>WoS Nephrops</td>
<td>Dec Council</td>
<td>35.7</td>
<td>13,357</td>
<td>Per Functional unit</td>
<td>+3</td>
</tr>
<tr>
<td>WoS monkfish</td>
<td>Dec Council</td>
<td>7.4</td>
<td>1,679</td>
<td>Reduce catches</td>
<td>-25</td>
</tr>
</tbody>
</table>
The main points from the ICES advice are:

- A decrease in the TAC for North Sea cod is advised following a more substantial decrease last year
- An increase is proposed for North Sea haddock and whiting
- A small increase is proposed for West of Scotland Nephrops and a larger cut to North Sea Nephrops
- West of Scotland cod has been reduced to zero TAC. However, it is likely that 1.5% by-catch will be allowed
- The scientific advice allows a large increase in West of Scotland haddock. The proposed increase in TAC is likely to be smaller
- A significant decrease is proposed for the monkfish TAC for both the West of Scotland and North Sea. This is a precautionary cut proposed at this level due to difficulties in assessing the conservation status of the species
- The decrease proposed for mackerel includes the Iceland and Faroes so will depend on resolution of the ongoing dispute
- A substantial increase has been agreed for blue whiting following the long term management plan. Much of this is traded with Norway so its impact on the Scottish fleet will be limited.

<table>
<thead>
<tr>
<th>Species</th>
<th>Source</th>
<th>TAC (000s)</th>
<th>Change</th>
<th>Overall cut of (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rockall haddock</td>
<td>Dec Council</td>
<td>3.8</td>
<td>-11</td>
<td>-11</td>
</tr>
<tr>
<td>WoS herring</td>
<td>Dec Council</td>
<td>2.0 (with Clyde)</td>
<td>13,584</td>
<td>+2</td>
</tr>
<tr>
<td>mackerel</td>
<td>Coastal States</td>
<td>113</td>
<td>191,212</td>
<td>Overall cut of -37</td>
</tr>
<tr>
<td>blue whiting</td>
<td>Coastal States</td>
<td>1.8</td>
<td>1,990</td>
<td>Overall cut of +875</td>
</tr>
<tr>
<td>Atlanto-Scandian herring</td>
<td>Coastal States</td>
<td>7.1</td>
<td>14,089</td>
<td>Overall cut of -16</td>
</tr>
</tbody>
</table>

Notes: NS = North Sea; WoS = West of Scotland. Further details of the ICES advice are in the table in the annex. Sources: Edwards (2011); Scottish Government (pers. comm.); ICES (2011); European Commission (2011)
QUESTIONS OF PARTICULAR IMPORTANCE FOR SCOTLAND

WEST OF SCOTLAND EMERGENCY MEASURES

During the negotiations of autumn 2008, the European Commission’s initial proposals for the West of Scotland were described by the Scottish Fishermen’s Federation as amounting to an almost complete shut down of fishing in the area (SFF 2008). The Scottish Government opposed the proposal and put forward alternative proposals which would allow the other important stocks of Nephrops, monkfish and megrims on the West Coast of Scotland to be harvested. The Scottish Government’s (c) website describes the emergency measures in place for the West of Scotland:

“Following concerns about the state of cod, haddock and whiting stocks on the West of Scotland, the European Commission and Scottish Government agreed to adopt a number of changes to gear and catch composition requirements have been implemented in 2009 in the area East of the French Line in ICES division VIa. These include:

1. Gear requirements:
   - The minimum mesh size in the cod-end or extension piece has increased from 70mm to 80mm.
   - Vessels targeting whitefish that are 15m or below must use at least 110mm gear, whilst those that are above 15m must use at least 120mm gear.
   - Vessels targeting whitefish must also have a 3m long Square Mesh Panel (SMP) fitted 12-15m from the codline. The mesh 110mm or 120mm dependant on whether the vessel is below or above 15m respectively.

2. Catch-composition requirements:
   - For vessels targeting Nephrops (also known as Norway lobster, langoustine and prawns), the catch must contain at least 30% Nephrops and no more than 10% combined of cod, haddock and whiting.
   - For vessels targeting whitefish, the catch must contain no more than 30% combined cod, haddock and whiting."

These measures were initially introduced for one year but were rolled over for a further 18 months following the collapse of discussions on technical conservation measures after the disagreement on the European Parliament’s role in agreeing technical measures. Recognising the difficulties that these requirements pose to the fleet, the Scottish Government has worked with the industry to develop alternative measures and submitted alternative proposals to the European Commission (Scottish Government 2010b). While most of the measures are likely to continue to be rolled over until the CFP reform proposals are agreed, it is likely that haddock will be removed from the catch composition rules (the requirement to have no more than 30% combined of cod, haddock and whiting) which should reduce haddock discards.
EFFORT CUTS IN THE COD RECOVERY ZONE

Fishing effort for vessels likely to catch cod has been limited in the North Sea and the West of Scotland since 2003. From 2003 to 2007 effort was limited by calendar days.

Limits on fishing by individual vessels by calendar days have now been replaced by limits on kilowatt days – kilowatt days = engine power (kW) x calendar days. A vessel’s engine power affects e.g. the size of net that a vessel can tow and haul, and hence the vessel's catching capacity.

During 2008, a long-term management plan was agreed for cod stocks, supplementing the recovery plan which had been in place since 2004 (Regulation 1342/2008). The plan requires fishing mortality on cod to be reduced in stages until it is at or below a target level. It contains rules for setting cod TACs to reduce them to a level corresponding to this target fishing mortality. It also requires fishing using specific fishing gears in specific areas, including the North Sea and West of Scotland, to be managed by kilowatt days. It requires reductions in kilowatt days corresponding to the reduction in TACs. The fleet is divided into gear categories according to the type of net they use and the species they target. Effort reductions apply to gear categories according to the proportion of the total cod catch that they are responsible for. The plan requires the Council to take an annual decision on these kilowatt day limits, which are included in the TAC and quota regulation, decided at the December Fisheries Council.

For the West of Scotland, the plan required that kilowatt days be reduced by 25% per year whilst the stock remains below a particular size (known as a biomass limit value). For the North Sea, the plan required a 25% reduction in kilowatt days in 2009, and a reduction of 10% per year thereafter until a target lower fishing mortality and stock biomass are reached. Neither the West of Scotland stock nor the North Sea stock have met the targets in the plan, and so proposals for further reductions in kilowatt days are expected for 2012.

The table below shows the kilowatt days allocated to the UK in 2009 and 2010. It also shows the kilowatt day allocations that would have been made in 2008, to illustrate the effect of the 25% cut applied in 2009. Proposals for 2012 were included in the European Commission’s proposal (European Commission 2011c). For 2012 a further cut of 25% for West of Scotland whitefish is proposed. A cut of 10% for North Sea whitefish and Nephrops is expected.

The cod recovery plan is under review, however it is unlikely agreement will be reached until the new CFP comes into force due to the dispute over whether plans need to be agreed by the European Parliament as well as the Council of Ministers. ICES has indicated that there is not a one to one relationship between effort cuts and mortality and the Scottish Government is arguing that since the evidence for the effectiveness of annual cuts is lacking, they should be suspended until a new plan is in place due to the serious socio-economic impacts of further cuts.

On 23 November 2011, the European Commission published Commission Implementing Regulation 1211/2011 which put in place additional reductions to the amount of days at sea for UK fishermen for 2012. It appears that this is proposed as a penalty because the Commission considers that the UK has exceeded its effort allowance for 2011. The Scottish and UK Governments believe this is incorrect and have held “constructive talks” with the Commission (Scottish Government 2011c). The Commission has accepted that some of the figures they used are incorrect and Regulation 1211/2011 has been repealed. However, talks are ongoing about whether additional effort cuts for UK vessels for 2012 are necessary.
Table 4 - Kilowatt days for UK vessels 2008-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Whitefish trawlers</th>
<th>Nephrops trawlers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>North Sea</td>
<td>West of Scotland</td>
</tr>
<tr>
<td>2008</td>
<td>13,726,845</td>
<td>3,197,975</td>
</tr>
<tr>
<td>2009</td>
<td>10,295,134</td>
<td>2,398,481</td>
</tr>
<tr>
<td>2010</td>
<td>8,938,164</td>
<td>1,836,929</td>
</tr>
<tr>
<td>2011</td>
<td>7,561,687</td>
<td>1,377,697</td>
</tr>
<tr>
<td>2012</td>
<td>6,805,518</td>
<td>1,033,273</td>
</tr>
</tbody>
</table>


Notes: the figures for kilowatt days in the regulation for 2009 have been multiplied by 1/0.75 to derive a baseline for 2008. Whitefish trawlers are gear category TR1 defined as trawlers using mesh >=100mm; nephrops trawlers are gear category TR2 defined as trawlers using mesh >=70mm - <100mm

CONSERVATION CREDITS

The Scottish Government has sought to mitigate the impact of the reductions in fishing time required by the long-term cod management plan by introducing “Conservation Credits”. A number of measures have been introduced which are intended to reduce cod catches. Fishermen who adopt these measures receive additional fishing time. This scheme is facilitated by Article 13 of the regulation on the long term cod plan (Council Regulation 1342/2008), which allows Member States to allocate fishing effort above the minimum set out, where vessels participate in additional cod avoidance activities.

Conservation Credits were introduced by the Scottish Government, following an agreement in the autumn 2007 fisheries negotiations. The Scottish Government agreed with the European Commission that it would institute a system of real time closures in 2008 to reduce catches of juvenile cod. Fishermen who complied with the area closures received additional days at sea.

The Conservation Credits scheme was continued in 2009, 2010 and 2011 and the measures under the scheme have been extended. The scheme provides alternatives to the reduction in kilowatt days, whilst still reducing cod mortality by the level required by the cod recovery plan. It is intended to give the majority of Scottish whitefish and Nephrops trawlers the opportunity to fish at a level close to their normal practices. Fishermen can receive additional days at sea by adopting conservation measures such as nets that allow cod to escape, and avoiding fishing in areas with high concentrations of cod. The greater the number of conservation methods used, the more days at sea can be topped up.

As described above, if cuts to effort are continued, this impacts on the rewards offered to fishermen in terms of additional days at sea so that the scheme is either less attractive to fishermen or fewer can enter it.
DISCARDS

Discards are fish that are caught and thrown back into the sea; in most cases the fish are thrown back dead or do not survive. Discarding rates in Scottish mixed fisheries are high. In 2009, 63% of cod caught in the North sea and 71% of cod caught in the West of Scotland were discarded. The estimated value of discarded cod was £22.3m in this year (Scottish Government 2010d).

The European Commission has identified several reasons why discarding occurs:

- The system of quotas obliges fishermen to discard fish for which they have no quota. Relative stability and the mismatch between quotas and catches results in discards;
- Minimum landing sizes require the discarding of undersized fish;
- National implementation of fish quotas can contribute to the problem where it does not allocate quotas according to the catches of fleets;
- Fish are discarded for economic reasons. Many species have low or no-commercial value. Fishermen also discard landable fish to save space on board for bigger higher value fish of the same species, so-called ‘highgrading’.

There is general agreement that discarding is a waste of resources, and it has been a major area of discussion for the CFP post 2012. The European Commission has proposed that fishermen should be obliged to land all catches (except those which can survive being discarded). The aim is to phase in discard bans by species groups. The ban would start in 2014 for some species, adding more species in 2015, with a full ban for all commercial species coming into place by 2016.

The Scottish Government favours eliminating discards but is also concerned about the effects of an outright ban on mixed fisheries. They are keen to focus on methods trialled in Scotland such as the Cod Catch Quota Scheme (CCQS). In 2010, Defra and Marine Scotland introduced a voluntary pilot Cod Catch Quota Scheme (CCQS), where participating vessels must retain on board and land all cod that is caught, regardless of size and marketability. Participating vessels are granted an extra amount equal to 12% of the TAC for cod (the estimated size of discards prior to introduction of the scheme). Vessels must agree to have Remote Electronic Monitoring equipment installed to ensure they agree with the terms of the scheme. Following the 2010 trials involving 17 Scottish vessels, an expanded 23 vessel scheme started in early 2011.

The Scottish and UK Governments wanted to open the scheme to more skippers in 2012. However, in order to do this, agreement was needed at the EU-Norway negotiations. The Scottish Government argued that fishermen should be allowed to land more cod if less is caught overall (because of the reduction in discards). Norway did not agree to an increase in the weight of cod that Scotland could land, however the scheme has been rolled over despite some resistance from Norway.
MACKEREL

Mackerel are a migratory, widely dispersed pelagic species. The populations of the NE Atlantic are dispersed from the coastal waters of Morocco, around the coasts of Spain, Portugal, France, Ireland, Britain, the Faroes and Norway and into the Barents Sea. The stock is seen as having three spawning components: the southern component spawns in Spanish and Portuguese waters, the western component spawns in the Bay of Biscay and around Ireland, and the third component spawns in the North Sea.

For the last ten years catches of mackerel have been agreed through coastal state negotiations between three parties: the EU; Norway; and the Faroes. The stock has been successfully managed through these agreements, and is currently at a sustainable level.

Historically Iceland has fished a small amount of mackerel, around 2,000 tonnes a year on average. In recent years, Iceland has reported increased mackerel migrating into its waters, perhaps linked to ocean warming, changing distribution of food sources, or just an expansion in the stock meaning it needs to move further west to find food. Iceland has substantially increased its catch of mackerel, to 116,000 tonnes in 2009, 130,000 tonnes in 2010 and 147,000 tonnes in 2011.

The Faroes has historically taken a small share of the mackerel quota set by the three coastal states, around 5%. In 2010, following the actions of Iceland, it unilaterally increased its quota to 85,000 tonnes and increased it still further to 150,000 tonnes in 2011.

The UK has the largest share of the mackerel quota of the EU Member States, at 152,000 tonnes, mainly fished by Scottish boats, and it is the most valuable species to the Scottish fishing industry, with landings by Scottish boats in 2010 worth £113m. The Scottish mackerel fishery has received Marine Stewardship Council certification. In early 2011, a Scottish Government objection to the Marine Stewardship Council certification of Faroese mackerel was upheld (Scottish Government 2011).

The actions of Iceland and the Faroes have been greeted with dismay by Scottish mackerel fishermen, as increasing catches of mackerel without a scientific basis for doing so places the future sustainability of the stock at risk.

While the Scottish Government recognise that Iceland does have a right under international law to a share of the stock found in its waters in higher numbers than before, it believes Iceland’s method of asserting this right is unacceptable. The Scottish Government has been vocal in criticizing the actions of Iceland and the Faroes, and in pressing for the EU to take action to resolve the situation. The Cabinet Secretary for Rural Affairs and the Environment, Richard Lochhead MSP, spoke on behalf of the UK delegation on the issue at the Agriculture/Fisheries Council of the 27 September 2010, the first time a Scottish Minister has spoken on behalf of the UK on fisheries (Scottish Government 2010c).

In July 2011, a joint statement was issued by Maria Damanaki, European Union Commissioner for Maritime Affairs and Fisheries, and Lisbeth Berg-Hansen, Minister of Fisheries and Coastal Affairs of the Kingdom of Norway:

“We are deeply concerned about the irresponsible actions of Faroe Islands and Iceland in setting excessive unilateral quotas for their 2011 mackerel fisheries.

We are also deeply concerned about the Faroe Islands chartering foreign vessels to catch their unilateral quota in a clear move away from responsible, modern fisheries management.
These unilateral mackerel quotas far exceed their traditional level since 1999 and they overshoot the total catch recommended by scientists for the whole of the European fishery by almost 50%. Such an excessive exploitation poses a threat to the health of that important fish stock and it violates our common interest in a sustainable fishery.

We are committed to cooperating closely to avert further damage for the mackerel stocks in the North Atlantic, caused by the unilateral actions of Iceland and the Faroe Islands. The European Union and Norway are examining all possible options for stopping this damaging exploitation. We intend to coordinate our actions.

We call on Iceland and the Faroe Islands to return to the negotiating table with a constructive approach and to agree on common fishery arrangements for 2012 that are responsible and sustainable." European Commission and Norway (2011).

The Commissioner has suggested that sanctions against Iceland and the Faroes are being considered, but is yet to come forward with proposals (likely to be in the form of a framework regulation which could also be applied in the case of future disputes).

The ICES advice includes a table with an estimate of 2011 catches:

Table 5 – ICES estimates of mackerel catches

<table>
<thead>
<tr>
<th></th>
<th>Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU quota, including Southern and Swedish quota</td>
<td>403,594</td>
</tr>
<tr>
<td>Inter-annual quota transfer from 2010 (EU)</td>
<td>595</td>
</tr>
<tr>
<td>UK-Ireland payback</td>
<td>-18,222</td>
</tr>
<tr>
<td>Norwegian quota including Northern quota 1)</td>
<td>183,069</td>
</tr>
<tr>
<td>Inter-annual quota transfer from 2010 (Norway)</td>
<td>14500</td>
</tr>
<tr>
<td>Russian quota</td>
<td>49,243</td>
</tr>
<tr>
<td>Discards (Previous years estimate)</td>
<td>6863</td>
</tr>
<tr>
<td>Icelandic quota</td>
<td>146,818</td>
</tr>
<tr>
<td>Faroese quota</td>
<td>150,000</td>
</tr>
<tr>
<td>Total expected catches in 2011 (including discards)</td>
<td>927,245</td>
</tr>
</tbody>
</table>

Source: ICES (2011)

The total estimated catch of 927,245 tonnes in 2011 is clearly much higher than the ICES advice. ICES advised that in order to move towards a MSY approach, less than 672,000 tonnes of mackerel should be caught in 2011.
GLOSSARY

Blim – biomass limit value, below which the stock is thought to be at risk of collapse

Bpa – biomass precautionary value, above which the stock is thought to be safe from collapse

Flim – fishing mortality limit value

Fpa – fishing mortality precautionary value

F_{MSY} – Fishing mortality likely to result in stock at MSY

B_{MSY-trigger} – biomass reference point triggering cautious response to allow stock to rebuild towards B_{MSY} (the notional value around which the stock fluctuates when F = F_{MSY}

ICES – International Council for the Exploration of the Sea

LTMP – Long Term Management Plan

MSY – Maximum Sustainable Yield

STECF – Scientific, Technical and Economic Committee on Fisheries, a committee of experts from EU Member States which advises the European Commission

TAC – Total Allowable Catch, the total amount of fish which can be removed from a stock in a year. Due to the problem of discarding, the TAC is effectively a Total Allowable Landing.

UWTV – Under water TV, a survey technique used to estimate the size of Nephrops stocks

FU – functional unit or stocks into which Nephrops are separated for the purposes of assessment. These are based on the discrete patches of mud they inhabit.
## ANNEX 1 - SUMMARY OF SCIENTIFIC ADVICE FOR STOCKS OF INTEREST TO SCOTTISH FLEET

<table>
<thead>
<tr>
<th>Stock</th>
<th>ICES assessment of state of stock</th>
<th>ICES advice for 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Sea cod</strong></td>
<td>There has been a gradual improvement in the status of the stock over the last few years. SSB has increased from the historical low in 2006, but remains below Blim. Fishing mortality declined from 2000, but is estimated to be well above FMSY, and is just above Fpa. Recruitment since 2000 has been poor. Although discards are still high, there has been a decreasing trend since 2008.</td>
<td>LTMP - F in 2012 equal to 45% of F2008. Landings should be 31,800 t in total for Subarea IV and Divisions IIa West and VIIId in 2012. MSY - implies landings &lt;9,500 t in 2012. Transition towards MSY results in landings &lt;42,000 t in 2012. The stock is below Blim and recruitment remains poor. Therefore, a more rapid transition to the MSY framework may be necessary to rectify the situation. PA - Even a zero catch in 2012 is not expected to result in SSB reaching Bpa in 2013.</td>
</tr>
<tr>
<td><strong>North Sea haddock</strong></td>
<td>Fishing mortality has been below Fpa and SSB has been above MSY Btrigger since 2001. Recruitment is characterized by occasional large year-classes, the last of which was the strong 1999 year class. Apart from the 2005 and 2008 year classes which are about average, recent recruitment has been poor.</td>
<td>LTMP - implies a TAC of 41,575 t in 2012 (increase of 15% and an F increase of 23%). MSY - fishing mortality to be increased to 0.3, resulting in human consumption landings of less than 43,000 t in 2012. This would be expected to lead to an SSB of 227,000 t in 2013. PA - The fishing mortality in 2011 should be no more than Fpa corresponding to human consumption landings of less than 86,000 t in 2011. This is expected to keep SSB above Bpa in 2013.</td>
</tr>
<tr>
<td><strong>North Sea whiting</strong></td>
<td>SSB in 2010 slightly higher than in 2009 and is around the long-term average. Fishing mortality has been stable since 2003. Recruitment has been very low between 2003 and 2007, with above-average recruitments estimated in 2008 and 2009. Whiting is no longer considered to be in a period of impaired recruitment.</td>
<td>LTMP – following 2011 plan in 2012 as well implies a TAC of 21,300 in 2012, which corresponds to a 15% increase in TAC and an effort decrease of 17% in 2012. MSY/ P.A. - There are no reference points.</td>
</tr>
<tr>
<td><strong>North Sea Nephrops</strong></td>
<td>ICES identify 8 separate stocks within the North Sea, 3 of which are relevant to Scotland. Fladen: The stock remains at a high level, well above MSY Btrigger. The harvest rate has been increasing but is still below FMSY. Firth of Forth: absolute density observed on the UWTV survey is relatively high (average of ~ 0.8 burrows m−2). A long time-series of relatively stable landings above those predicted by currently fishing at Fmax (F that produced that maximum yield per recruit) while the stock abundance has been stable, suggest a productive stock. Suggested that Fmax for combined sexes is chosen as the FMSY proxy. Moray Firth: Moderate absolute densities are generally observed on the UWTV survey. Although variable, harvest ratios appear to have been around or above F35%SPR (spawning biomass per recruit) and in addition there is a long time-series of relatively stable landings (average reported landings ~ 1500 tonnes, above those predicted). Fladen: ICES advises on the basis of the MSY approach that landings in 2012 should be no more than 14,100 t. Firth of Forth: To follow MSY the harvest rate should be reduced to 16.3%, corresponding to maximum landings of 1,600 t in 2012. To follow the transition scheme towards the MSY the harvest rate should be reduced to 17.5%, corresponding to landings of no more than 1,700 t in 2012. Moray Firth: MSY implies the harvest rate should be less than 11.8%, resulting in landings of less than 1,100 t in 2012.</td>
<td></td>
</tr>
</tbody>
</table>
predicted by currently fishing at F35%SPR(T). It is suggested that F35%SPR(T) is chosen as the FMSY proxy.

North Sea herring
ICES classifies the stock as being at full reproductive capacity and as being harvested sustainably and below management plan and FMSY targets. The year classes from 2002 to 2007 are estimated to be among the weakest since the late 1970s. The year classes 2008 and 2009 are estimated to be above the long-term geometric mean, but ICES considers that the stock is still in a low productivity phase.

North Sea and West of Scotland monkfish
No analytical assessment can be presented for this stock. Because of major uncertainties concerning catch-at-age and effort data for anglerfish as well as limited knowledge about population dynamics, a forecast cannot be presented.

West of Scotland Nephrops
ICES identify three separate FU:
North Minch - The harvest ratios (dead removals-TV abundance) has fluctuated around the FMSY proxy. The stock has been above MSY Btrigger for more than 10 years. South Minch - the absolute density observed on the UWTV survey is medium. Historical harvest ratios in this FU have been variable, but generally around the F35%SPR. F35%SPR (combined between sexes) is expected to deliver high long-term yield with a low probability of recruitment overfishing and is therefore chosen as a proxy for FMSY. Firth of Clyde subarea- absolute density observed in the UWTV survey is generally high suggesting that the stock has relatively high productivity. Historical harvest ratios in this FU have been generally high at or above Fmax. Fmax is considered an appropriate FMSY proxy. Sound of Jura subarea of this FU, the absolute density observed on the UWTV survey is generally high suggesting that the stock has relatively high productivity. A more cautious F35%SPR is considered an appropriate FMSY proxy for this stock.

West of Scotland cod
Total mortality is high, but cannot be accurately partitioned into fishing mortality and natural mortality. The spawning-stock biomass continues to increase from an all time low in 2006, but remains well below Blim. Recruitment has been estimated to be low over the last decade. The 2005 and 2008 year classes are estimated to be the largest since 1997 and comparable with the long-term geometric mean.

LTMP - maximum 15% increase in TAC which results in a TAC of 230,000t for the A fleet in 2012 (Scenario ii), which would lead to an SSB of 2.0 million tonnes at spawning time in 2012.

MSY - implies raising the fishing mortality to 0.25, resulting in catch of less than 478,000t in 2012. This is expected to lead to an SSB of more than 1.8 million tonnes in 2012.

P.A. - The fishing mortality in 2012 should be no more than Fpa, corresponding to catches of less than 478,000t in 2012. The SSB is expected to remain above Bpa in 2012.

ICES advises on the basis of precautionary considerations that catches in 2012 should be reduced.

North Minch - MSY implies the harvest ratio for the North Minch Functional Unit to be less than 12.5 %, resulting in landings less than 3,200 t in 2012.

South Minch - MSY implies the harvest ratio for the South Minch functional unit to be less than 12.3%, resulting in landings of less than 5,500 t in 2012.

Firth of Clyde MSY implies the harvest ratio should be reduced to less than 16.4%, resulting in landings of less than 4,000 t in 2012. The transition scheme towards MSY implies the harvest ratio for the Firth of Clyde should be reduced to less than 17.1% , resulting in landings of less than 4,200 t in 2012. Sound of Jura subarea - MSY implies the harvest ratio should be less than 14.5%, resulting in landings of less than 900 t in 2012. For the Sound of Jura no transition is needed as the harvest rate is already below the FMSY proxy.

LTMP - a TAC and associated effort reduction of 25%. This translates to a TAC of less than 137 t.

MSY - catches (mainly discards) of cod should be reduced to the lowest possible level.

PA - No targeted fishing should take place on cod. By-catches, including discards of cod in all fisheries in Division Via, should be reduced to the lowest possible level.
<table>
<thead>
<tr>
<th>Region</th>
<th>Stock</th>
<th>Status</th>
<th>Fishing Mortality</th>
<th>Reference</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>West of Scotland haddock</td>
<td>The 2009 year class is strong relative to others in the recent period, but still below the long-term average. Nevertheless, this year class contributes to the rise of the SSB in 2011 estimated at 20.8 thousand tonnes. F has been above Fpa in most years since 1987, but dropped below Fpa in 2007 has been and at FMSY since 2008.</td>
<td>LTMP (under development) - 25% increase in landings. This would result in removals from the stock of 4,600t, and landings of 2,506t. This is expected to lead to an SSB of 50,000 tonnes in 2013.</td>
<td>MSY - Fishing mortality less than 0.3, resulting in landings of 10,200 tonnes in 2012. This is expected to lead to an SSB of 40,700 tonnes in 2013.</td>
<td>P.A. - fishing mortality in 2012 should be no more than Fpa, corresponding to landings of less than 15,700 t. This is expected to keep SSB above Bpa in 2013.</td>
<td></td>
</tr>
<tr>
<td>Rockall haddock</td>
<td>Spawning biomass has increased in recent years as a result of the 2001 and 2005 year classes. SSB has been above Bpa since 2003. Fishing mortality has declined over time and is now below FMSY. Recruitments since 2007 are estimated to be extremely weak and there is a high probability that SSB will decrease to levels below Bpa in 2013.</td>
<td>MSY - A fishing mortality of 0.3 (= FMSY) corresponds to landings of less than 3300 t in 2012 and is expected to lead to an SSB of 9,600 t.</td>
<td>P.A. - A fishing mortality of 0.4 (= Fpa) corresponds to landings of 4,200 t in 2012 and is expected to lead to an SSB of 8,600 t which will be below Bpa in 2013. To keep SSB above Bpa, landings in 2012 should be less than 3,800 t.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West of Scotland whiting</td>
<td>The state of the stock is unknown, but long-term information on the historical yield and catch composition, a survey-based assessment, and an exploratory analytical assessment covering the more recent period, all indicate that the present stock size is at a historical low.</td>
<td>The stock trend is considered to be close to the historically low level; the qualitative evaluation suggests that fishing mortality has declined and is now close to its historically lowest value, but this is uncertain. Catches should be reduced. The selection pattern should be improved in the TR2 fleet.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West of Scotland herring</td>
<td>ICES considers that the stock over recent years has been fluctuating at a low level. Fishing mortality has fluctuated around FMSY in recent years. Recruitment has been low since 2003.</td>
<td>LTMP - TAC of 22,900 t in 2012 which is expected to lead to a TAC increase of 2%.</td>
<td>MSY - fishing mortality at FMSY = 0.25, resulting in landings of less than 22,900 t in 2012. This is expected to lead to an SSB of 67 thousand tonnes in 2013.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North East Atlantic mackerel</td>
<td>Fishing mortality in 2010 is estimated to be 0.26, above FMSY and Fpa. Fishing mortality was high during the early 2000s, then declined strongly and has been at a relatively stable level since 2006. SSB increased considerably from 2002 onwards and currently remains high, above Bpa and MSY Btrigger. The 2005 and 2006 year classes are the highest on record. The 2007 and 2008 year classes are about average. There is insufficient information to confirm the sizes of the 2009 and 2010 year classes.</td>
<td>LTMP - implies a TAC between 586 and 639 thousand tonnes in 2012, which would lead to a catch reduction between 31% and 37% compared to the estimated catches in 2011.</td>
<td>MSY - implies that fishing mortality should be reduced to 0.22 (FMSY), resulting in a total catch of 639 thousand tonnes in 2012. This would lead to an estimated SSB in 2013 of 2.70 million tonnes. Transitional MSY HCR implies that fishing mortality should be reduced to Fpa (=0.23), resulting in a total catch of 665 thousand tonnes in 2012. This would lead to an estimated SSB in 2013 of 2.67 million tonnes.</td>
<td>P.A. - fishing mortality in 2012 should be no higher than Fpa (F = 0.23), corresponding to a total catch of 665 thousand tonnes in 2012. This is expected to maintain SSB above Bpa in 2013.</td>
<td></td>
</tr>
</tbody>
</table>

Source: ICES (2011)

Note: LTMP = Long Term Management Plan; MSY – Maximum Sustainable Yield; P.A = Precautionary Approach


European Commission (2011b) *Proposal for a Council Regulation fixing for 2012 the fishing opportunities available in Union waters and, to Union vessels, in certain non-Union waters for certain fish stocks which are subject to international negotiations or agreements.* Available at: http://ec.europa.eu/fisheries/cfp/fishing_rules/tacs/info/com_2011_717_en.pdf

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