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40th PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-12-02)

PLENARY MEETING,
9-13 July 2012, Copenhagen

Edited by John Casey & Hendrik Doerner

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PLENARY MEETING

9-13 JULY 2012, COPENHAGEN

1. INTRODUCTION

The STECF plenary took place at the Forest & Landscape, Denmark University of Copenhagen, Rolighedsvej 23, 1958 Frederiksberg C, Denmark, from 9 to 13 July 2012. The Chairman of the STECF, Dr John Casey, opened the plenary session at 14:30h. The terms of reference for the meeting were reviewed and the meeting agenda agreed. The session was managed through alternation of Plenary and working group meetings. Rapporteurs for each item on the agenda were appointed and are identified in the list of participants. The meeting closed at 16:00h on 13 July.

2. LIST OF PARTICIPANTS

The meeting was attended by 32 members of the STECF, two external experts, four Maritime Affairs and Fisheries personnel (DG MARE), three JRC experts, and one member from the STECF secretariat. Section 11 of this report provides a detailed participant list with contact details.

The following members of the STECF informed the chairman and secretariat that they were unable to attend the meeting:
Georgi Daskalov
Sakari Kuikka
Loretta Malvarosa

3. INFORMATION TO THE PLENARY

3.1. STECF plenary – information from the secretariat on EWG meetings

The secretariat informed the Committee that the venue of Expert Working Group EWG-12-17 'Review of scientific advice – part 3' meeting still needs to be determined. The dates of the EWG-12-11 'Balance fishing capacity-opportunity' have been rescheduled to 24 to 28 September.

3.2. STECF plenary – JRC "Scientific Fisheries Data" dissemination tool

JRC presented to the STECF a pilot tool called the "Scientific Fisheries Data" dissemination tool, developed by JRC. This new instrument aims at providing the scientific community, policy makers, authorities and the general public with the fisheries data collected in the European Union in a more user-friendly, transparent and interactive manner. The data can be explored through interactive tables and graphs and can also be downloaded in for further analysis, according to the user's specific needs. The web-based dissemination tool contains economic data on the performance of the fishing fleet, biologic data on landings and discards and data on fishing effort. From 2008 to date, such data have been available solely as Tables annexed to the reports produced by the STECF. From now on, the "Scientific Fisheries Data" dissemination tool, will allow interested parties easy access to information on catches, fishing effort and economics of the EU fishing fleet in electronic form.

JRC provided login information to the pilot tool to the STECF membership and asked for feedback. Initial feedback provided by individual STECF members during the presentation was generally positive. The "Scientific Fisheries Data" dissemination tool is planned to be released and presented to the public in September 2012.

4. STECF INITIATIVES

4.1. Role of STECF in the advisory process

Introduction

At the moment the EU Fisheries Council and European Parliament EP are debating the new basic regulation for the future Common Fisheries Policy (CFP). In the Commission's proposal of July 13th 2011 (COM (2011) 425) the establishment of an STECF was not explicitly referred to. The Commission apparently regards the existence of the STECF as independent from the basic regulation. During the ensuing debate which is still on-going, the Council has proposed changes in some Articles which would require the STECF to have a role in specific processes (e.g. regional measures or management plans for Natura 2000 sites). Furthermore, the Committee on Fisheries of the European Parliament has proposed several amendments to the Commission's proposal, indicating certain responsibilities to the STECF. At the same time the Commission is examining a new science strategy for fisheries policy.

In the light of the on-going discussions and recognizing that demands on the STECF are increasingly diverse, the STECF wishes to briefly outline its history and working procedures, and inform on the nature of the advice it has provided in recent years.

Establishment of STECF

The establishment of the current STECF is based on Article 33 of Council Regulation EC 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy stating that:

1. *A Scientific, Technical and Economic Committee for Fisheries (STECF) shall be established. The STECF shall be consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations*., and

2. *The Commission shall take into account the advice from the STECF when presenting proposals on fisheries management under this Regulation*.

Accordingly the Commission established the STECF in its Decision of 26 August 2005 (2005/629/EC) amended in Commission Decision of 4 February 2010 (2010/74/EU). Full text of the CFP Regulation and Commission Decision on STECF and more information are accessible on the STECF web site provided by the European Commission Joint Research Centre JRC (https://stecf.jrc.ec.europa.eu/).

Application for STECF membership is from individual experts in an independent capacity following a call by the Commission and there is no nomination of experts by EU Member States. The STECF membership is appointed by the Commission from the candidate list of experts and is composed of 35 recognised European experts on fish population biology, fisheries economics, marine ecology, social anthropology and fishing gear technology. The list of STECF members and reserve list are published in the Journal of the European Union (accessible at http://stecf.jrc.ec.europa.eu/about-stecf). STECF members and other experts attending meetings of the STECF are obliged to sign declarations of commitment to act in an independent capacity and to declare any interests that may impinge on the activities of the Committee (more information: http://stecf.jrc.ec.europa.eu/adm-declarations). Stakeholders are invited to participate as observers in Expert Working Groups to increase transparency of the advisory process (for conditions and protocol for observers see: http://stecf.jrc.ec.europa.eu/adm-registration).

The Commission has sole competence to request advice from the STECF.

STECF work

The predecessor to the STECF, Scientific and Technical Committee (STCF) was established in 1980 and met in plenum twice each year. In 1993, the STECF was disbanded and the STECF was established by Commission Decision 93/619 partly in recognition of the importance of economics in the management of EU fisheries. The number of meetings held under the auspices of the STECF increased slightly during the 1990s by the early 2000s, 2 plenary and 5 to 7 working group meetings were being held annually.

The 2002 reform of the CFP gave the STECF a new mandate stipulating that the Commission should consult STECF at regular intervals on matters pertaining to conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations, and it should take this advice into account when presenting proposals on fisheries management under the CFP Regulation.

The work of STECF is generally a mix of regular requests such as annual reports on the economic performance of the EU Fleet and Consolidated review of scientific advice on fish stocks of EU interest, and ad hoc or special requests. Since the 2002 reform of the CFP, STECF has been asked to deliver more strategic advice than hitherto. The drivers of these are the reformed CFP itself, and EU commitments to international agreements to implement the principles of sustainable development. STECF has been intimately involved with the EU initiatives, for example, the evaluation of long term management plans. Coupled with the long -term approach to fisheries management in Europe, there is an increasing need for integrated ecosystem-based advice, including socioeconomic effects, beyond the traditional fisheries management approaches.

The workload of the Committee has been steadily increasing in response to increasing demands from the Commission for advice. In parallel, the staff and financial resources allocated by the Commission in support to the STECF has also increased. Since 2005 the European Commission Joint Research Centre has provided the secretariat of the STECF.

Nowadays, there are 3 plenary meetings, 20 Expert Working Group meetings and 2 meetings of the Bureau every year. All Expert Groups report to the STECF and EWG chairs are requested to deliver a first draft of the report 10 working days after the close of the EWG meetings (or to inform the STECF board, see also STECF rules of procedures on: http://stecf.jrc.ec.europa.eu/about-stecf) . Generally, EWG reports are reviewed during the plenary meetings. It is possible to issue an opinion by written procedure. However, this possibility is very limited in cases were complex problems emerge. Conclusions or recommendations from EWG reports, ad hoc contracts or other documents are, therefore, not opinion of the STECF before review and adoption by the committee. Reports are only released on the dedicated report section of the STECF website (http://stecf.jrc.ec.europa.eu/reports) when final. This report sections contains all reports released by the STECF and its predecessor STCF sorted in categories.

Given the high number of EWGs reporting to the STECF in combination with an ever increasing demand for additional *adhoc* advice by the Commission, the overall workload and number of opinions/reports arising from STECF activities has peaked in recent years. 134 reports were issued in 2007 to 2011 with ≥ 30 reports released annually in 2009 to 2011. Several of these reports were associated with official calls for data under the Data Collection Framework DCF served by the JRC on Behalf of DG MARE. Such work has involved substantial analyses by numerous invited independent experts and STECF members. Output examples are the Annual Economic Report on the EU Fleet, Reports on the evaluation of Fishing Effort Regimes and Mediterranean Stock Assessments. Both the quantity (up to >1,000 pages) and quality of the reports are high but it is important to stress that the capacity

of the committee to successfully tackle all requests and deliver high quality advice to the Commission has been reached. In fact, in some instances the capacity of the STECF to deliver on its plenary terms of reference has been exceeded and on occasions the Committee has had to resort to the less efficient process of adoption by written procedure. To provide an example, the STECF was tasked in its winter 2010 plenum to review 12 EWG reports plus 21 additional *adhoc* requests on a diverse range of topics.

Future considerations

Since the 2002 CFP reform, the workload of the STECF has increased substantially, especially over the last 3-4 years and in many instances STECF has been requested for advice by the Commission at very short notice. Nevertheless, the organization of the STECF work program work has been rather efficient and the Committee has been able to deliver high quality and timely advice on nearly all occasions.

While the STECF option to provide its opinion by written procedure (OWP) has worked reasonable well, it is difficult to manage and needs to be restricted to requests that require only limited discussion between members. Complex issues require substantial interdisciplinary discussion which in practice is only feasible during EWGs or plenary meetings.

In addition, the availability of appropriate experts to address some issues is often limited and in some instances it has proven to be a challenging task to secure the services of such experts. Given that proposed involvement of the STECF in the future advisory framework of the CFP, the demands on the Committee and its ability to respond to those demands may become even more critical.

STECF therefore concludes that there is a potential imbalance between the demands of the Commission for future scientific advice and the availability of resources to adequately respond to those demands. Naturally, STECF will strive to further improve its internal work procedures to meet future demands, but additional mechanisms may be necessary to ensure the Commission receives the best possible scientific advice. STECF therefore suggests that the Commission consider the implications of proposed demands and expectations of the STECF under a revised CFP, before a final decision on the basic regulation is taken. STECF is keen and interested to further discuss with the Commission, any aspect of its potential involvement in the scientific advisory process under a revised CFP.

5. ASSESSMENT OF STECF EWG REPORTS

5.1. STECF-EWG-11-13: Development of the Ecosystem Approach to Fisheries Management (EAFM) in European seas

Terms of Reference

STECF is requested to review the report of the STECF Expert Working Group (EWG 11-13), evaluate the findings and make any appropriate comments and recommendations.

Background

The first STECF Expert Working Group on the "Development of the ecosystem approach to fisheries management (EAFM) in European seas" (SGMOS 10-03) met in September 2010. The overall aim of this working group was to provide a practical example of a first attempt at assessment and advice in support of EAFM. It achieved this by i) utilising long time-series of catch and various stock assessment metrics, including the analysis of ecosystem indicators, ii) an analysis of the characterisation of fleets impacts, iii) an analysis of fleets economic performances, iv) an assessment of operational status of ecosystem models to support EAFM. Following the first report, the working group was requested to provide comments and suggestions regarding the best way to improve the EAFM in European waters.

During its 35th plenary meeting (PLEN-10-03), STECF acknowledged the quality and quantity of analyses undertaken by the EWG on EAFM, and supported the conclusions reached by the Group. STECF especially noted that "implementing EAFM is a specific task, that has to be conducted in respect to -and in close collaboration with- the MSFD, but whose purpose is not (or not only) to ensure GES". In addition, EAFM aims to ensure ecological sustainability (including GES), but also economic profitability with an important objective to analyse trade-offs between ecology, economy and social aspects.

STECF recommended that the EWG on EAFM meet again in 2012 with the participation of ecologists, biologists and economists, to improve and to expand the methodological approach established by the first meeting. The working group was asked to make any appropriate comments and recommendations regarding the best way to improve EAFM implementation in European seas.

The report of the Expert Working Group on Development of the Ecosystem Approach to Fisheries Management (EAFM) in European seas (EWG-11-13) was reviewed by the STECF during its 40th plenary meeting. The following observations, conclusions and recommendations represent the outcomes of that review.

STECF observations

The analyses undertaken and presented in the report were specific to previously defined European regional marine ecosystems (Table 5.1.1) and included an assessment of trends under the following sub-headings; **i.** total landings and effort, **ii.** synthesis of the stock status and stock trends, **iii**. ecosystem and environmental indicators, and **iv.** fleet based synthesis (integration of economic and ecological indicators).

STECF notes the significance progress made in developing methods for performing an EAFM in European Seas by the EWG-11-13. STECF also observes that the results are usefully integrated and assessed in two ways important for the implementation of EAFM; namely, i. an overall assessment of ecosystem health, presented in the form of a 'traffic light' table (Figure 5.1.1) and ii. an overall assessment of fleet performance (Figure 5.1.2). STECF also notes that several types of validated ecosystem models are available to assess the dynamics of some European regional marine ecosystems. The outputs of such models should be encouraged (where available) to operationally support management advice in the context of EAFM.

STECF observes that there remains a lack of specific economic and social targets against which progress can be assessed with respect to the EAFM. The CFP does not set out specific targets for economic and social sustainability, e.g. COM CFP proposal (Art. 2 COM (2011) 425). However, STECF is aware of several EU FP 7 projects (e.g. MEFEPO, SOCIOEC, MYFISH.) where definitions for specific socio-economic targets have been discussed and are being developed. STECF also noted that, even in the absence of clear economic targets, the fleet segment socio-economic performance comparison provided by EWG 11-13 gives an indication of the variability in the relationship between socio-economic performance and ecological impact of different fleets.

STECF observes that an assessment of baseline conditions and advising on suitable ecosystem management targets was beyond the terms of reference of the working group. However specifying such conditions and targets is an important consideration in developing methods for EAFM.

STECF notes that in some of the ecoregions considered by the EWG 11-13, only a relatively small proportion of the stocks exploited in those ecoregions are assessed. This limited the work that could be done by the WG.

STECF conclusions

1. Given the data and information currently available, the location and scale of the reference list of regional marine ecosystems used in the analysis are appropriate for the purpose of developing and implementing assessment methods for the EAFM. The location and spatial extent of these ecosystems are consistent with RAC areas and MSFD regions. However further consideration needs to be given to consider how the differences in the proposed management areas arising from the STECF EWG 12-04 on fisheries management can be reconciled especially with regard to the West of Scotland (Subarea VI).

2. Long time-series trends (>50 years) of ecosystem state (indicators of ecosystem health and stock-based indicators) are needed in order to define the limits of expected ecosystem variability.

3. Targets for ecosystem state could be addressed (in part) by seeking further policy guidance and reviewing the outcomes of recent relevant R&D projects including the FP 7 projects referred to above.

4. The majority of GES assessment criteria and indicators defined in COM(2010)477 are state metrics and further consideration should be given to the inclusion of pressure indicators linked to the assessed state indicators e.g. VMS pressure indicators which are currently required under the DCF may be suitable candidates.

5. The analyses presented in the report are preliminary and need further development, especially to support changes in the policy environment associated with the implementation of the Marine Strategy Framework Directive (MSFD) and reform of the CFP. Furthermore, the present approach would benefit from a clear method or plan which sets out how to objectively integrate the results describing ecosystem health, fleet segment socio-economic performance and ecological impact, for each of the regional marine ecosystems.

STECF recommendations

Based on the Report of its EWG 11-13, the STECF recommends the following:

1. Further consideration be given to how the exploratory data analysis conducted by the EWG 11-13 should inform the development for a management framework for an EAFM and the data and assessment requirements to support such a framework.

2. A revised DCF should include a requirement to collect data to estimate the values of state and pressure indicators to contribute to the requirements of an EAFM and the MSFD.

3. STECF reiterates its previous recommendation from PLEN 11-03, that a study be undertaken to focus on the disaggregation of economic data below the fleet level to subareas and/or métiers, which, for instance, is relevant in relation to future needs for impact assessments and evaluation of management plans, and also when addressing ecosystem based management.

4. An expert working group to further develop the present fleet-based methodological approach, specifically to incorporate a review and analyses of possible targets, should be established under the auspices of STECF. Such an expert group should concentrate on one or two well-studied and understood ecosystems. The feasibility and usefulness of using ecosystem and/or bio-economic models in an advice oriented EAFM perspective, in relation with the fleet-based approach mentioned above also needs to be addressed. Consideration needs to be given as to whether this could be undertaken by the proposed group or whether a separate meeting would be necessary.

		Land. Y	Effort E	Mortal. F	Biom. SSB	Recr. R	Sust. F*	Survey LFI	Survey MMLw	Survey MTL	Land. MMLw	Land. MTL	% asses.
Baltic Sea		↘	→	↘	↺	→	😐	↺	↺	↺	↘	↘	≈ 95
North Sea		↘	↘	↘	↗	↘	😐	↘	↘	?	Low	low	≈ 85
North western Atlantic waters	West Scot./Irl.	↘	↘	↘	?	↘	😐	?	↘	↘	↘	↘	≈ 90
	Irish Sea	↘	↘	↘	↘	↘	?	→	↗	↘	→	↘	≈ 35
	Celtic Sea	↘	↘	↘	↗	↘	🙂	?	?	?	low	↘	≈ 40
South western Atlantic waters	Bay of Biscay	→	?	↘	↗	↘	?	↗	→	→	↗	→	≈ 45
	Iberian Coast	↘	?	↘	↘	↘	?	→	→	↗	→	↘	≈ 40

Figure 5.1.1. Trends over the last years in the main indicators of the Ecosystem health in the seven ecosystems considered as case studies: total landings Y, fishing effort E, mean fishing mortality F, total stock spawning biomass SSB, mean recruitment index R, index of mean sustainable fishing mortality F*, large fish indicator from surveys LFI, mean maximum length MMLw from surveys or from landings, mean trophic level MTL from surveys or from landings, % of landings due to assessed stocks (see section 4 of the EWG-11-13 report for details on indicators definition http://stecf.jrc.ec.europa.eu/reports/strategic-issues).

Table 5.1.1. Reference list of European marine ecosystems suggested by STECF in Atlantic and Baltic Seas.

	Ecosystem	FAO subdivisions	RAC	ICES Eco-regions
1	Baltic sea	ICES IIIb, 22-32	Baltic sea	Baltic sea
2	North sea	ICES IVa-c, IIIa, VIId	North sea (except VIId)	North sea
3a	West Scotland/Ireland	ICES VIa-b, VIIb-c	North western waters	Celtic Sea and West of Scotland
3b	Irish sea	ICES VIIa	North western waters	Celtic Sea and West of Scotland
3c	Celtic sea	ICES VIIe-k	North western waters	Celtic Sea and West of Scotland
4a	Bay of Biscay	ICES VIIIabd	South western waters	Bay of Biscay and Iberian Seas
4b	Iberian coast	ICES VIIIc, IXa	South western waters	Bay of Biscay and Iberian Seas

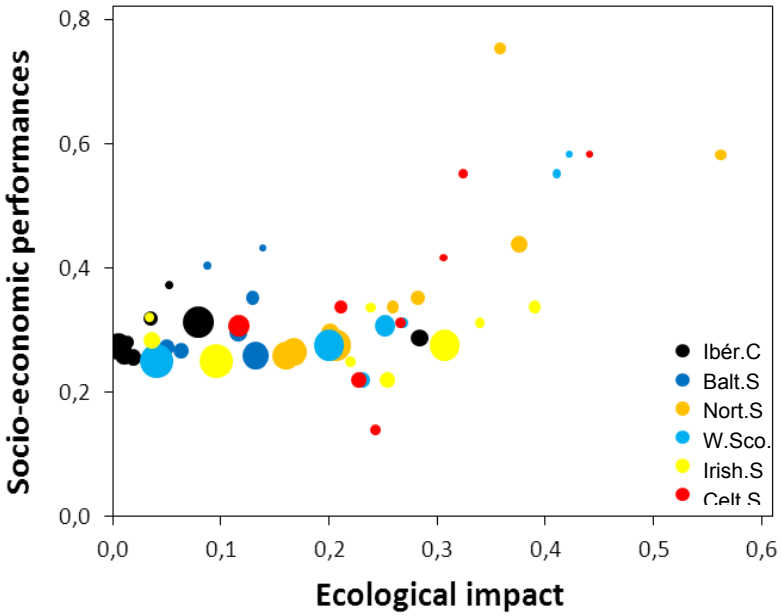

Figure 5.1.2. Ecological impact and economic performances of the major fleet segment operating within each ecosystem. For each fleet segment, the 13 standardized indicators of Table 4.3 have been expressed per vessel; mean ecological impact and socio-economic performance of each fleet refer to averages of the 7 and 6 related indicators. Bubbles size is proportional to the number of vessel per fleet segment.

5.2. STECF-EWG 12-04: International Dimension

Terms of Reference

STECF is requested to review the report of the STECF EWG 12-04 (International Dimension) held in Varese (Italy) on 4 - 8, 2012 and evaluate the findings and make any appropriate comments and recommendations.

Background

Considering that Fisheries Partnership Agreements (FPAs) signed between the EU and third countries shall be based on the best available scientific advice and following the UNCLOS, particularly its articles 61, 62 and 63, the Commission will have to request, on a regular basis, assessment, advice and management recommendations related to the "surplus" likely available to EU fleets on stocks and in waters covered by FPAs.

However, even if the concept of "surplus" may be considered as well described in Article 62 of the UNCLOS, no agreed method is presently available to calculate “surplus”, particularly when management objectives and strategies are not defined clearly by the coastal State. Even more difficulties are faced when assessing possible "surplus" levels in the case of stocks shared at a sub-regional geographical level by several coastal States and in absence of common and constraining management framework initiated and supported, for instance, by a Regional Fisheries Organisation.

In addition some difficulties may also appear when assessing "transitional" time periods, considering paths from an initial situation to a situation where the exploitation patterns would finally be compatible with stocks delivering MSY.

In the past, STECF was already asked to deliver recommendations on "surplus" levels in the context of Western African fisheries. Nevertheless, no agreement has been reached till yet on methodologies to be applied.

That's why the Commission would like to entrust the STECF with a discussion and possible recommendations leading to an endorsed methodology, sufficiently robust to address difficulties already identified and to allow later calculations.

Terms of Reference of STECF EWG 12-04

1. To discuss the concept of "surplus", based on the definition given in UNCLOS texts and taking into account the specific context of shared stocks (e.g. small pelagic species on the Western African coast); transitional periods of time, before having reached reference management points (e.g; how to consider the surplus if indicators of a specific fishery are still not at the

management reference values agreed by fisheries policy makers and managers?);

2. To discuss assessment models, indicators and management references points used for stocks of small pelagic and demersal species distributed in Western African Waters or in Waters of the Gulf of Guinea;

3. To suggest possible methods to evaluate surplus values, depending on the type of data available, the type of assessment models used (e.g. such methods should distinguish between poor-data stocks and stocks where assessment would have been delivered using surplus production models or analytical models).

4. To deliver some first calculations, particularly for mixed FPAs of the Western African area.

STECF observations

The report of STECF EWG 12-04 is available here https://stecf.jrc.ec.europa.eu/reports/strategic-issues.

The EWG-12-04 has provided a qualitative and quantitative analysis of the concept of "surplus" (*sensu* UNCLOS) as used in FPAs between EU and Western Africa countries for stocks of small pelagic and demersal species distributed in Western African Waters or in Waters of the Gulf of Guinea. The EWG-12-04 has also evaluated assessment models, indicators and management references points to be used for the assessment and management of these stocks and proposed methods to calculate surplus values, including estimation of associated uncertainty.

STECF conclusions

STECF draws the following conclusions from the STECF EWG-12-04 report:

1. STECF notes that the concept of "surplus" defined in UNCLOS is somehow misleading due to the general meaning of the word “surplus”. There is a risk to consider “*surplus of the allowable catch*” as a fraction of the biomass that can be taken without any negative impact on the local fisheries or on the other parts of the ecosystem, which is obviously not true.

Computing surplus (**S**) relies on two elements, the stock’s potential (sustainable) catch (**Y**) and the coastal State potential catch (**C**):

S = Y - C

Although the definition of “surplus” seems to be simple from a theoretical point of view and all conditions for its implementation taken into account by UNCLOS, in practice it is based on two quantities, which are not simple to estimate and combine. It requires reliable fisheries statistics to estimate the coastal State potential catches and a quantitative stock assessment to estimate the stock’s potential (sustainable) catch.

2. STECF considers that the ICES framework (i.e. SISAM 2012, Introduction to Advice 2012; www.ices.dk) provides a useful basis for classifying stocks based on available information to identify suitable assessment methods. CECAF may wish to consider adopting that framework for its assessment working groups.

3. STECF notes that MSE simulations were developed to explore problems associated with the underestimation of catches, abundance index quality, lags between assessments, over-catch, alternative assessment models, and alternative management procedures based on catches and abundance observations. Most scenarios showed a large uncertainty regarding the estimation of the assessment model parameters and the related MSY reference points. The effect of the underestimation of catches was not so clear due to technical limitation about the relationship between underreporting and implementation error. The alternative management procedures may deliver stability of biomass and catches at a level that is not dangerous for the stock, but further investigation is required to fully understand the risks associated with each.

Three methods were developed to compute the coastal State potential catches, (i) maintain the fishing effort of the coastal State at a constant level, (ii) maintain the proportion of catches of the coastal State constant, or (iii) maintain a constant catch for the coastal State. Additionally, if the coastal State plans to develop its own fisheries, surplus catches must be computed on a case-by-case basis. This of course, requires that any development plans by the coastal state need to be made available.

The methods were tested using two examples based on *S. aurita* population dynamics, one over-exploited and another under-exploited, in an attempt to better understand the characteristics of the proposed estimators. When the stock is over-exploited by the coastal state alone, the harvest rate of the coastal state will have to decrease to achieve the management target and surplus is zero. Applying method (ii) to the over-exploited stock results in a lower harvest rate by the coastal state and there is a correspondingly higher surplus. However this results in a lower yield for the coastal state than when method (i) is applied. When the stock is under-exploited there is less of contrast between applying method 1 and method 2. Method 1 is able to maintain the harvest rate of the coastal state at the current level whereas under method 2 the harvest rate is slightly higher. The surplus is higher under method 1 and the yield of the coastal state is higher under method 2. In all of the above cases, the results are different depending on the status of the stock.

4. STECF notes that the methods to estimate surplus were tested on three real case studies, *S. aurita* in West Africa, *T. trecae* in West Africa and *P. longirostris* in Mauritania, to provide preliminary estimates of surplus. These stocks were assessed by CECAF and estimates of F_{MSY} and MSY based on a Biodyn model were used in the exercise. For *S. aurita* a MCMC methodology was applied to compute the variability of the model parameters and project it throughout surplus computations, showing the large uncertainty associated with these estimates. The results obtained and presented in the EWG report must be considered preliminary and require further in-depth assessment of their uncertainty before being used for management.

STECF notes that estimating surplus values is a complex process, and frequently produces estimates that are highly uncertain. Furthermore, the robustness of the

estimates of MSY and coastal State potential catches to uncertainty in underlying factors is poor, resulting in a potential lack of robustness of the surplus estimates.

STECF recommendations

STECF recommends that FPAs be based on management plans, which should include management objectives, harvest control rules, TAC or effort allocation keys and should be supported by data collection programs, scientific advice and monitoring.

For practical purposes STECF recommends that in the context of FPAs, the estimated surplus should be used to allocate the EU fleet's share of a TAC or effort arising from a management plan.

5.3. STECF-EWG-12-05: Economics – AER fleet part II

Terms of Reference

STECF is requested to review the report of the STECF Expert Working Group (EWG-12-05), evaluate the findings and make any appropriate comments and recommendations.

Introduction

STECF reviewed the AER report against the Terms of Reference.

In particular, the working group is asked to:

1) Assess status of final national level analyses; identify any outstanding issues and implications for other analyses within the AER. Feed results back to plenary.
2) Assess the fish price analysis; check the quality and completeness of the data contained within the analysis and ensure the accompanying text reflects the data available. In a subgroup, add qualitative interpretations of the data and identify the main issues affecting fish prices. Feed results back to plenary.
3) Assess all regional level analyses; check the quality and completeness of the data contained within the analyses and ensure the accompanying text reflects the data available. Within subgroups, add qualitative interpretations of the regional analyses and identify the main issues affecting the economic performance of the fleets at regional level. Feed results back to plenary.
4) Assess the EU level analysis; check the quality and completeness of the data contained within the analyses and ensure the accompanying text reflects the data available. Within plenary, add qualitative interpretations and identify the main issues affecting the economic performance of the fleet at EU level.
5) Assess the data outputs from the special chapter on fishing rights trade; check the quality and completeness of the data contained within the analyses and ensure the provision of an accompanying text that reflects the data available. To be done in subgroup consisting of experts from MS who have tradable rights, results reported to plenary.

6) Assess the data outputs from the special chapter on overcapacity indicators; check the quality and completeness of the data contained within the analyses and ensure the provision of an accompanying text that reflects the data available. Provide an overall assessment of the usefulness and suitability of the approach to calculate forgone profits in relation to fleet overcapacity.
7) Assess the information provided by MS on financial position data and decide what analyses can be carried out with the data and information available.

STECF comments

STECF endorses the 2012 Annual Economic Report on the EU fishing fleet and its finding, which are summarized in the executive summary of the report. STECF acknowledges the efforts undertaken by the EWG, the chair and JRC in order to prepare the report before the summer plenary.

STECF recommends that the AER 2012 is published as quickly as possible and that the data the report is based on is published on the STECF website in a user friendly format.

STECF notes that none of the data requested under the 2012 DCF Economic data call were submitted by Greece and that the data submission from Spain was incomplete. Furthermore preparation of the 2012 AER 2012 could have been more efficiently undertaken if Member States had submitted quality-checked data at an earlier stage.

The AER 2012 consists of six chapters, two of which address specific topics requested by the Commission. The 2012 AER covers economic data for the years 2008, 2009 and 2010 collected under the Data Collection Framework. Furthermore, capacity indicators for 2011/2012 are also presented.

Chapter 1 provides an informative general overview of the structure and economic performance of EU fishing fleets. Due to the size of the AER 2012, STECF considers that a summary of the key findings and tables from the EU overview section would prove useful.

Chapter 2 gives a regional overview, which contrary to the EU overview, divides the analysis into five overall regions (Baltic Sea, Mediterranean and Black Sea, North Atlantic, North Sea and Eastern Artic Area and other regions). Given that fishing opportunities and conditions vary from region to region, the chapter provides more detailed insights into economic performance of fishing fleets within the five regions.

Chapter 3 considers the economic performance of the national fishing fleets of each EU Member States, excluding Greece and only partial coverage for Spain. Given that the economic data are only available until 2010, the national experts have given a qualitative summary of the expected development in economic performance in 2011 and 2012.

Chapter 4 investigates levels and developments in first-sale prices for the species landed by the EU fishing fleets. The analysis is very detailed with huge amounts of information at national, species, area, fleet, and gear level. Investigation of price

levels give valuable insights into the price obtained at various levels of aggregation, while the price developments are an important explanation with respect to the development in economic performance of EU fishing fleets.

In response to a specific request from the Commission, Chapter 5 addresses the utility of a number of economic indicators for assessing balance between fleet capacity and fishing opportunities. As recommended by STECF in PLEN-11-03, calculation of the foregone profit was undertaken for selected fleets from each member state. STECF considers the exercise a useful investigation into the utility of this indicator in addition to those that are already used in assessing the balance between fishing capacity and fishing opportunities. However STECF wishes to stress that the results presented in Chapter 5 should not be used in isolation and further work needs to be carried out to determine whether the indicator of foregone profit gives any extra value compared to the indicators already calculated. STECF therefore proposes that the EWG-12-11 'Balance fishing capacity-opportunity' be requested to undertake further analysis of this issue with respect to comparing the foregone profit indicator with technical indicators and also considers the methodological implications of combining technical data with economic data.

Chapter 6 was also specifically requested by the Commission and reports the results of an analysis of the value and trade of fishing rights in various Member States. Given the increased use of fishing rights in EU Member States, the chapter gives valuable insights into the complexities of these systems and the plausible economic value of such rights. STECF notes that the analysis is only based on information about costs and revenues from leasing of fishing rights and does not incorporate any information relating to permanent trading of rights. STECF notes that for a variety of reasons, Chapter 6 does not give a comprehensive evaluation of management systems using fishing rights.

In accordance with the advice of the STECF and in agreement with DGMARE, ToR 7 was not addressed by the EWG 12-04 and instead, will be addressed by PGEcon.

In relation to the future production of the AER, STECF recommends the following:

1) The preparation of the AER is undertaken by having two separate EWG meetings, one for data quality checks and the writing of national reports and a second for regional analysis and the chapters of special interest,
2) The development and application of a data validation tool by JRC is undertaken in order to enable more initial data checks in order to verify the quality of the submitted data,
3) The regional overview is enhanced with more qualitative cross country comparison of economic performance of fleets,
4) The structure of the chapter on prices is revised in order to give a clear and concise overview of the price developments.

5.4. STECF-EWG-12-06: Fishing effort – part 1

Terms of Reference

STECF is requested to review the report of the STECF Expert Working Group (EWG-12-06), evaluate the findings and make any appropriate comments and recommendations.

STECF comments

STECF notes that EWG 12-06 has extensively addressed the ToR regarding the fishing effort regime evaluations in the

- Eastern and Western Baltic,
- the Kattegat,
- the Skagerrak, North Sea, European waters in ICES Div.2 and the Eastern Channel,
- to the West of Scotland,
- Irish Sea,
- Celtic Sea,
- Atlantic waters off the Iberian Peninsula,
- Western Channel,
- and the Bay of Biscay.
-

The specific Western Waters and Deep Sea effort regime evaluations have been deferred to the follow-up meeting STECF EWG 12-12, 24-28 September 2012, Barza d'Ispra, Italy. The major outstanding task is the estimation and delivery of CPUE and LPUE by Member State. This omission will also be accomplished during the follow-up meeting of the working group.

STECF notes that its tasks have been supported by the DCF fishing effort data call in 2012. STECF notes a general improvement in data completeness and quality as well as better compliance with deadlines regarding Member States' data provisions. However, STECF notes that EWG 12-06 once again suffered from incomplete and erroneous data submissions and re-submission from Member States or no submission of data . Details about the DCF data call definitions, data quality in 2012 and significant shortfalls as identified by JRC and the experts contributing to the working group are summarized in section 4 of the EWG 12-06 report.

STECF notes that its evaluations related to the evaluation of the effects of the sub-articles 13.2.a-d of the Multiannual Cod Plan, in particular the presentation of fisheries specific fishing effort, landings and discards as well as estimations of partial fishing mortalities have been supported by data called by DG Mare from Member States and provided to the EWG 12-06 during the course of the meeting. Such specific data formats were defined by STECF during its spring plenary in 2012. While Denmark, France, Germany, and Ireland submitted relevant information on the application of specific provisions of article 13 2.a-d, UK provided only figures of

fishing effort by area and gear and only for the TAC year 2011, which is not fully compatible with the calendar year and thus was not used by the STECF.

STECF notes that fisheries parameters, such as landings, discard estimates and fishing effort have been aggregated at levels consistent with the fisheries definitions in various regulations, i.e. annual TAC and Quota regulations and the stock specific multiannual management plans defined in the ToR.

STECF notes that all resulting fisheries parameters of various fishing effort regimes, including the ones elaborated for the outstanding Western Waters and Deep Sea regime evaluations, are downloadable at the requested aggregation in the format of digital appendixes to the present report at the working group's web page: http://stecf.jrc.ec.europa.eu/web/stecf/ewg06.

STECF notes that EWG 12-06 has partly addressed the provision and evaluation of spatio-temporal catchability patterns. STECF will further address this point at its follow-up meeting EWG 12-12 in an attempt to provide an appropriate spatial resolution at which both annual commercial catch rate including discards and survey catch rate information and an appropriate procedure to estimate patterns of catchability indices.

STECF notes that the exhaustive long list of species in the DCF data call to support fishing effort regime evaluations is not entirely appropriate and has initiated a review in order to improve the effectiveness of future DCF data calls. STECF notes that EWG 12-06 will continue its considerations at its follow-up meeting EWG 12-12 and provide an updated list of species to be proposed in future DCF data calls. STECF further notes that the revision of the species list should consider the needs of future requests regarding ecosystem approach to fisheries management.

Major findings regarding effort regime evaluations as derived by STECF EWG 12-06 are summarized below.

Effort regime evaluation for the Baltic (Area 22-24, 25-28, and 29-32)

STECF notes that fisheries-specific effort and catch (landings and discards) figures by Member States have been updated up to and including 2011. These data are provided for both the Western and Eastern Baltic management areas as requested but are constrained by data submissions in response to the 2012 DCF data call.
STECF notes that the task to estimate the uptake of allowed fishing effort could not be accomplished due to the fact that the available data are not inadequate for such purposes. The maximum effort available is defined in days at sea per vessel multiplied with the number of vessels using regulated gears, while the DCF data definition is in units of kW days at sea per fishery. STECF notes that if a fishing effort regime in the Baltic is to be maintained, an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness is required.

In area A (Sub-divisions 22-24), the decreasing trend in gear groups regulated by fishing effort appears to have stabilised at a low level in 2011. Contrarily, the decreasing trend in the observed effort of unregulated gear groups continued in 2011. In area B (Subdivisions 25-28.2), the fishing effort of regulated and non-regulated has

slightly increased in 2011 from a low level. Area C (Sub-divisions 29-32) is considered not important for the management of cod fisheries.

The contribution of non-regulated gears to cod catches appears generally low. STECF further notes that the contribution of discards is also estimated to range below 10%.

STECF notes the relatively strong correlation between overall fishing mortality on cod and overall fishing effort measured in kWdays at sea. Fisheries specific partial fishing mortalities on cod are also correlated with fleet-specific effort in kW days at Sea. The good overall correlation between F and fishing effort indicates that the control of fishing effort could be a useful auxiliary measure to catch constraints and technical measures to manage fishing mortality.

Effort regime evaluation for the Kattegat (Area 3an)

STECF notes that all Member States fishing in this area have reported their effort data for 2011, including mesh size range category and derogations and the overall confidence in the results is high. All countries submitted effort data only for 2011, it was thus not possible to look at annual trends in effort.

Fisheries in the Kattegat are almost exclusively conducted by Denmark and Sweden (86% and 13% of the total regulated effort in 2011 respectively) predominantly using trawls and primarily in the gear class TR2. Beam trawls are forbidden.

There are two derogations in place in Kattegat for TR2, CPart13 and CPart11. Since 2010, all Danish fishing activities were performed under the cod plan's provision in article 13.2.c, while all German fishing in gear category TR2 since 2010 fell under the article 13.2.b. Only Sweden reported under the derogation article 11 in gear category TR2, achieving the <1.5% cod catch by using a sorting grid. This represented 61% of the Swedish TR2 effort in Kattegat 2011 and 16% of the total TR2 effort in the area. Both derogations IIA83b (R (EC) 40/2008) and the CPart11 identify the Swedish sorting grid and are considered non-effort (unregulated) gears and are therefore not included in the effort regulated TR2 gear category in the tables and figures below (R (EC) No 1342/2008). The effort deployed by passive gears (GN1, GT and LL1) is relatively small, with a stable share of around 5% of the total regulated effort since 2005. The effort deployed by unregulated gear categories (including effort under the derogation CPart11) was 27% of the total effort in 2011.

According the ranked regulated gear groups' contributions to cod catch and landings in 2011, only the TR2 is estimated to exceed the level of the cumulative 20%.

STECF notes that information on fully documented fisheries FDF was only provided by Sweden and only for 2010. FDF fishing effort and catches appear negligible.

In order to evaluate the how representative the cod discard estimates for each regulated gear group are likely to be, Table 5.4.1 below lists for each regulated gear group, the proportion of cod landed that was not sampled for discards.

Table 5.4.1. Proportion of cod landed by regulated gear group that was not sampled for discards.

ANNEX	REG_AREA	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3a	GN1	COD								0.99	0.04
IIa	3a	GT1	COD								0.48	0.89
IIa	3a	LL1	COD									
IIa	3a	TR1	COD	0.57	0.62	0.70	0.65	0.62	0.79	0.95	0.78	0.00
IIa	3a	TR2	COD	0.23	0.10	0.01	0.01	0.00	0.03	0.03	0.09	0.01
IIa	3a	TR3	COD									0.00

The estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and recipient regulated gear groups are given in Table 5.4.2.

Table 5.4.2. Effort transfer factors between donor and recipient regulated gear groups Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

Kattegat									
	donor gear	receiving gear							
		GN1	GT1	LL1	TR1	TR2	TR3		CPUE
3a	GN1		1	1	0.529	0.822	1		74
3a	GT1	0.108		1	0.057	0.089	1		8
3a	LL1	0	0		0	0	1		0
3a	TR1	1	1	1		1	1		140
3a	TR2	1	1	1	0.643		1		90
3a	TR3	0	0	1	0	0			0

STECF notes that the correlations between the summed partial harvest rates for catch, landings and discards of cod of the major fisheries and their estimated fishing efforts are highly significant. The partial harvest rates of the dominating Danish and Swedish TR2 fisheries also closely correlated with their specific effort estimates in kW days at sea. Only the Danish gill netters are lacking such correlation. The good overall correlation between F and fishing effort indicates that the control of fishing effort could be a useful auxiliary measure to catch constraints and technical measures to manage fishing mortality.

STECF notes that there are no indications that the Danish TR2 fishery operating exclusively under Article 13.2.c since 2010 has contributed to the estimated reduction in harvest rate of cod since 2007.

Effort regime evaluation for the Skagerrak, North Sea including 2EU and Eastern Channel (Area 3b)

STECF notes that in this area, a substantial part of the effort is deployed by Non-European fleets (primarily Norway). Norwegian effort is not reported in the EWG report but Norwegian partial fishing mortality is accounted for in the sections dealing with fishery-specific partial fishing mortalities. Norwegian fishing effort is reported to ICES (ICES, 2012).

Catch and effort data including special conditions in force since 2009 (CPart11 and CPart13) have been provided by all Member States that have significant fishing activity in this area. As such, the data reported by national administrations are considered to represent a complete account of fishing effort by regulated gears in the area.

Overall in 2011, regulated gears represented 69% of the total effort in area 3b. The main gears in management area 3b are demersal trawls/seines and beam trawls (51% and 42% of total 2011 regulated effort respectively). Nominal effort by both of these gear types has decreased since 2003.

STECF notes that only TR1 and TR2 gears exceed the maximum permissible levels of fishing effort in kW days at sea. The other gears remain at or significantly below their permitted maximum levels.

According to the data submitted, the ranked regulated gear groups' contributions to cod catch and landings in 2011, only the TR1 and TR2 are estimated to exceed the level of the cumulative 20%.

STECF notes that in 2011, fully documented fisheries FDF still represent only a small proportion of the total effort (4.9%), but FDF effort is increasing in all countries operating FDFs. Cod catches were recorded in fisheries using TR1, TR2, GN1 and Pots, but most catches (95.3% of total FDF cod catches) were whilst vessels were using the TR1 gear. In total, 25% of cod catches by EU vessels were taken during FDF trials; 41%, 35%, 30% and 20% of English, Scottish Danish and Dutch cod catches respectively.

In order to evaluate the representativeness of the discard estimates, Table 5.4.3 below lists the relative amount of cod landings by regulated gear group without discard sampling in relation to the total landings of that gear group.

Table 5.4.3. Relative amount of cod landings by regulated gear group without discard sampling in relation to the total landings of that gear group

ANNEX	REG_AREA	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3b	BT1	COD	0.99			0.17		0.13			0.88
IIa	3b	BT2	COD	1.00	0.81	0.78	0.19	0.08	0.19	0.76	0.07	0.07
IIa	3b	GN1	COD	0.99	1.00	0.99			1.00	1.00	0.93	0.11
IIa	3b	GT1	COD					1.00	1.00	1.00	0.96	0.67
IIa	3b	LL1	COD									0.59
IIa	3b	TR1	COD	0.13	0.17	0.23	0.32	0.22	0.25	0.26	0.23	0.11
IIa	3b	TR2	COD	0.46	0.40	0.35	0.35	0.49	0.46	0.52	0.49	0.46
IIa	3b	TR3	COD		0.96	1.00					1.00	1.00

The estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and recipient regulated gear groups are given in Table 5.4.4.

Table 5.4.4. Effort transfer factors between donor and recipient regulated gear groups Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

Skagerrak, North Sea, 2EU and Eastern Channel										
	donor gear	receiving gear								
		BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3	CPUE
3b	BT1		1	0.197	1	0.599	0.19	0.693	1	190
3b	BT2	0.3		0.059	0.445	0.18	0.057	0.208	1	57
3b	GN1	1	1		1	1	0.964	1	1	964
3b	GT1	0.674	1	0.133		0.404	0.128	0.467	1	128
3b	LL1	1	1	0.329	1		0.317	1	1	317
3b	TR1	1	1	1	1	1		1	1	1000
3b	TR2	1	1	0.284	1	0.864	0.274		1	274
3b	TR3	0.053	0.175	0.01	0.078	0.032	0.01	0.036		10

STECF presents partial fishing mortalities for cod by major fisheries and Member States in relation to the estimated fishing mortality by ICES (2012) and the landings and discards volumes in relation to the estimated total catch for the year available. It can be concluded from the estimated F in 2012 that the stock is subject to overfishing and that the annual F reductions are not following the plan. Discard mortality is generally high but has been reduced significantly since 2010.

STECF notes that the correlations between the summed partial Fs for catches of cod for the major fisheries and the sum of the reported fishing effort for those fisheries are highly significant. However, separate correlations between the partial Fs based on landings or partial Fs based on discards from the major fisheries with the reported effort for those fisheries are not significant. The partial Fs of some major fisheries are also not significantly correlated with their fishing effort, which requires further investigation. The good overall correlation between F and fishing effort indicates that the control of fishing effort could be a useful auxiliary measure to catch constraints and technical measures to manage fishing mortality.

STECF notes that there are no indications of a reduction in partial F for landings from the Danish TR1 fisheries and the Scottish TR1 fisheries operating under the provisions of article 13.2.b and c of the cod plan. However, the partial F for discards of the Scottish TR1 fishery and the Danish TR1 have decreased between 2010 and 2011 by 22 and 33% , respectively. The partial fishing mortality on cod of German TR1 fisheries and French TR1 fisheries operating under the provision of article 13.2.b are either negligible or have reduced substantially.

Partial Fs of major fisheries for haddock 3an, saithe 3an 4 and 6, as well as plaice and sole in 4 are also provided in the report.

STECF notes that discard information is often scarce and is inadequate to provide 2011 discard estimates for those specific fisheries that had additional quota allocations. The landings and discard of cod in 2011 by regulated gears by country and area are given in Table 5.4.5.

Landings and discard of cod in 2011 by regulated gears by country and area.

ANNEX	SPECIES	YEAR	AREA	COUNTRY	REG_GEAR	LANDINGS (t)	DISCARDS (t)	DISC RATE
IIA	COD	2011	2EU & 4	UK (incl SCO)	TR1	11145.244	1402.372	0.112
ANNEX	SPECIES	YEAR	AREA	COUNTRY	REG_GEAR	LANDINGS (t)	DISCARDS (t)	DISC RATE
IIA	COD	2011	4	DNK	TR1	2789.625	225.694	0.075
ANNEX	SPECIES	YEAR	AREA	COUNTRY	REG_GEAR	LANDINGS (t)	DISCARDS (t)	DISC RATE
IIA	COD	2011	3an	DNK	TR2	938.181	480.905	0.339
ANNEX	SPECIES	YEAR	AREA	COUNTRY	REG_GEAR	LANDINGS (t)	DISCARDS (t)	DISC RATE
IIA	COD	2011	3an & 4	DNK	GN	2252.196	unknown	unknown

Effort regime evaluation for the West of Scotland

STECF notes that the so-called management line to the West of Scotland, which delimits the cod recovery zone at its western boundary, prevents a full review of the fishing effort regime, as the requested data are not available at the required spatial resolution to allocate catches and effort exclusively to the cod recovery zone.

The fishery West of Scotland is primarily an otter trawl fishery; beam trawls and static gears are hardly used. Spanish data for 2011 was again not provided in the 2012 data call and therefore could not be considered in the catch and effort analyses for the whole time series.

In terms of kWdays the overall nominal effort (kW days at sea) in ICES division VIa displays a decrease of 43% since 2003. Reported effort of regulated gears in 2011 was 16% lower than in 2010. Without Spanish data the trend in longline (LL1) effort is uncertain but it is still the most important gear type after TR gears in this area.

The most important gear group in terms of cod catch and landings is TR1 accounting for on average (average of the years 2003-2011) 86% of the annual VIa cod total catch by weight. The second most important gear category is TR2. The overall discard rate of cod (by weight) has increased after 2003. The rate of discarding in the TR1 gears has been between 70% and 90% over the period 2008-2011. Catches of cod by TR2 ‘none’ have been negligible since 2009. No information is available for *Nephrops* discards for all gear categories and for all the other species for the non-trawl gears. Cod CPUE values (kg/kW day) have increased considerably for the TR1 gear group since 2005.

In order to evaluate the representativeness of the discard estimates, Table 5.4.6 below lists the relative amount of cod landings by regulated gear group without discard sampling in relation to the total landings of that gear group.

Table 5.4.6. Relative amount of cod landings by regulated gear group without discard sampling in relation to the total landings of that gear group

ANNEX	REG_AREA	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3d	BT1	COD									
IIa	3d	BT2	COD									
IIa	3d	GN1	COD									
IIa	3d	LL1	COD									
IIa	3d	TR1	COD	0.25	0.29	0.29	0.29	0.26	0.29	0.45	0.03	0.21
IIa	3d	TR2	COD	0.04	0.09	0.07	0.45	0.12	0.26	0.11	0.96	0.09
IIa	3d	TR3	COD									

The estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and recipient regulated gear groups are given in Table 5.4.7.

Table 5.4.7. Effort transfer factors between donor and recipient regulated gear groups Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

West of Scotland								
	donor gear	receiving gear						
		BT1	BT2	GN1	LL1	TR1	TR2	CPUE
3d	BT1		1	0.1	1	0.006	0.077	1
3d	BT2	1		0.1	1	0.006	0.077	1
3d	GN1	1	1		1	0.058	0.769	10
3d	LL1	1	1	0.1		0.006	0.077	1
3d	TR1	1	1	1	1		1	171
3d	TR2	1	1	1	1	0.076		13

Fishing effort deployed and respective catches taken under the FDF scheme have been received and are presented in the EWG Report.

The EWG report also presents partial fishing mortalities by major fisheries and Member States based on the estimated fishing mortalities estimated by ICES (2012). STECF notes that the partial Fs for landings and summed partial Fs for discards (summed over all fisheries) are not significantly correlated with the reported fishing effort.

The discard partial F on cod for the Scottish TR1 gear group working under Article 13.2.b and c are currently high and accounts for the majority of the overall fishing mortality on cod. Furthermore, there are no indications that the partial F on cod is decreasing in the Scottish TR2 fishery working under the provisions of the Article 13.2.b and c. The lack of a significant correlation between F and effort for these major contributors to cod catches in VIa indicates that controlling kWdays at sea may not be an appropriate auxiliary measure to landings constraints and technical measures to control, fishing mortality on cod in division VIa.

Effort regime evaluation for the Irish Sea

STECF notes that the TR2 category (70-99mm mesh sizes) dominates the total fishing effort deployed, and effort had been relatively stable between 2003 and 2008. An effort reduction occurred in 2009, coinciding with the introduction of the current

cod plan. Since 2009, effort has remained at the reduced level. The majority of TR2 effort is now carried out under Article 13 of Coun. Reg. 1342/2008 (CPart13; ~80-99% of TR2 effort). A small amount of effort previously incorporated in CPart13 became exempt from the cod plan effort restrictions under Article 11 of the regulation (CPart11) in 2010 (3%), doubling in 2011 to 6%.

STECF notes that cod landings 2009-2011 from VIIa have continued to follow the declining trend which began in 2009. In relation to overall landings by species, *Nephrops* dominate Irish Sea landings and have been above 9,000 t since 2007, peaking in 2008 and 2011 with over 10,000 t reported landed. Discard information available within the Irish Sea is incomplete. Discard data are not available for all species and/or years within each gear grouping. TR2 and BT2 have the most complete data particularly in more recent years, for species like cod, haddock, hake, plaice, rays, and whiting. Over the majority of the period, the TR1 gear grouping landed the greatest proportion of cod (~40%), however this changed in 2011 when the proportion dropped to 35%, to just below TR2. This placed TR2 as the top ranked gear in 2011 although demonstrating little change to 2010 proportions.

In order to evaluate the representativeness of the discard estimates, Table 5.4.8 lists the relative amount of cod landings by regulated gear group without discard sampling in relation to the total landings of that gear group.

Table 5.4.8. Relative amount of cod landings by regulated gear group without discard sampling in relation to the total landings of that gear group.

ANNEX	REG_AREA	REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	3c	BT2	COD			0.98		0.49	0.44	0.00	0.00	0.00
IIa	3c	GN1	COD									
IIa	3c	GT1	COD									
IIa	3c	LL1	COD									
IIa	3c	TR1	COD	0.91	0.81	0.97	1.00	0.82	1.00	0.96	0.96	0.65
IIa	3c	TR2	COD	0.47	0.61	0.64	0.61	0.46	0.65	0.56	0.25	0.37
IIa	3c	TR3	COD									

The estimated cod CPUE (average 2009-2011) and respective effort transfer factors between donor and recipient regulated gear groups are given in Table 5.4.9.

Table 5.4.9. Effort transfer factors between donor and recipient regulated gear groups Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information.

Irish Sea									
	donor gear	receiving gear							
		BT2	GN1	GT1	LL1	TR1	TR2		CPUE
3c	BT2		0.016	0.081	1	0.078	0.725		50
3c	GN1	1		1	1	1	1		3094
3c	GT1	1	0.199		1	0.964	1		617
3c	LL1	0.02	0	0.002		0.002	0.014		1
3c	TR1	1	0.207	1	1		1		640
3c	TR2	1	0.022	0.112	1	0.108			69

STECF notes that there were no Fully Documented Fisheries (FDF) reported as operating within the Irish Sea.

STECF notes that the correlation between the summed partial Fs for landings from the major fisheries and their reported fishing effort is not statistically significant. The partial Fs of most Member State fisheries using regulated gears are not significantly correlated with reported effort for those fisheries.

The lack of significant relationships between F and effort for the greatest cod contributors to cod landings indicates that kWdays at sea may not be an appropriate auxiliary measure to landings constraints and technical measures. STECF EWG 12-06 notes that the lack of discard data for cod from the fisheries in VIIa prevents reliable conclusions to be made regarding fleet specific partial fishing mortalities and this should be taken into consideration when taking decisions on management.

Effort regime evaluation for the Celtic Sea

The trends in fisheries specific effort and catches is presented using the gear groupings defined in the multi-annual cod plan in order to allow managers to consider the data in the context of a possible extension of the cod plan to include the Celtic Sea. The Celtic Sea is defined into two management areas, i.e. ICES Divisions VIIbcefghjk and ICES Divisions VIIfg.

Trends in fishing effort for both the main regulated cod gears and non-regulated gears. Spanish data are not included as there were no data submitted. The demersal fisheries are dominated by the gears TR1, TR2 and BT2. Their effort measured in kWdays at sea remained stable during 2003-2007 and were reduced by about 20 % thereafter.

STECF notes that CPUE for cod cannot be reliably estimated because of a lack of representative discard estimates and while LPUE of cod increased significantly in 2011, this increase is likely to represent both an increase in the availability of cod in the area due to increased recruitment of the 2009 year-class and increased TAC in 2011.

Effort regime evaluation for Southern hake and Norway lobster

STECF notes that the analyses in the EWG 12-06 report are insufficient to fully address this ToR due to the unavailability of Spanish data. Spain failed to submit data

for 2010 and 2011in response to the DCF data calls for fishing effort evaluations in 2011 and 2012. In addition, Portuguese discard data were resubmitted in 2012 in a format which is obviously consistent with DCF but inconsistent with the data formats and aggregation of the data calls. Therefore, Portuguese discard information previously provided, had to be deleted from the data bases and could no longer be used.

The EWG 12-06 report presents the available fishery-specific parameters aggregated according to the gear groupings in Annex IIB of the annual TAC and Quota Regulations (http://ec.europa.eu/fisheries/cfp/fishing_rules/tacs/index_en.htm).

STECF intends to complete the analyses during the follow-up meeting EWG 12-12, 24-28 September 2012, assuming that the information requested in the 2012 DCF data call is provided by the both the Spanish and Portuguese authorities.

STECF notes that the fishing effort regime is by units of days at sea per vessel. STECF notes that if a fishing effort regime Southern hake and Norway lobster is to be maintained, an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness is required

Effort regime evaluation for the Western Channel

STECF notes the great majority of deployed fishing effort (kW days at sea) in the Western Channel is unregulated, while the two regulated gear groups, the beam trawls and the static nets, account for only a relatively small proportion of the overall deployed effort. The effort in kWdays at sea of gear groups regulated by fishing effort appears to be stable since 2009 after a major drop in 2008.

STECF notes that in 2011 sole landings were dominated by effort-regulated beam trawls (61%), non-effort regulated gears, (32%, mainly otter trawl gears), and static nets (7%). Hence, a relatively high percentage of sole is landed from gears that are not regulated by the effort regime of the slow management plan.

STECF notes that discard information in the Western Channel is scarce. The reported landings and estimated discards for sole by the regulated gear 3a (beam trawl) by UK in 2011 are given in Table 5.4.10.

Table 5.4.10. Reported UK landings and estimated discards for sole by the regulated gear 3a (beam trawl) in 2011.

ANNEX	SPECIES	Year	REG_AREA	COUNTRY	REG_GEAR	LANDINGS	DISCARDS	DISC RATE
IIc	SOL	2011	7e	ENG	3a	349.807	21.961	0.059

STECF notes that the correlations between the summed partial Fs for landings of the major fisheries and their estimated fishing efforts are highly significant for the period 2005-2011. The correlations exclude the years 2003 and 2004 as the DCF data do represent only about 50% of the landings officially reported to ICES. The partial Fs of Belgian and English fisheries using the regulated gear 3a are closely correlated with their respective effort estimates in kW days at sea. However for the French regulated fisheries (3a and 3b), which represent just about 10% of the sole landings,

the correlations between partial F and effort (kWdays) are not statistically significant. Given that there is a significant correlation between F and effort for the majority of the fisheries that account for the majority of the fishing mortality on sole, STECF concludes that effective fisheries management for sole in ICES Division VIIe by fishing effort in units of kWdays at sea appears possible as an auxiliary measure to landings constraints and technical measures.

STECF notes that in 2011 the current fishing effort regime (days at sea per vessel) appears to not constrain the fisheries, which have only used between 10 and 79% of the days at sea available. STECF notes that if a fishing effort regime in the western channel is to be maintained, an appropriate measure of effective unit of fishing effort to account for vessel size/power and gear effectiveness is required

Effort regime evaluation for the Bay of Biscay

The EWG Report presents trends in fishing effort in kW days and landings by fisheries and Member State aggregated by major gear groups. Trends are also presented for the vessel groups that hold Bay of Biscay sole fishing permits (> 2 tons of sole per year) as defined in R (EC) No 388/2006.

STECF notes that all analyses and presented trends exclude Spanish data, as Spain did not respond to the 2012 DCF data call for fishing effort regime evaluations. Furthermore, the discard information is scarce and may be unrepresentative in some cases. Hence, the observed trends in fishing effort and landings are therefore biased and should be viewed as such.

STECF notes that the multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay (R (EC) 388/2006) stipulates maximum annual fishing capacity of the vessels holding the special fishing permit per Member State. STECF notes that the Belgian beam trawl fisheries have held Bay of Biscay sole fishing permits permit since 2006. 30%, 10% and 50% of French gill netters, trammel netters and otter trawlers respectively are reported to have been operating under Bay of Biscay sole fishing permits since 2010. STECF is therefore unable to fully evaluate the trend and uptake of the special fishing permit. The vessels holding the permits are indeed taking the great majority of sole landing in 2010 and 2011.

The analyses of partial fishing mortality by fishery will be addressed during the forthcoming STECF EWG 12-12, which will be held from 24-28 September 2012, Barza d'Ispra, Itlay.

5.5. STECF- EWG-12-07: Multi-Annual Management Plans – part 2

Terms of Reference

STECF is requested to review the reports of the STECF Expert Working Group (EWG-12-07), evaluate the findings and make any appropriate comments and recommendations.

In addition STECF is requested to look at the following additional TOR:

Bio-economic models will be needed that would enable to tackle the complexity inherent to multi-species fisheries and mixed fisheries. Models are expected to deliver a range of management options (output) under various management scenarios (input). Where possible, the social dimension (employment) of the fisheries should be accounted for, so that all three dimensions of sustainable development are correctly assessed.

STECF are requested to examine and give advice on the state of play in terms of existing and under development bio-economic modelling tools for mixed fisheries / mixed species management, and when completed/tested models will be available for use in assessing options for management "ex ante", in particular in light of any possible interdependence between this work and the work referred to in paragraph 2. STECF are requested to review the features of the various models, their intended outputs and provide a critical assessment of their respective pros and cons.

In light of the preceding analysis, STECF are requested to advise whether a single bio-economic modelling tool might suffice to cater for all areas ("one size fits all"), whether it should be possible to develop a common basis that could be then adapted with relative ease to each region or area, or if a specific model is needed for each area.

STECF observations and conclusions

STECF has reviewed the reports and makes the following observations and conclusions for the headings below. The additional ToR has been addressed and the response is presented at the end of the section.

Area boundaries options and modeling aspects

The working group considered the appropriateness of area boundaries for fisheries management purposes considering two main criteria; whether stocks would cross boundaries and whether fisheries would cross boundaries

Pros and cons for the following boundaries were identified:

- boundary between North Sea and Channel; boundary between Celtic Sea and Channel
- boundaries between North Sea, West of Scotland and Celtic Seas
- boundary between West of Scotland and North Sea
- boundary between West of Scotland and Celtic Seas
- boundary between the proposed Northern Shelf area of IV and Southern North Sea
- boundary between North Sea and Baltic Sea

- northern boundary between Irish Sea and West of Scotland
- southern boundary between Irish Sea and Celtic Sea
- boundary between Celtic Sea and Bay of Biscay

It was concluded that it may be preferable to join Eastern Channel with the North Sea and to join the Western Channel with Celtic Seas. It is considered preferable to join both Kattegat and Skagerrak with the North Sea management area largely because of the important *Nephrops* fisheries that extend over both subdivisions.

The Northern boundary of the Irish Sea is considered to be appropriately located, a minor modification is proposed for the southern boundary to deal with catches that are taken within the current area and reallocated to Celtic Sea.

Fishing activities are strongly economically linked between VIa north and IVa, and between VIa south and Celtic Seas suggesting there may be potential benefits in splitting the West of Scotland area and joining the two parts accordingly. Such an approach would create a very large 'greater North Sea' with diverse fleets and there is potential to split this along a largely hydrographic boundary reducing the scale of the area and reducing fleet diversity within areas. The proposed areas are illustrated below:

Generally each area will require at least 6 person months to put together single species simulation models for assessed stocks and a small number of important non-assessed stocks. The resource requirements for Celtic Seas are expected to be greater. Development of mixed fisheries advice for the North Sea could progress relatively quickly. The West of Scotland is the next area where progress can be made on mixed fisheries once the North Sea work is complete. Substantial work is required to give mixed fish advice for all other areas. In all cases, progress is conditional upon the allocation of resources.

Currently only small scale ad hoc economic analysis can be provided based on the existing tools. It is anticipated it will be between 2 to 3 years to provide more comprehensive area-based economic advice as this is conditional on developing ways to link the biological and economic data. Furthermore, the progress is provisional on the fact that participating scientists have the relevant expertise, time and resources necessary. Much of the current development is linked to the timetable of ongoing EU projects. These results are developed further in the additional ToR concerning bio-economic modeling (see Table 5.5.1) below.

STECF endorses the evaluation of the pros and cons of area boundaries presented by the working group. In many ways the proposed structure of area boundaries provides a more coherent structure than the current areas. However, the radical changes suggested could potentially create problems with relative stability, and differ also from the current RAC areas. Moreover, although it removes some problem of some straddling stocks it may replace them with others.

Review of proposed changes of the current cod plan

Previous to the meeting the Commission provided the working group with proposed changes to article 9, 11, 12 and 14 of the current cod plan (EG) 1224/2008.

Article 9

STECF notes the need for alternative advice if assessments are not available. Methods for Kattegat cod and Irish Sea cod are provided by the working group.

Article 11

• STECF supports the removal of derogations merely based on catch compositions as they could occur because of cod depletion.

• STECF supports the recommendation to approve exemptions for fishing activity outside the distribution area of cod and/or fishing with gear that minimizes cod catches.

• STECF considered that using the percentage of cod in the total catch as an exemption criterion is flawed, because even when percentages of cod in the catch are low, these catches can still contribute significantly to overall cod mortality if overall catch or effort is high or when cod abundance is low. STECF notes that table 6.1 of EWG 12-XY provides a clear overview of the pros and cons of different options of replacing the 1.5 % exemption criterion in the current regulation.

• STECF considers that it might be useful for STECF to evaluate, on a case-by-case basis, practices other than gear- and area based measures demonstrating actual decoupling.

• STECF notes that the proposed amendment does not include any requirement for monitoring whether the catches in the exempted areas and by the exempted gear remain low. STECF recommends that a requirement for periodical monitoring be added such that it can be verified whether the levels of cod catches of exempted vessels still conform to the criteria for entering the exemption and whether these levels do not oppose the plan's aim to reduce mortality on cod.

• STECF notes that the enforcement and implementation of the proposed Article 11a1(a) concerning a depth requirements could be problematic due to position reporting requirements and considers that exempted vessels could be required to report exact position, depth, and duration of each haul in logbooks to the control authorities. Intervals between VMS transmissions should also be increased to at least 30 minutes. To provide verification MS should submit raw data on logbook, depth, and VMS from the entire fishing trip. STECF notes that adding these requirements will result in additional control costs by adding another layer and additional data to the administrative control. The fishing industry would also increase their cost in transmitting VMS data. STECF recommends that the full costs of introducing these measures and their associated benefits are fully explored before amending the regulation.

• STECF notes that the enforcement and implementation of the proposed Article 11a1(b) concerning gear requirements could be problematic due to the requirement to specify in detail how the gear is to be used. Moreover, in common with all gear-based regulation, it is difficult to define accurately in an effective way, and it is essential to

verify through monitoring effectiveness in practice. Furthermore, although a gear may reduce overall cod catches by XX% it may actually increase cod catches of certain (e.g. young) age classes; selectivity is length-dependent and thus reduction is demography-dependent.

Article 12

In the wording in the proposed change to the cod plan it is not clear what differentiates the conditions for Articles 9.1 and 9.2, upon which Article 12 depends. Discussions with the Commission suggest there is a clear distinction in mind but this is not expressed in the current draft. Perhaps there is a need to clearly define the different levels of scientific advice alluded to in the draft regulation text (i.e.insufficient information to set the TACs).

Article 13

STECF has repeatedly underlined the difficulty for stakeholders to comply with and for STECF to evaluate article 13 requirements stating that cod avoidance measures must be demonstrated to deliver at least as much reduction in fishing mortality than otherwise would result from effort reduction.
Fishing mortality is a fairly abstract concept that the industry cannot monitor and manage directly, and which does not have proportional relationship to catches. The EWG 12-07 report Section 6.5 (http://stecf.jrc.ec.europa.eu/reports/management-plans) proposes a method based on catch that could be used instead of the F-based approach to demonstrate conformity with the regulation.

Article 14

The implementation of the new article 14.6 could be problematic. It states that MS shall take immediate measures to minimize discards if the quota allocation does not correspond to the expected catches. There are a number of different measures that can be considered immediate measures and it is important that these do not create perverse incentives. For example, the way the proposal is written it could read that one possible measure could be to reallocate quota towards fisheries with high cod by-catches.

Evaluation of a range management approaches from compliance and industry perspective.

In addition to the ToRs the working group explored the management measures suggested by the STECF (EWG 11-15) from an enforcement and fishermen perspective.

The management options selected as the most favourable for enforcement (catch quota system) is the one least favoured by the fishermen responding to the questionnaire. This difference can be partially explained through the choice of survey instrument. An on-line questionnaire is not the most appropriate approach to gathering feedback on complex management options, as it is difficult to explain the

operation of the management option, and not possible to know if the respondent has completely understood all the details. The evidence from the survey suggests that respondents were most concerned about the suggested limit on fishing once one quota had been exhausted. Fishers appear to prefer the current system with landings restrictions which scientist advise will not limit fishing mortality. The results do suggest general support for CCTV and fully documented fisheries.

Inevitably, there are varying and divergent views on appropriate and desired management options given the variety of stakeholders and subgroups existing within the fisheries (e.g., varying fleets within and across MS, enforcers, managers, scientists). The two studies of the enforcement implications and industry views of management options highlight these divergent views clearly. Though the research behind each was preliminary and of a pilot-project standard, the results were indicative of the reality of divergent views held on potential management options. The views of both enforcement agencies and fishers must be taken into account when designing long-term management regimes. Ideally, the control measures should be efficient and reliable as well as easily understood and supported by the fishing industry.

The study results should be seen as very preliminary. STECF notes that in order to conduct a more complete study funding under an ad-hoc contract is not sufficient.

Additional Request – Examination and advice on Bio-economic models

Terms of reference

STECF was requested to answer:

Bio-economic models will be needed that would enable to tackle the complexity inherent to multi-species fisheries and mixed fisheries. Models are expected to deliver a range of management options (output) under various management scenarios (input). Where possible, the social dimension (employment) of the fisheries should be accounted for, so that all three dimensions of sustainable development are correctly assessed.

STECF are requested to examine and give advice on the state of play in terms of existing and under development bio-economic modeling tools for mixed fisheries / mixed species management, and when completed/tested models will be available for use in assessing options for management "ex ante", in particular in light of any possible interdependence between this work and the work referred to in paragraph 2. STECF are requested to review the features of the various models, their intended outputs and provide a critical assessment of their respective pros and cons.

In light of the preceding analysis, STECF are requested to advise whether a single bio-economic modeling tool might suffice to cater for all areas ("one size fits all"), whether it should be possible to develop a common basis that could be then adapted with relative ease to each region or area, or if a specific model is needed for each area.

STECF response

STECF would like to reiterate its recommendation from STECF PLEN-11-03 that data collected under different EU programs and DCF have to be compatible if bio-economic modeling should be further developed and improved. In particular, there is an urgent need to harmonize gear and area descriptors between economic and biological data calls, as well as to improve the consistency of transversal data such as effort and landings by fleet and métier across these data calls. At present, economic data are only available for aggregated groups of vessels assigned to a single majority activity (to preserve confidentiality) without detailed information on their actual fishing activities, while biological data are collected at the scale of fishing activities (or métiers) without insights of how individuals select different combinations of activities, making the two data sets largely irreconcilable as they are currently requested under Data Calls. In practice, it might be possible to link the two through allocation to fleets and métiers of logbooks data crossed with fleet register. STECF emphasizes that the DCF needs to explicitly improve this link.

Table 5.5.1 below gives the state of play of the recently developed bio-economic models and of those under development. The list may be incomplete since it is based on the knowledge of experts in attendance at this STECF plenary meeting.

The same model can be applied in different geographical areas once it has been re-parameterised. This has for example already been the case for a number of these, such as FISHRENT, FLR, Fcube, ISIS-Fish, etc, which have been used to evaluate different fisheries of the Atlantic and Mediterranean areas. In that sense STECF is of the opinion that a single model could be adapted to any area, provided that the required data to reparameterise stocks and fleet are available. Nevertheless, the main differences between the models are the answers that they can provide as well as the level of detail in which the ecological, economic and biological dimensions are considered and modeled. In that sense, STECF considers that the diversity of models provides a value in terms of the management options for which they can provide an assessment. Furthermore it can be anticipated that new research questions and/or changes in the availability of data, will increase the necessity of using different models, the development of new and/ or the adaptation of old ones.

STECF also considers the necessity of testing the different models before they are applied to any Impact Assessment. Furthermore STECF considers that different models should be compared with the same set of data in order to check the robustness of the modeling.

There are currently a number of integrated EU projects aiming at bringing further together ecology and economy (e.g. MYFISH, VECTORS, ECOKNOWS, SOCIOEC, GAP2, BENTHIS), and it is clear that most model development is taking place within this frame. STECF considers that regular linkages and communication across EU DGs about monitoring and use of outcomes of these research projects would ensure the best cost-benefit return of these.

Table 5.5.1. Summary of known bio-economic models and of those under development. List may be incomplete.

Model	Description	Status	Development Framework	Steps required including ICES work	Applied in areas	Pros	Cons
ATLANTIS	Three-dimensional ecosystem model, linked polygons that represent major geographical features. Information is added on local oceanography, chemistry and biology such as currents, nutrients, plankton, invertebrates and fish. The model is then set in motion, simulating ecological processes such as consumption and production, waste production, migration, predation, habitat dependency, and mortality.	Developed but not tested in EU waters	Several EU Framework programs are developing ATLANTIS models for EU waters. Expected to be finished within the next 3 years (EU VECTORS project).		North Sea, Eastern Channel	-Ecosystem model with all natural feedbacks included. -Follows the MSE approach -Spatially explicit	-Data and time heavy -Not integrated with biological assessment advice.
ECOPATH-FISHRENT	Ecopath creates a static mass-balanced snapshot of the resources in an ecosystem and their interactions, represented by trophically linked biomass 'pools'. The biomass pools consist of a single species, or species groups representing ecological guilds. This model combines ECOPATH with FISHRENT (see below)	Under development	'MYFISH' project. This is expected to be finished within the next 3 years		Southern North Sea	-Aims at combining ecological and ecosystem interactions while considering all main economic features.	-Data and time heavy -Not integrated with biological assessment advice.
F-CUBE	F-CUBE (Ulrich et al. 2011) estimates the potential future levels of effort by fleet corresponding to the fishing	Developed and used mainly on the	Model has been finished and used for ICES advice.		North Sea regularly (included in	-Directly operational for advice.	-Ad-hoc code development. -Not spatially

	opportunities (TACs by stock and effort allocations by fleet) available to that fleet, based on effort distribution across its métiers, and the catchability of each of these métiers. This level of effort is in return used to estimate landings and catches by fleet and stock, using standard forecasting procedures.	biological side, although it can be adapted to economic modules	Development is ongoing for new management objectives and MSE approach.		ICES), Mediterranean and Western Waters in 2009. Will be applied in the area West of Scotland.	-Consistent with other FLR objects and ICES advice. -Flexible to address different issues without too much effort.	explicit - Limited inclusion of uncertainty
FISHRENT	FISHRENT (Salz et al. 2011) estimates resource rents under different conditions and management regimes. It integrates simulation and optimisation, integrates output- and input-driven approaches, so that it can be consistently applied to different situations in the EU, particularly the Atlantic and the Mediterranean/Black Sea areas. To this end, it accommodates multi-species/ multi-fleet fisheries. The recent developments integrate spatial and seasonal dimensions of fisheries and age structured population dynamics.	Developed* and tested	Original model developed under the EU project 'Remuneration of spawning stock biomass'. Further development done in 'VECTORS' project.	Estimation of several parameters. (catch functions, ..)	All areas	-Successfully tested in all different geographical areas. -Developed in order to be run with existing DCF data which all MS possess.	-Not integrated with biological assessment advice. -Does not follow MSE approach.
FLR/FLBEIA	FLBEIA is a bio-economic model embedded in FLR (Kell et al. 2007). It is a toolbox for bio-economic impact assessments with MSE. It's multi-fleet, multi-stock, and seasonal and merges the main ideas of Fishrent and Fcube.	Under development	Model is being developed as a collaboration between a group of scientists, promoted by JRC and coordinated by AZTI.	Estimation of several parameters. (catch functions, ..)	Bay of Biscay, Gulf of Cádiz	-Coupled with the biological assessments. -Designed as a tool box to allow for flexibility for handling	-Data and time heavy -Not user-friendly

			Developed and tested by the end of 2012.			different models.	
IAM	IAM is a bio-economic model used for the impact assessment for sole in the Bay of Biscay. It was developed in the framework of the Bio-economic partnership working group project funded by the French Ministry of Agriculture and Fisheries.	Developed* and tested	Model was used for impact assessment for sole in the Bay of Biscay		Bay of Biscay	-has delivered bio-economic outcomes for a range of Impact Assessments (STECF 10-10 and 11-04)	- No application to other areas is known to STECF
ISIS-FISH	ISIS-fish (Mahevas and Pelletier, 2004) is a generic and spatially explicit simulation tool for evaluating the impact of management measures on fisheries dynamics. Both management measures and behaviour of fishermen in reaction to these measures may be interactively designed through a Script language	Developed and tested.	Model has been developed and applied in several research projects.	Estimation of several parameters.	Bay of Biscay, North Western Mediterranean	-Spatially explicit	-Data and time heavy
NWWRAC - DST	Stochastic Decision Support Tool (DST) to assess stock and economic impacts of options for changes in gear and fleet selectivity to support the NWWRAC initiative to develop a mixed fisheries management plan for the Celtic Sea. Deterministic gear selectivity model already available	Under development	Initiative proposed by NWWRAC to support CS MP. Requires resource allocation (18 month development time)		NWWRAC Celtic Sea Intend to be applicable for all areas.	-User-friendly. -Aiming at RACs for their decision making process of mixed fisheries.	-Without resource allocation development will be hindered.
FLR - SMS	Fully integrated and spatially explicit bioeconomic model (Bastardie et al., 2010) with MSE approach, coupled with	Developed and tested. Used by STECF	Is being extended into an Individual-Based		Eastern and Western Baltic	-Can address a great range of biological and	-Data and time heavy. -Cannot be

	a SMS multispecies operating model	(2012) for developing multispecies management plans in the Baltic	modeling for the Baltic			economic questions at several scales.	easily transferred to other areas.
Ecopath with Ecosim (EwE)	Standard modeling tool including all trophic levels in an ecosystem, with a time-based simulation frame. Applied in many areas worldwide.	Developed and tested for the North Sea (Mackinson et al., 2008)	Is being currently further developed in GAP2 in collaboration with North Sea RAC.	Development is linked to ICES WGSAM key runs.	North Sea, other areas worldwide	-Fleet structure based on DCF, relatively easy to update. -Can explicitly take account of changes in both productivity and fishing drivers. -- Includes economic information from AER	-Data and time heavy -Not fully integrated with biological assessment advice. - Not fully validated yet
AHF	Created to simulate the economic behavioural response of fishing fleets to the economic outcome in previous years of the fishery with response to the entry exit or invest/disinvest in the fishery changing fleet capacity.	Developed	EFIMA project		Atlantic waters	-Can be run using DCF data -Can assess effort regulations	-Results are extremely sensitive to the calibration of the model
BIRDMOD	A simulation model to predict effects of different management policies from a biological, economic and social perspective and consists of 4 modules; a biological, an economic, management	Developed	FISBOAT project		Mediterranean	-Advice in relation to changes in selectivity, taxes and	-specifically designed for Mediterranean fisheries

	and a state variation module.					subsidies	
BEMMFISH	Projects biological and economic variables into the future to test different Mediterranean fisheries management and policies.	Developed	BEMMFISH project		Mediterranean	-Assess changes in taxation	-Limited number of fleets and species
COBAS	An option comparison model in which the effects of a particular policy are compared to the effect of the current management system.	Developed	IiFSW Project		English Channel, Celtic Sea and Western approaches.	-Is an option comparison model	-No biological model
EcoCoRP	A simulation model to assess the economic impacts of effort reductions imposed by the North Sea Cod recovery plan of the North Sea fishing fleet segments.	Developed	EcoCoRP tender		North Sea	-Incorporates short-terms impacts and multi-species interactions.	-Very case study specific.
ECONMULT	A simulation model for the management of the Barents Sea fisheries using a multi-species and multi-fleet approach in which the user can define the dimensions.	Developed	Norwegian Research Council project		Barents Sea fisheries	-Fleets can be modeled at various aggregations	-It does not include any biological model
EMMFID	An optimization and simulation model to clarify the economic consequences of fishery management regulations and industry activities.	Developed	Project EMMFID		Danish fishery sector	-Designed for national management plans	
MEFISTO	Bioeconomic Simulation model in which under alternative management scenarios fisheries management characteristic of the Mediterranean are emulated	Developed	Project BEMMFISH		Mediterranean	-Input measures implemented. -Very detailed	-Not output orientated
SRRMCF	Model to operationalise a strategic management plan for the commercial Swedish fishery with the aim of providing viable solutions for the	Developed	Swedish Board of Fisheries project.		Sweden	-Designed for strategic management plan	-Only applied in Sweden

	structural problems in the fishing industry.						

*main parts have been developed and tested. Some parts still under development.

5.6. STECF- EWG-12-08: 2011 DCF AR Evaluation

Terms of Reference

STECF is requested to review the report of the STECF Expert Working Group (EWG-12-08), evaluate the findings and make any appropriate comments and recommendations.

STECF observations

The EWG 12-08 was held from 25-29 June in Hamburg, Germany. The EWG Chair, Michael Ebeling, presented an informative overview of the draft report to the STECF in plenum.

Noting that the EWG 12-08 report was not yet finalised, STECF took the decision to withhold it's opinion on the findings in the report.

The STECF Review and opinion will be undertaken by correspondence and adopted by written procedure as soon as the report from the EWG 12-08 is finalised. This is foreseen for the week of 23 July 2012.

5.7. STECF- 12-09: Review of scientific advice on stocks – part 2

Terms of Reference

STECF is requested to review the report of the STECF Expert Working Group (EWG-12-09), evaluate the findings and make any appropriate comments and recommendations.

STECF response

The STECF reviewed the Draft Review of Scientific Advice for 2013 prepared by the EWG 12-09, noting the considerable efforts of the EWG in assembling and reviewing report. The draft was reviewed and amended by the STECF in plenum and adopted as the STECF Review of Scientific Advice for 2013 Part 2.

The report represents the STECF review of advice for fish stocks in the North Sea Celtic and Irish Seas, West of Scotland, West of Ireland, south western waters, Icelandic and East Greenland, Barents Sea and the Norwegian Sea, Faeroe plateau ecosystem and widely distributed and migratory stocks, and deep sea stocks in the North East Atlantic.

In undertaking the review, STECF has consulted the most recent reports on stock assessments and advice from ICES and has attempted to summarise them in a common format.

The STECF review of advice for 2013 Part 1 included the latest assessments and advice for stocks in the Baltic Sea and was published in June 2012. Part 3 will contain information of other stocks of interest to the European Community and will be published in November 2012. Parts 1, 2 and 3 will also be amalgamated and published as the Consolidated STECF Review of advice for 2013 in November 2012.

Commission Communication to the Council concerning a consultation on Fishing Opportunities for 2013 and general context of ICES advice

STECF considers that it is important to point out the following text which is taken from the introduction to the STECF Review of Scientific Advice for 2013 Part 2.

STECF is requested to take into account Harvest Control Rules adopted in any type of multi-annual management plan and rules and principles for the setting of TACs as specified in the Commission Communication to the Council concerning a consultation on Fishing Opportunities for 2013 (COM(2012) 278 final). STECF notes that in its 2012 advice, for most stocks, ICES provides catch options corresponding to the principles outlined in the working method for proposing TACs in Section 6 of COM(212) 278 final.

Furthermore, ICES has now provided quantitative advice on catch options for many stocks for which data are limited. The basis for such advice is given in the general context of ICES advice (ICES Advice 2012, Book 1). While agreeing with the general approach, there are a number of instances where STECF was able to draw attention to additional information which either supplemented or in some cases, resulted in STECF providing advice that differed to that from ICES. This is clearly indicated in the relevant sections of this report.

The ICES framework for data limited stocks provides a means of calculating a value for future catches. The framework has been applied in cases where stocks do not have population estimates from which catch options can be derived using the existing MSY framework. The principles underlying the framework for data limited stocks are that all available information should be used and that a precautionary approach should be followed with an increasing margin of precaution being adopted as information becomes increasingly more limited. ICES has classified data-limited stocks into 5 categories depending on availability of data and information and has devised different harvest control rules for each of the categories.

With the exception of stocks for which stock status relative to candidate reference points for stock size or exploitation is unknown, ICES has applied a change limit of + 20% to its catch advice. The change limit is relative to the reference on which it is based e.g. recent average catches or projection of a trend.

For stocks for which stock status relative to candidate reference points for stock size or exploitation is unknown, ICES has adopted a precautionary margin of -20%. In practice, for many stocks, this results in advice from ICES for a 20% reduction in catches relative to a recent value, usually the average of the most recent 3 years of available catch or landings data. In cases where ICES has advised that based on the average landings over a specific period, catches should be reduced by x%, STECF considers that it is more appropriate to express the resulting figure in terms of landings rather than catches.

In the absence of clear management objectives, STECF has in most cases agreed with the ICES advice on data limited stocks.

While recognising that the ICES approach is an attempt to move in the direction of sustainable exploitation, the choice of 20% both as a change limit and a precautionary margin is somewhat arbitrary and the risks associated with applying such rules have not been evaluated with respect to management objectives or the precautionary approach. Hence,

STECF considers it important to point out that the advised catches corresponding to the harvest rules proposed by ICES provides a means of calculating a value for future catches but there is no guarantee, that setting TACs in line with that value will achieve management objectives. Hence when setting TACs, managers may wish to consider whether the catches corresponding to the advice from ICES and STECF on data limited stocks is in line with their objectives.

6. ADDITIONAL REQUESTS SUBMITTED TO THE STECF PLENARY BY THE COMMISSION BY *ADHOC* CONTRACTS

6.1. Request for a STECF opinion on the evaluation of the contributions submitted by Member States on the draft revised guidelines for an improved analysis of the balance between fishing capacity and fishing opportunities

Terms of Reference

STECF is requested to review the report prepared through an *adhoc* contract, evaluate the findings and make any appropriate comments and recommendations.

Background

Following the recommendations made by the Court of Auditors and taking into account the advice from the STECF, the guidelines for estimating indicators of balance between fishing capacity and fishing opportunities need to be revised. This will be done in close cooperation with STECF and the Member States. The Commission sent draft revised guidelines to Member States and requested their input to this process. The draft revised guidelines are an update of the 2008 guidelines taking account of the proposed texts and recommendations of STECF (reports of SGBRE 10-01 and EWG 11-10 and the advice of STECF PLEN 10-03).

DG Mare prepared draft revised guidelines on estimating balance indicators, based on advice from STECF, and distributed the draft revised guidelines to MS, inviting them to submit comments on the draft to the Commission by 15th May 2012. Four MS submitted comments.

The Commission contracted six collaborated, independent experts (ad hoc Working Group) to evaluate comments from the four Member States on the draft revised guidelines on estimating balance indicators which had been drafted by the Commission based on outputs and advice from STECF. The experts also proposed text for the revised guidelines. Several of the comments by MS along with further discussion among the experts prompted further revisions to the text of the guidelines. Detailed responses to MS comments are included in the report of the ad hoc Working Group. Proposed text for the revised guidelines was attached as Annex 1 to the WG report.

STECF is requested to review this report prepared, evaluate the findings and make any appropriate comments and recommendations.

STECF conclusion

STECF endorses the report and its findings. STECF stresses that no single individual indicator can be the basis for a statement of a potential overcapacity in a specific segment. The judgement should be based on an overall qualitative assessment of all the indicators covering biological, technical, economic and social considerations.

STECF recommendations

STECF recommends that the Commission disseminate the guidelines proposed by the WG taking into account the minor changes proposed below:

1) p. 26, section 2.1.1 Description and data sourcing, the fifth paragraph should read:

> The achieved maximum number of days at sea within a fleet segment, observed or estimated for each reference year as described above, could in reality have been limited by effort restrictions. Furthermore, there could be economic (e.g., the fuel crisis), environmental (e.g., weather) and social (e.g., not fishing on weekends) reasons that affect the maximum observed number of days at sea per vessel for certain years, so that this number may not reflect the true technical capacity of the fleet. Therefore, MS should also calculate the ratio based on the theoretical maximum number of days at sea.

2) p. 27, section 2.1.1 Description and data sourcing, the last paragraph should read:

> A table showing the proportion of inactive vessels of the total fleet should be provided with respect to number of vessels, GT and kW. This could, for example, be done by different length classes.

3) p. 27, section 2.1.2 Application and interpretation, the second paragraph, first sentence should read:

> Inactive vessels are an unused capacity and as such they reduce the overall capacity utilisation rate of the total fleet. Inactive vessels cannot be allocated to a segment however as segment allocation requires gear type and species landed. To include some assessment of inactive vessels, a table showing the number and proportion of inactive vessels in the total fleet should be provided. Vessels could be categorised by DCF segment length classes.

6.2. Request for a STECF opinion on the Assessment of the statistical method used by NAFO to rectify the reported catch data and provide estimates of discards for 3M cod and Greenland halibut in SA2 and Division 3K-O

Terms of Reference

STECF is requested to review the report prepared through an *adhoc* contract, evaluate the findings and make any appropriate comments and recommendations.

STECF is requested to review the report prepared through an ad hoc contract on "Assessment of the statistical method used by NAFO to rectify the reported catch data and provide estimates of discards for 3M cod and Greenland halibut in SA2 and Division 3K-O", evaluate the findings and make any appropriate comments and recommendations.

As the Scientific Council of NAFO provides catch estimates which for certain stocks are considerably above nominal or total catches reported by national scientists to the Scientific Council (SCS documents of NAFO) or derived from landings.

The TOR of the ad hoc contract was to

1. Review the method and additional sources used by the NAFO Scientific Council to provide overall catch estimates for NAFO stocks;
2. Provide overall estimates of discards for 3M Cod and Greenland halibut in SA2 and Division 3K-O.

STECF observations

The Standing Committee of Fishery Science (STACFIS) of the NAFO Scientific Committee Council(SC) meets every June to carry out the assessment and provide management advice for the NAFO stocks. Although catch figures are fundamental to providing the best scientific advice, the deadline of 1st May for the submission of official data (Statlant 21A) data to the Secretariat is not met for many countries and the accuracy of officially reported provisional statistics remains questionable.

An ad hoc working group of STACFIS conducted every year a general review of catches in the NAFO areas since around 2003. The working group considered various sources of information including official reported landings (Statlant 21A), NAFO observer data, National observer program data, as well as Canadian surveillance data to agree on best estimate of catches to be used in the assessment process. The comparison of official fishery statistics of Statlant 21 data and the best estimate of catches as agreed by STACFIS is documented and presented in STACFIS reports and is reproduced below.

		2010	
Stocks	**Statlant 21A[1]**	**Statlant 21A[2]**	**STACFIS**
STOCKS OFF GREENLAND AND IN DAVIS STRAIT			
Greenland halibut in SA 0, Div. 1A offshore. & Div. 1B–F	*21000*		*27000*
Greenland halibut in Div. 1A inshore.	na		20600
Roundnose grenadier in SA 0+1	11		11
Demersal redfish in SA 1	0		251
Other finfish in SA 1	0		1315
STOCKS ON THE FLEMISH CAP			
Cod in Div. 3M	*4404*	*5245*	*9192*

Redfish in Div. 3M	*7737*		*8496*
American plaice in Div. 3M	53		63
STOCKS ON THE GRAND BANKS			
Cod in Div. 3NO	*329*		*946*
Redfish in Div. 3LN	383		260
American plaice in Div. 3LNO	*1471*		*2898*
Yellowtail flounder in Div. 3LNO	9097		9366
Witch flounder in Div. 3NO	112		421
Capelin in Div. 3NO			
Redfish in Div. 3O	4544		5233
Thorny skate in Div. 3LNOPs (Div. 3LNO portion)	*531*		*3144*
White hake in Div. 3NOPs (Div. 3NO portion)	211		227
WIDELY DISTRIBUTED STOCKS			
Roughhead grenadier in SA 2+3	231		941
Witch flounder in Div. 2J+3KL	179		183
Greenland halibut in SA 2 & Div. 3K–O	11092	15682	26173
Short-finned squid in SA 3+4	101		101

[1] Statlant 21A data up to 3th of June 2011: totals do not include all countries in many cases as not all countries had submitted data prior to the June SC meeting.

[2] Statlant 21A data up to 31st of May 2012: only species covered in the TOR are presented.

STECF observes that there are discrepancies between official landing (Statlant 21A) and estimated catches used by the STACFIS for the assessment. The main discrepancies are observed for Greenland halibut in SA 01A offshore. & Div. 1B–F; Cod in 3M; American plaice in Div. 3LNO, Thorny skate in Div. 3LNOPs (Div. 3LNO portion); Greenland halibut in SA 2 & Div. 3K–O.

With regard to Cod in Division 3M and Greenland halibut in Subarea 2 and Divisions 3KLMNO, the discrepancies for the last 10 years are summarized in the table below:

For Cod in Division 3M

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TAC	ndf	ndf	ndf	ndf	ndf	ndf	ndf	ndf	5.5	10
Statlant 21	0.0	0.0	0.0	0.0	0.1	0.1	0.4	1.2	4.4	
STACFIS	0.0	0.0	0.0	0.0	0.3	0.3	0.9	1.2	9.2	

ndf No directed fishery

And for Greenland halibut in Subarea 2 and Divisions 3KLMNO

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Recommended TAC	40	36	16	nr*	nr*	nr*	nr*	<10.5*,2	<8.8*,2	<14.5*,2
TAC	44	42	20	19	18.5	16	16	16	16	17†
STATLANT 21	31	31	16	18	18	15	15	14	11	
STACFIS	34	32-38[1]	25	23	24	23	21	23	26	

nr – no recommendation
* – evaluation of rebuilding plan
† – TAC generated from HCR
[1] In 2003, STACFIS could not precisely estimate the catch.
[2] SC recommended that "fishing mortality should be reduced to a level not higher than $F_{0.1}$". Tabulated values correspond to the $F_{0.1}$ catch levels.

The catch information from the Statlant 21A indicates a total catch of 5,245 t for Cod in Division 3M and 15,682 t for Greenland halibut in Subarea 2 and Division 3KLMNO in 2010. However, the respective STACFIS estimates are 9,192 t (75% higher) and 26,170 t (64% higher).

From the NAFO Summary Document (SCS) catches by country are summarised as follows:

	GHL 2 + 3 KLMNO			COD 3M		
Country	**Statlant 21A**	**SCS**	**STECF**	**Statlant 21A**	**SCS**	**STECF**
Canada	6526	6529		4	0	
Estonia	441	437*	446	81	91*	81
Faroe Islands	212			1183		
France St. Pierre et Miquelon	116					
Latvia						
Lithuania	25	7	25	62	39	62
Norway	2			514		
Portugal	2257	2257.8	2258	1345	1345.6	1346
Russia	1514	1514*		374	374*	
Spain	4589	3817		921	786	
UK				761		761
TOTAL	**15682**	**12611**		**5245**	**2171**	

Although the National Research Reports do not explain the methodology to estimate the catch figures, or whether the discards are included or not in the estimations, for all countries, except Lithuania, the catch estimates reported in the SCS are less than that reported in Statlant 21A.

STECF conclusions and recommendations

In order to expedite the work of the Scientific Council, STECF recommends that the Commission urges all Contracting Parties to NAFO to take measures to ensure that catches reported to NAFO are accurate.

STECF considers that in the interests of transparency and to provide the best scientific assessments and advice, it is appropriate that STACFIS continues to conduct a general review of catches and to document both the catches reported in Statlant 21 reports together with the STACFIS estimates that are used for the assessment. Furthermore, STECF considers that the methodology to compute best catch estimates is documented in future NAFO STACFIS assessment documents and that catch estimates, including discards, from national sampling programs are clearly documented in National Research Reports

7. ADDITIONAL REQUESTS SUBMITTED DIRECTLY TO THE STECF PLENARY

7.1. Assessment of a selective gear by CEFAS and possible exception under the Cod Plan

Background

The UK issued a statement at the 2011 December Fisheries Council on its intention to introduce selectivity measures to improve the cod stocks by significantly reducing cod mortality and reducing discards in the North and Irish Seas and the West of Scotland. In order to reflect the circumstances of different areas and different fisheries, a number of gears are being developed for the fleets targeting *Nephrops* (TR2 gears). CEFAS on behalf of DEFRA have undertaken a gear trial on a modified inclined separator panel. As a possible option in achieving an exemption under Article 11(2) of the cod plan (Council Regulation 1342/2008) by ensuring that overall cod catches do not exceed 1.5% of the total catch.

Terms of Reference

STECF is asked to review and evaluate the results of scientific trial submitted by DEFRA and to evaluate;

1. The extent that the described gear type will reduce the catches of adult and juvenile cod and the catches of the other commercial species, including *Nephrops*, haddock and whiting;

2. To what extent does the data and information provided in relation to the technical characteristics of the described gear type support the conclusion that catches of cod by such gear in normal commercial operation will be sufficient to meet the criteria for exemption under Article 11 of the Cod Plan. STECF are asked to highlight what information should be reported in order to maintain this exemption and indicate the level of ongoing examination required.

3. If for any reason STECF conclude that the described gear type would not meet the requirements of an exemption under Article 11, STECF are requested to identify the potential reduction in cod catches that could be expected by implementing this gear in the current fisheries. If other gears previously examined by STECF would achieve the same result this should be identified.

In cases of scientific uncertainty with regard to questions 1) and 2) and 3), please specify the information and data that have to be improved; in particular concerning the sampling strategy, including sampling precision levels and intensities in relation to catch and discards

data and, where relevant, the description of gear properties and its effect. Additionally STECF are asked to identify any cumulative impact of these gears alongside the other actions under the Cod Plan.

STECF response

STECF notes that the current report is based on relatively few hauls, carried out in one specific season during *Nephrops* targeted fishing. In terms of numbers of fish, relatively small numbers of cod were caught per haul both with the Net Grid (range 0-6 individuals per haul) and the standard trawl (range 11-63 individuals per haul). In total, the standard trawl caught only 340 cod and the trawl with the Net Grid only 38 cod.

In order to evaluate possible exclusion of certain groups of vessels from the application of the effort regime, as per Article 11, it is required to know the performance of gears in all fishing seasons, both with low and high percentages of cod available to the catch. The report provides a table of cod catches only as a percentage of the total catch, but not the absolute numbers, for only 9 out of 13 hauls during the *Nephrops* targeted fishing trials and then a mean of the percentages. It is also unclear why 4 hauls were excluded from the analysis.

In response to the questions listed in the ToRs above STECF concludes as follows:

1. Based on the information provided, STECF cannot evaluate the extent that the described gear type will reduce the catches of adult and juvenile cod and the catches of the other commercial species, including *Nephrops*, haddock and whiting. To statistically assess the extent that the described gear type will reduce the catches of adult and juvenile cod and the catches of the other commercial species, including *Nephrops*, haddock and whiting the following information should be reported: Total catch in weight of cod, separately for adult and juveniles, and all other species by haul and gear from a more extensive gear trial study than the one in the current report (e.g. carried out in more seasons).

2. The data and information provided in relation to the technical characteristics of the described gear type are not sufficient to evaluate whether catches of cod by such gear in normal commercial operation are sufficient to meet the criteria for exemption under Article 11 of the Cod Plan. In addition to total catch in weight of cod and all other species by haul and gear from a more extensive gear trial than the one in the current report (e.g. covering more seasons), detailed technical specifications of the gears and their mode of deployment needs to be provided. The technical specifications given in the report are inadequate in this respect.

3. Not applicable. Nevertheless, STECF notes that potential reduction in cod catches by implementing this gear in the current fisheries (*Nephrops* grounds) might be expected. However, upon the receipt of more detailed technical specifications of the gears, only a review of the literature on this and similar gear types can establish the reduction in cod catches when using the proposed gear, and whether other gears would achieve the same result. STECF suggests that the work required to provide the basis for that advice would be best undertaken through an *adhoc* contract.

7.2. STECF opinion on exclusion from the cod plan effort regime in accordance with Article 11(2) of Regulation (EC) No 1342/2008

Background

Article 11(2) of Council Regulation (EC) 1342/2008 establishing a long-term plan for cod stocks and the fisheries exploiting those stocks lays down the conditions under which the Council, acting on a Commission proposal and on the basis of the information provided by Member States and the STECF advice, may exclude certain groups of vessels from the effort regime.

Following a number of requests by Member States to the European Commission, the STECF assessed in 2009, 2010, 2011 and 2012 the activity of groups of vessels against the criteria mentioned in Article 11(2) of the cod plan, in particular based on the concept of technical or biological decoupling. The Commission's approach to vessels' exclusions from the cod plan effort regime has taken into account the STECF's concept of technical and/or biological decoupling as well as vessels' group activities or characteristics that result in cod catch rates equal to or below 1,5% of the total catches for each group of vessels concerned, provided that:

a) the Member States provide appropriate information to the Commission and STECF in order to establish that the conditions are and remain fulfilled in accordance with the detailed rules adopted by the Commission and;

b) the Member States concerned put in place a monitoring system that provide representative catch data enabling the Commission to assess whether the fulfilment of the exclusion criteria at the group or vessel level continues to be met.

Member States requests for exclusion must follow the requirements prescribed by Commission Regulation (EU) No 237/2010 laying down detailed rules for the application of Council Regulation (EC) No 1342/2008.

Terms of Reference

Under the conditions laid down in Article 11(2) of Regulation (EC) No 1342/2008 establishing a long-term plan for cod stocks, the STECF is requested to evaluate a French request for exclusion from the cod plan effort regime of:

i. a group of 8 trawlers (gear category TR1) targeting saithe in the North Sea,
ii. a group of 8 trawlers (gear category TR) targeting saithe in the West of Scotland - the same vessels targeting saithe in the North Sea,
iii. a group of 2 longliners (gear category LL) targeting hake in the West of Scotland.

Following the approach described in the background and taking into account the information and data provided by France to the European Commission, the STECF is requested to advice on the following:

1) To what extent does the data on catches and landings submitted by France support the conclusion that during the reference period for which the data have been collected, the vessel group has (annually on average) caught less than or equal to 1.5% of cod of its total catches?

2) In cases of scientific uncertainty with regard to question 1), please specify the information and data that have to be improved; in particular concerning the sampling strategy including sampling precision levels and intensities in relation to catch and discards data and, where relevant, the description of gear properties and its effect.

3) In cases of scientific uncertainty with regard to question 1), please specify whether the information presented gives indications that the non-fulfilment of the assessment criteria is due to a specific activity of the vessel group, e.g. when the group fishes in a particular area.

In carrying out its assessment, the STECF should consider the rules on vessel group reporting established in Article 3 of Commission Regulation (EU) No 237/2010 laying down detailed rules for the application of Council Regulation (EC) No 1342/2008.

The STECF advice should be consistent with comparable advices.

The STECF is requested to complete the table below summarising its findings in relation to the present request.

Table 7.2.1: Summary of STECF findings in relation to vessels groups requests for exclusion.

Country	Description of vessel group	Data submitted	STECF advice in July 2012
			[to include a statement on a favourable or negative opinion on the exclusion in question]

STECF observations

Métier 1. Saithe-targeting trawlers of TR1 in the North Sea.

These eight vessels target saithe, with more than 90% of their landed catch from the North Sea being saithe. Fishing takes place within the normal distribution area and depth range of cod; therefore, low percentages of cod in the catches are possibly due to depletion decoupling.

In 2009, 2010, and 2011, respectively 8, 11, and 8 trips of respectively 2, 5, and 2 of these 8 vessels were sampled by observers. Sampling of the first part of the year is underrepresented:

e.g. only in 2010 sampling took place in the first quarter. Sampling intensity was moderate: in 2011, 4.4% of the total effort of 2 262 514 kW*days of the group of vessels was sampled.

Of the sampled catches, cod catches comprised 1.46%, 0.78%, and 1.19% respectively in 2009, 2010, and 2011. In 2009, per-trip percentages of cod ranged from 0.3% to 7.3% (average 2.39%), in 2010 from 0% to 3.5% (average 1.0%), and in 2011 from 0.1% to 5.1% (average 1.6%); note that the data provided are not on a haul-by-haul basis, instead they are given by trip. The bootstrap approach that was followed in STECF-PLEN-12-01 is based on the idea that sample results should be weighted by the total catch of the trip, so that trips with large catches contribute more than trips with small catches to the overall result. In figure 7.2.1 it can be seen that high cod percentages mainly occurred in trips with relatively low catches. Following this approach and pooling the 27 trips of the three years, the mean percentage of cod in the catch is 1.1% and the probability of exceeding 1.5% is only 0.03.

However, the probabilities of exceeding 1.5% estimated by year are 0.47, 0.01, and 0.14 for 2009, 2010, and 2011 respectively. These differences indicate that the data are extremely heterogeneous and imply that the actual catch compositions are not very well estimated by this level of sampling. Nevertheless, the analysis of the pooled data leads to the conclusion that percentages of cod in the catch are around 1.5% and that the overall probability of exceeding 1.5% is low and that the degree to which 1.5% is exceeded is not very substantial.

However, figure 7.2.2 shows that the absolute catches of cod may be substantial: in the order of magnitude of tons per trip. Raising the total of 9,646 kg of cod caught in the 8 observed trips in 2011 to the total effort by these vessels in that year would lead to a rough estimate of a total catch of 220 tonnes (218,811 kg) of cod by these 8 vessels in 2011. This is a significant amount relative to the French part of the 2011 cod TAC (980 tonnes) but not relative to the international TAC (26,842 tonnes).

These outcomes again underline one of the objections to the current formulation of Article 11 STECF has expressed in its evaluation of the cod plan (STECF-11-07) and earlier, namely that a small percentage of a large number amounts to a large number. Consequently, exempting fleets under Article 11 in its current formulation may counteract the aim of the cod plan to reduce cod mortality by allowing fleets to go on catching large amounts of cod. It would be more pertinent to the plan's aim to consider absolute catches of cod by fleets for which exemption is requested.

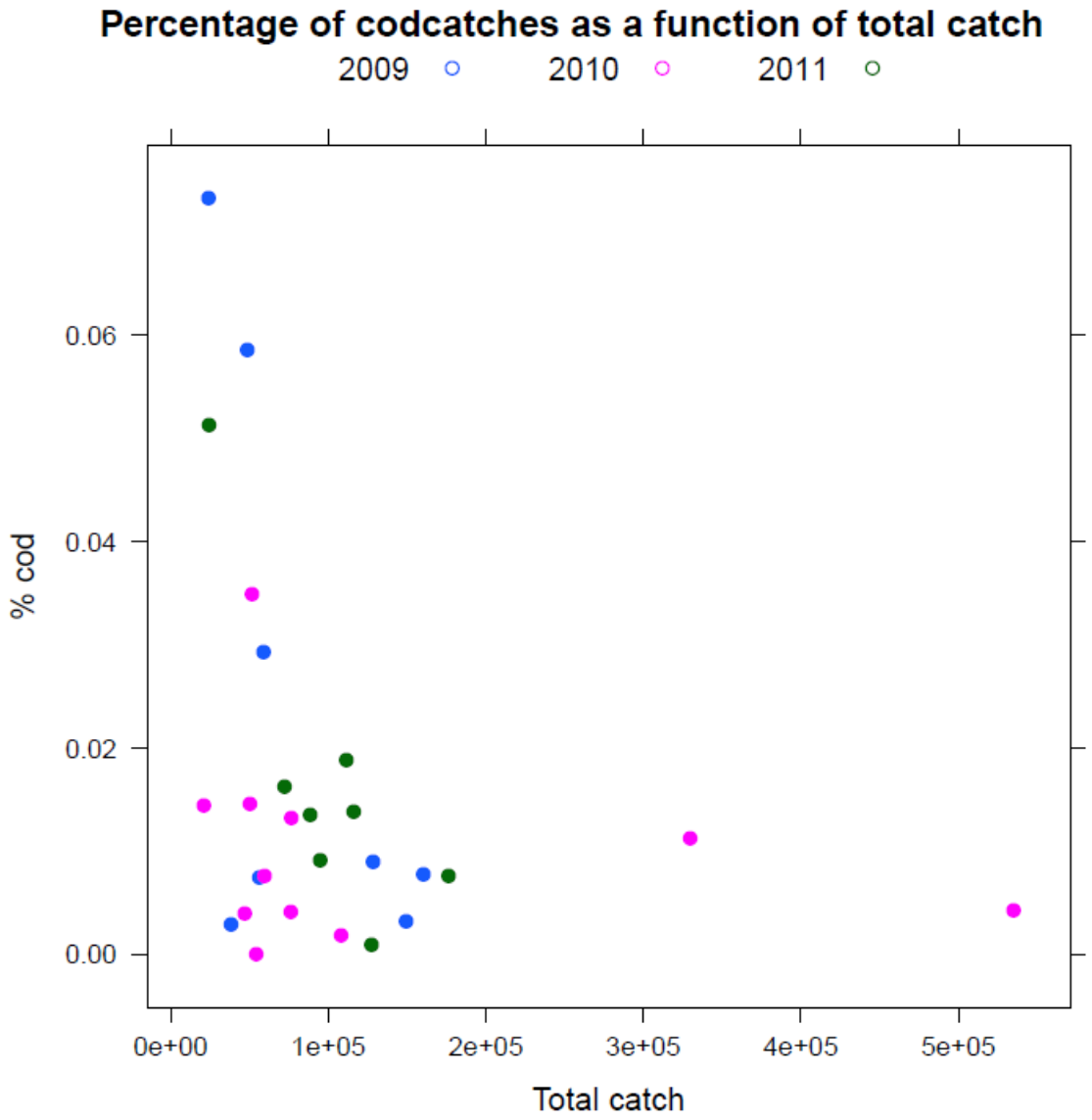

Figure 7.2.1. French data on observed trips accompanying the French request for exemption for eight TR1 vessels targeting saithe in the North Sea based on Article 11. Per-trip percentages of cod in the observed catch plotted against total trip catches (in kg).

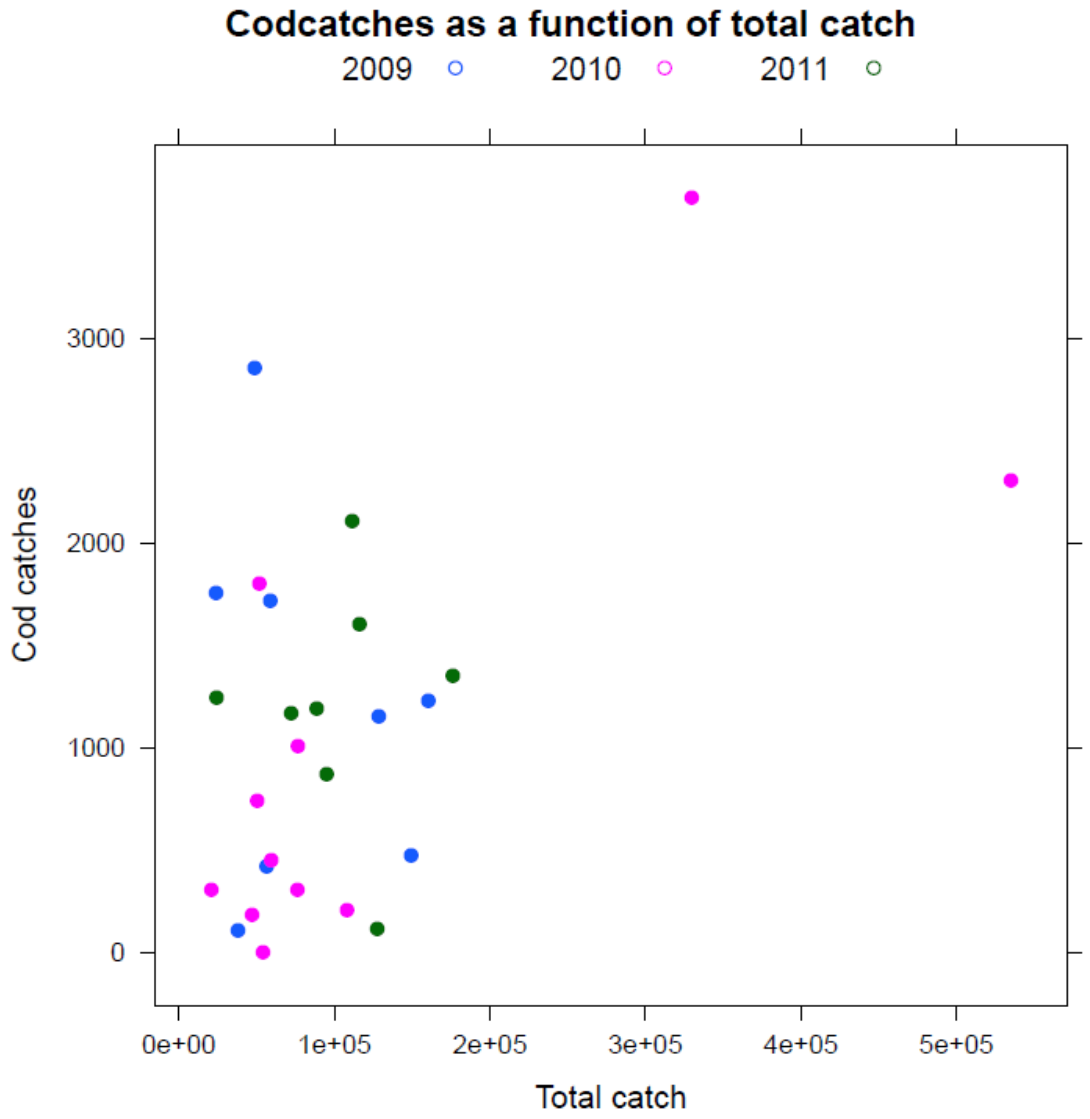

Figure 7.2.2. French data on observed trips accompanying the French request for exemption for eight TR1 vessels targeting saithe in the North Sea based on Article 11. Per-trip catches (in kg) of cod in the observed catch plotted against total trip catches (in kg).

Métier 2. Saithe-targeting trawlers of TR1 in the West of Scotland.

This request is concerned with the same eight vessels as métier 1 above. Indeed, this group of eight vessels operates a targeted fishery on saithe alternately in the two cod management areas North Sea (86% of the collective vessels' effort) and West of Scotland (14% of the collective vessels' effort). Their fishing strategy is similar in both areas, although saithe represents only half of their landed catch from the West of Scotland (as opposed to >90% in the North Sea).

According to the VMS data for 2009-2011 provided, and also as documented in the data provided on observed trips, all activity in the West of Scotland takes place deeper than 200 m, while some activity takes place between 200 m and 300 m and most activity deeper than 300 m. This indicates that most but not all activity takes place outside the normal depth range

of cod; the low percentages of cod in the catches may therefore partly be due to spatial decoupling but depletion decoupling cannot be excluded.

The number of trips sampled varied from 1 in 2008, to 3 in 2009, 2 in 2010 then to 6 in 2011. All but one (in 2010) observed trips concern the same vessel. No trips in the 3rd quarter were sampled, only 1 in the 1st, 2 in the 4th, and 9 in the 2nd quarter; this distribution of samples is not representative of the seasonal distribution of fishing activity (e.g. the second and third quarter have similar overall number of trips, but the third quarter was not sampled). Sampling intensity in 2011 was good: 16.1% of the total effort of 356 638 kW*days of the group of vessels was sampled, but because all sampled trips were of the same vessel the sampling is not necessarily representative of the group (but note that the 2011 West of Scotland effort of that particular vessel comprises 73% of the 2011 effort of this group of vessel).

Of the sampled catches, cod catches comprised 0.0%, 0.18%, 3.6%, and 0.07% respectively in 2008, 2009, 2010, and 2011. In 2011 per-trip percentages of cod ranged from 0.0% to 0.18% (average 0.06%); note that the data provided are not on a haul-by-haul basis, instead they are given by trip (trip data of other years were not provided, but note that the high percentage of 3.6% in 2010 concerned 2 trips). The data presented indicate that the percentage of cod in the catches of the vessels concerned was likely not to have exceeded 1.5% of their total catches, although it remains unclear why the sampled catches of 2010 had a higher percentage of cod.

Métier 3. A group of 2 longliners in the West of Scotland targeting hake.

These longliners target hake, with about 90% of their landed catch in weight from the West of Scotland being hake.

According to the VMS data for 2009-2011 provided, the activity of these longliners in the West of Scotland takes place roughly equally either side of, the 300 m depth contour and occasionally on the shallower side of the 200 m depth line. This indicates that a significant amount of activity takes place inside the normal depth range of cod; nevertheless, the low percentages of cod in the catches may be due to the fact that the activity takes place near the edge of the normal depth range of cod (partial spatial decoupling, but depletion decoupling cannot be excluded). The graphical presentation of the VMS positions (as quite large squares/rectangles) does not allow precise determination of fishing activity in relation to the 200 m and 300m depth contours. Note that most of the observed trips took place between 300 m and 400 m, and only one extended shallower than 300 m (which was the only one with any cod in the observed catch), and none shallower than 200 m.

While in 2009 and 2010 no trips were observed, in 2011 eight trips were observed in this group of vessels. Of one of the two vessels 3 trips were observed, all in June. Of the other vessel 5 trips were observed, in May, October, and November. These observations covered the 2nd and 4th quarter; the 1st quarter was therefore not represented (there were no trips at all in the 3rd quarter of 2011). Sampling is reasonably representative. Sampling intensity in 2011 was high: 51% of the total effort of 103,420 kW*days of the group of vessels was sampled.

Only on one of the 8 observed trips, namely the one that extended as shallow as 260 m, cod was caught, namely 33.8 kg, representing 0.18% of the total observed catches of that trip. Thus, percentages of cod in the trips' catches ranged from 0% to 0.18% (average 0.02%); note that the data provided are not on a haul-by-haul basis, instead they are given by trip. The

data presented indicate that the percentage of cod in the catches of the vessels concerned was likely not to have exceeded 1.5% of their total catches.

Summary of STECF response

STECF is requested to advise on the following:

1) To what extent does the data on catches and landings submitted by France support the conclusion that during the reference period for which the data have been collected, the vessel group has (annually on average) caught less than or equal to 1.5% of cod of its total catches?

> Métier 1. Trawlers targeting saithe in the North Sea: the data on catches and landings submitted by France support the conclusion that during the reference period for which the data have been collected, the vessel group has (annually on average) caught less than or equal to 1.5% of cod of its total catches; cod catches were near 1.5% with a low probability of exceeding 1.5%.
>
> Métier 2. Trawlers targeting saithe in the West of Scotland: the data on catches and landings submitted by France support the conclusion that during the reference period for which the data have been collected, the vessel group has (annually on average) caught less than or equal to 1.5% of cod of its total catches; the percentage of cod in the catches was likely not to have exceeded 1.5%, although it remains unclear why the sampled catches of 2010 had a higher percentage of cod.
>
> Métier 3. Longliners in the West of Scotland targeting hake: the data on catches and landings submitted by France support the conclusion that during the reference period for which the data have been collected, the vessel group has (annually on average) caught less than or equal to 1.5% of cod of its total catches; the percentage of cod in the catches was likely not to have exceeded 1.5%.

2) In cases of scientific uncertainty with regard to question 1), please specify the information and data that have to be improved; in particular concerning the sampling strategy including sampling precision levels and intensities in relation to catch and discards data and, where relevant, the description of gear properties and its effect.

> There is no scientific uncertainty.

3) In cases of scientific uncertainty with regard to question 1), please specify whether the information presented gives indications that the non-fulfilment of the assessment criteria is due to a specific activity of the vessel group, e.g. when the group fishes in a particular area.

> There is no scientific uncertainty.

Table 7.2.1: Summary of STECF findings in relation to vessels groups requests for exclusion.

Country	Description of vessel group	Data submitted	STECF advice in July 2012
France	Métier 1. Saithe-targeting trawlers of TR1 in the North	Tables 1 (for 2011), 3 (for 2009-2011),	The data support the conclusion that percentages of cod in the catches do not

	Sea	and 5 according to Commission Regulation (EU) No 237/2010. Maps of VMS positions of fishing activity in 2008, 2009, and 2010, relative to bathymetry. Descriptive documentation.	exceed 1.5%. This is likely to be a result of depletion decoupling.
France	Métier 2. Saithe-targeting trawlers of TR1 in the West of Scotland	Tables 1 (for 2011), 3 (for 2011), and 5 according to Commission Regulation (EU) No 237/2010. Maps of VMS positions of fishing activity in 2009, 2010, and 2011, relative to bathymetry. Descriptive documentation.	The data support the conclusion that percentages of cod in the catches do not exceed 1.5%. This is likely to be partially a result of depletion decoupling and partially of spatial decoupling (i.e. when fishing takes place deeper than 300 m).
France	Métier 3. A group of 2 longliners in the West of Scotland targeting hake.	Tables 1 (for 2011), 3 (for 2011), and 5 according to Commission Regulation (EU) No 237/2010. Maps of VMS positions of fishing activity in 2009, 2010, and 2011, relative to bathymetry. Descriptive documentation.	The data support the conclusion that percentages of cod in the catches do not exceed 1.5%. This is likely to be partially a result of depletion decoupling and partially of spatial decoupling (i.e. when fishing takes place deeper than 300 m).

Further observations

STECF notes that the French authorities provided sufficient documentation, data, and accompanying text for STECF to evaluate the request. The sampling intensity and representativeness ranged from reasonably sufficient to good, although in all cases care should be taken to cover all seasons and more vessels. The sampling intensity was lowest for the métier with the highest percentages of cod in their catches, and these samples gave heterogeneous results; future evaluation would benefit from more sampling.

With respect to the trawlers targeting saithe in the North Sea, the low percentages of cod in the catches may be due to depletion decoupling; in order to ensure that the percentages of cod in the catches remain <1.5% the Member State could consider to take up additional cod-avoidance measures, such as fishing at depths deeper than 300 m or fishing with selective gear. Note that with reference to the report of the EWG 12-07, the Commission may decide to change the formulation of Article 11, removing the possibility to gain exemption based on depletion decoupling and only allowing exemption based on spatial or technical decoupling. The French authorities may want to anticipate such a change and provide detailed information on exactly how these trawlers succeed in avoiding cod during their saithe-targeting fishing operations within the distribution area of cod whereas other Member States fishing in the same general area, have greater proportions of cod in their catches, i.e. demonstrate actual decoupling other than by depletion.

The French authorities assert that under the French national program for the implementation of EC Regulation No. 199/2008 (the Data Collection Framework, DCF), the French authorities have planned for the 2012-2013 period a number of observations at sea (Obsmer program) and that to improve the representativeness of the observed trips, the fishing vessels of the groups identified in the French requests for exemption will be primarily observed. STECF advises against the reallocation of observer effort of the DCF program since it may compromise the representativeness of the DCF sampling and may result in biased values. Sampling of vessels for which exemption is requested should be in addition to DCF requirements.

7.3. STECF opinion on Evaluation and/or assessment of different principles for defining selectivity in support of a proposal for a Council and European Parliament Regulation to develop a Technical Conservation Framework regulation for the North Atlantic and North Sea

Background

In line with the objectives defined in the proposal for the new Basic Regulation adopted by the Commission as part of the reform of the Common Fisheries Policy, a new approach is required to regulate technical measures based on simplification, adaptation of decision making to the Lisbon Treaty, increased regionalisation, greater stakeholder involvement and more industry responsibility. This approach will strengthen conservation and resource management through better selectivity and better protection of the environment. It is centred

on the development of an overarching technical measures framework with specific regionalised measures included under multiannual plans.

The ultimate goal in developing a new technical measures framework is to have a very simple regulation with few detailed rules. This Regulation should set targets and objectives and define the tools for monitoring and evaluating performance against these targets. However, in developing this new approach there are a number of principles that need to be assessed. These include *inter alia*:

- How do you set baseline selectivity/conservation standards? Are mesh sizes still the best mechanism?
- How do you assess equivalence?
- How should mesh sizes/selectivity standards relate to conservation reference sizes? And on what basis should these conservation reference sizes be set?
- Can catch composition rules be replaced? If not what should their function be and how could they be set more rationally? If not what could be used to replace them to differentiate fisheries?
- Are there suitable ecosystem indicators/biological reference points (e.g. PBR/BPUE) that could be incorporated into technical measures regulations to manage bycatch of biologically sensitive species e.g. seabirds, cetaceans?

Terms of Reference

The terms of reference for STECF at the spring plenary were to carry out an initial scoping exercise to formulate precise ToRs for an expert working group to be convened later in 2012. Following a meeting of a sub group of the STECF membership at STECF plenary which discussed the possible areas to be considered in the developing, it was agreed to further develop the ToRs for the expert working group on technical measures scheduled to meet 1-5 October 2012 (Dublin). It was also agreed to finalise the make-up of the group and how best to work.

STECF response

STECF proposes that an Expert Group (EWG 12-14) convened from 1-5 October 2012 in Dublin, Ireland under the Chairmanship of Norman Graham to address the following Terms of Reference:

1. Discuss the historic effectiveness of gear related technical measures considering technical, legal and control issues and identify which measures have been effective.

2. Consider the future objectives of gear related technical measures in relation to overarching management objectives under the CFP, NATURA 2000 and MSFD policies.

3. Explore the need for appropriate metrics for defining minimum acceptable selectivity standards (baseline regulations) focusing on technical specifications of the gear and/or minimum catch profiles. For each metric consider monitoring, control and enforcement implications.

4. Review management approaches for technical measures (e.g. existing prescriptive rules, results based approach, obligation to land all catches,) and how these affect uptake and application of selective gears. Discuss the advantages and disadvantages of these possible management strategies including issues surrounding monitoring, control and enforcement.

5. Explore how technical measures can be regionalised within the context of the management strategies considered. How can the performance of regionalised measures are evaluated.

7.4. Request for an STECF advice on black scabbard (*Aphanopus carbo*) in waters around Madeira

Background

DG MARE is not in possession of scientific advice or reports related to the black scabbard in waters around Madeira, for which the European Union fixes an annual TAC.

Terms of Reference

STECF is requested to:

a) Summarise available information from national data, scientific literature and other relevant sources of information to the extent relevant for the assessment of the stock status,

b) Provide scientific advice including catch options where possible for the black scabbard component around the waters of Madeira taking into account the information available.

STECF response

STECF observations

STECF notes that a similar request on the black scabbard fish in waters around Madeira was submitted to STECF-PLEN-10-03. The available information on the black scabbard fish species and fishery around Madeira was summarized and recommendations on these issues were made at that time. The additional data and information available to the STECF on species' biology and the fishery exploiting them since 2010 is rather limited and is summarized below.

Observations regarding item a)

In the waters of Madeira archipelago, the black scabbard fish has been subjected to a commercial fishery for more than 150 years, which is probably the oldest deep-sea commercial fishery in the world (Biscoito *et al*., 2011).

Landings data
Data on annual landings are available on-line from the "FAO CECAF Capture Production 1970-2010" database - (http://www.fao.org/fishery/statistics/cecaf-capture-production/query/en).

Two species of scabbard fish (*A. carbo* and *A. Intermedius*) occur in the CECAF area and landings are not reported separately. The trend in annual landings reported from the Canary Islands and Madeira is given in Figure 7.4.1. No data are available on fishing effort in this database.

Figure 7.4.1. Trends in black scabbard landings (*A. carbo* and *A. Intermedius*) from the Canary Islands and Madeira 1986 -2010

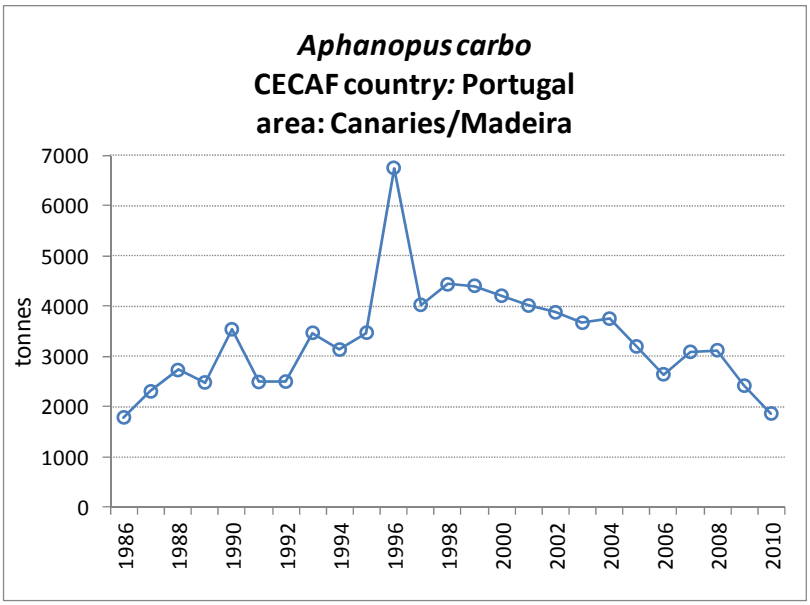

Figure 7.4.1. indicates that reported landings increased between 1986 to 1998, and then declined from 4,430 t in 1998 to 1,860 t in 2010. 2010 landings were similar to those in 1986. Nevertheless, the income generated by the landings over the period 2002-2008 remained fairly constant around 7 million Euros per annum (7.3 million Euros in 2008; Relatorio pescas CECAF 22- 06-2012).

The CECAF data series is longer than that provided in the background document "Relatorio pescas CECAF 22- 06-2012". STECF notes that the reported landings data in the two data sets correspond where the data series overlap (2002-2008).

Black scabbard fish is the primary target of métier LLD (Drift Long line). This métier comprises the very specialized Madeira fishery which exploits both black scabbard fish (*Aphanopus carbo*) and intermediate scabbard fish (*A. intermedius*). The drifting longlines are set at depths between 800-1,300 m and black scabbard usually comprise 85-98% of the total catches by the métier. The fishery operates year-round, mostly in the waters surrounding Madeira CECAF area 34.1.2. Recently, some vessels have diverted effort to the south of Madeira to exploit the fishing grounds off the Canary Islands and seamounts located at the South of the Azores. Because *A. intermedius* is more common in waters around the Canary Islands, the recent southward extension of fishing operations of the Madeira fleet has resulted in an increased proportion of *A. intermedius* in the landings into Madeira (20% by weight; Gordo 2009). According to the information in the Relatorio pescas CECAF 22- 06-2012, the métier exploiting scabbardfish on the grounds South of Madeira comprises about 28 fishing vessels, mostly between 12-18 m in length but data on fishing effort were not presented. However, STECF notes that since log books information and sales notes should be available for vessels over 10 m overall length, effort data should be available.

Observations regarding item b)

The stock structure of *Aphanopus carbo* is uncertain and this species is known to be distributed over a wide area and may comprise several distinct populations. STECF notes however, that the waters around Madeira and Canary Islands in CECAF area 34.1.1 are the only known spawning areas of this species in the Northeast Atlantic.

The following three management units are considered in EU waters and advice on these is provided by ICES and STECF.

Northern (Sub-areas V, VI, VII, and XIIb);
Southern (Sub-areas VIII and IX).
Other areas (Sub-areas I, II, IIIa, IV, X, and XIV)

For 2012, a TAC of 2,179 t for black scabbardfish in divisions V, VI, VII and XII, and a TAC of 9 t in subareas I, II, III and IV has been agreed (Scientific, Technical and Economic Committee for Fisheries. Review of scientific advice for 2012 - Consolidated Advice on Fish Stocks of Interest to the European Union (STECF-11-18)).

Both Madeira and the Canary Islands are located in area CECAF 34.1.2. but STECF notes that during the sixth session of the Scientific Sub-Committee of CECAF, which was held in Accra Ghana, from 7 to 9 September 2011, the *Aphanopus carbo* stock around Madeira was not assessed.

STECF has no knowledge of any recent length or age composition data for scabbard fish catches from waters around Madeira or the proportions of the two species in the catches or landings. Nevertheless, STECF notes that, according to DCF for the period 2011-2013, biological sampling in CECAF area 34 is specified only for *A. carbo* (triannual sampling of weight, sex, and maturity; no sampling of ages is requested). STECF suggests that, to improve the knowledge on the status of the scabbard fish stocks targeted by the Madeira fleet, biological sampling for length and age from catches should also include *A. intermediu* as well as *A. carbo*.

Council Regulation (EU) No 1225/2010 of 13 December 2010 fixing for 2011 and 2012 the fishing opportunities for EU vessels for fish stocks of certain deep-sea fish species, fixed a TAC of 4,071 and 3,867 tonnes for *Aphanopus carbo* in area CECAF 34.1.2. STECF notes that landings have been declining from about 4,000 t in 2002 to an historical low of less than 2,000 t in 2010.

STECF conclusions

With the limited knowledge available on the stocks status of black scabbard, STECF has no objective scientific basis to advise what is likely to be a suitable level of catch to ensure that the population of black scabbard in the waters surrounding Madeira is sustainably exploited.

Given that reported landings have been declining since the late 1990s and that some vessels from the Madeira fleet have recently diverted a proportion of their effort to waters around the Canary Islands and seamounts to the South of the Azores, this may indicate that the fishery in Madeira waters is less productive than hitherto. If that is the case, some degree of precaution

may be warranted and fishery managers may wish to consider restricting catches and or effort in an attempt to reduce exploitation rates in the area. The magnitude of any reduction in catches or effort is dependent on the level of risk that managers consider acceptable.

STECF notes however, that if managers agree that the ICES approach to data limited stocks provides an acceptable level of precaution and risk, adopting that approach would imply a 20% reduction on the recent level of landings (most recent value or average of the most recent 3 years). In the absence of landings information on *A. carbo* from the waters surrounding Madeira, STECF is unable to calculate the level of landings that correspond to a 20% reduction.

Other considerations

STECF notes that the fishery for black scabbard around Madeira has been active for more than 150 years and that it should be possible to construct a longer time series of catch and effort date than is currently available. Extending the time series of fishery dependent data, especially catch and effort for as long as possible would most likely permit a clearer indication of the relative trends in exploitation rate which could be used as a basis for future management advice. Any available fishery-independent data on black scabbard would also be informative.

STECF notes that landings of black scabbard in Madeira are composed of two different species (*A. carbo* and *A. intermedius*). However, the EU TAC relates only to *A. carbo*, and the proportion of *A. intermedius* has increased during recent years as the Madeira fleet has extended its fishing range to the south towards the Canary Islands. STECF suggests that managers take these observations into account when setting TACs or agreeing other management measures.

References

Biscoito M., Delgado J., Gonzalez, J.A., Stefanni, S., Tuset, V.M., Isidro, E., Garcia-Mederos A., Carvalho D. 2011. Morphological identification of two sympatric species of Trichiuridae, *Aphanopus carbo* and *A. intermedius*, in NE Atlantic. Cybium 35(1): 19-32.

Gordo L.S. 2009. Black scabbardfish (*Aphanopus carbo* Lowe, 1839) in the southern Northeast Atlantic: considerations on its fishery. Scientia Marina 72S2: 11- 16. doi: 10.3989/cimar

7.5. Request for an STECF opinion on the implementation of Article 13.2 of the Regulation (EC) No 1342/2008

Background

In accordance with Article 13.2 of Council Regulation 1342/2008 establishes a long-term plan for cod stocks and the fisheries exploiting these stocks the Member States may increase the maximum allowable fishing effort within applicable effort groups. Member States are

required to notify the Commission of any increase of the fishing effort allocation by April 30 of the year during which such compensation for effort adjustment shall take place. The notification shall include details of the vessels operating under the special conditions referred to in Article 13 (2) (a-d), the fishing effort per effort group that the Member State expects to be carried out by those vessels during the year and the conditions under which the effort of the vessels is being monitored, including control arrangements.

Under Article 13.7 the Commission shall request STECF to compare annually the reduction in cod mortality resulting from the application of point (c) of Article 13 (2) of the cod plan with the reduction it would have expected to occur as a result of the effort adjustment referred to in Article 12(4). Not all Member States have allocated additional effort only on the basis of Article 13 (2) (c) and have identified additional allocation on the basis of Article 13 (2) (a,b).

In May 2011 the United Kingdom notified the Commission of the allocation of additional effort in accordance with article 13.2, primarily under point (c) but additionally in respect of points (a) and (b); highly selective gear and the intended application of cod avoidance fishing trips.

In April 2011 France notified the Commission of fishing effort increases in 2011 in accordance with article 13.2 (cod avoidance measures) of the cod plan, in particular in relation to point (b) on less than 5% cod catch composition.

In May 2011 Ireland notified the Commission of the additional fishing effort allocated as a result of either spatial or technical measures in 2011, again under Article 12.2 (c).

In May 2011 Denmark notified the Commission of the allocation of additional effort in accordance with article 13.2 (b) and (c).

In April and in December 2011 Germany notified the Commission of fishing effort increases in 2011 in accordance with article 13.2 (b).

Terms of Reference

Based on information provided by the United Kingdom, France, Ireland, Germany and Denmark justifying fishing effort increases for 2011 under the conditions laid down in article 13.2 (c) of the cod plan (Council Regulation (EC) No 1342/2008), the STECF is requested to assess the effectiveness of the relevant cod avoidance measures undertaken pursuant to Article 13.2 (c). In carrying out its assessment, the STECF is requested to compare the impact in cod mortality which results from the application of this provision (cod avoidance or discard reduction plan) with the reduction it would have expected to occur as a result of the fishing effort adjustment referred to in article 12.4 of the cod plan.

In light of its conclusions of the assessment referred to above, STECF are requested to advise the Commission on any appropriate adjustments in effort to be applied for the relevant areas and gear groupings as laid down in article 13.7 of the cod plan as a result of the application of Article 13.2 (c).

Additionally, based on any relevant information obtained from the EWG 11-06 and in conjunction with the information provided by Member States justifying fishing effort

increases for 2011 pursuant to Article 13.2 of the cod plan Council Regulation (EC) No 1342/2008) under conditions other than paragraph 13.2 (c) (, the STECF is requested to assess the additional effort applied by the Member States concerned in terms of its compatibility with the conditions and objectives of the plan and in terms of its impact on cod mortality. STECF are requested to identify instances where this assessment is not possible and to indicate specific information for each action that should be provided to enable such assessment.

STECF are requested to identify where possible any cumulative or in combination impact as a result of the actions undertaken under Article 13 (2).

STECF comments

Background documents relating to requests for effort adjustments and outturn effort use were provided by the Member States listed above to STECF at its 2012 spring plenary. Additional documents describing in more detail the results obtained during the UK implementation of Article 13 in 2011 were provided for the start of this plenary. Information on effort, landings, discards and partial F by gear and by various Member States were collated and presented at EWG 12-06. Information relating to countries making use of the Article 13 provisions was extracted from the EWG 12-06 Report and are presented by the four cod plan areas in Table 7.5.1.

There are a number of factors which limit the extent to which the TORs can be fully addressed. First of all the EWG effort report was not finalized at the time of the meeting. Secondly there was insufficient time to scrutinize and analyse the new data and in some cases relevant material arrived. In a number of cases (particularly in relation to Article 13.2a b and d but also, sometimes, Article 13.2c, there was a lack of information provided. STECF notes, that results from assessments of the most recent year is often very uncertain and subject to revision in subsequent years, for this reason heavy reliance on estimated Fs as indicative of performance will always be difficult. Furthermore, in some of the areas assessments of F are not available (Kattegat – where a harvest rate proxy is utilised), are considered uncertain by STECF (West of Scotland), or performed on landings only (Irish Sea).

A general observation is that since the early 2000s, in most areas there have been marked reductions in effort and that for a number of gears there appear to be significant correlations between fishing mortality and effort. In many cases, however, the correlation is driven by contrast in the data arising from much higher effort (and F) figures in earlier years. The observed declines in effort arose to a large extent through various de-commissioning schemes where vessels were removed from fleets. Reductions in fishing effort observed during the course of the current management regime (since 2008) have generally been more modest so far, and demonstration of reductions in F is sometimes quite difficult across a range of gears (including both those subject to the full effort cut (from baseline) and those operating under the provisions of Article 13). This observation is important when evaluating the performance of measures applied under Article 13.

Table 7.5.1 Summaries of effort (kwdays), catches (tonnes-landings and discards) and partial F relating to Article 13 activities as collated by EWG -12-06. For each cod plan area a-d (Kattegat, North Sea, Irish Sea, West of Scotland) table first shows statistics for ALL gears and countries. This is followed by information by country and relevant gears (TR1 and TR2) showing which parts of Article 13 were used (13.2 a –d) together with effort, partial F and catch. Note that effort used (and other statistics) show the split between operation outside of the Article ('effort none') and under Article 13 ('effort 13').

Kattegat - Area a														
					Year	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Total					**effort Kwdays**	6031166	4989673	4427027	4119208	3833547	3675151	3057821	2979542	2491594
(all gears					**F total**	0.976	0.656	0.626	0.528	0.488	0.391	0.325	0.399	0.343
all countries)					**F landings**	0.719	0.329	0.38	0.286	0.276	0.275	0.199	0.232	0.231
					F discards	0.257	0.327	0.246	0.242	0.212	0.116	0.126	0.167	0.112
					Catch	3083.022	2457.39	1475.136	1620.542	1112.937	612.045	292.696	241.873	201.456
					Landings	2267.661	1311.4	945.546	946.952	664.011	441.384	191.676	150.542	141.836
					Discards	815.361	1145.99	529.59	673.59	448.926	170.661	101.02	91.331	59.62
Denmark					**effort 13**								2385563	1998979
13.2c					**effort none**	3455075	3059057	2547492	2254222	2026307	2148493	2214066		
		TR2	CPart13.2.c	COD	**F Landings**	0	0	0	0	0	0	0	0.149	0.148
	F	TR2	CPart13.2.c	COD	**F Discards**	0	0	0	0	0	0	0	0.13	0.066
		TR2	none	COD	**F Landings**	0.285	0.159	0.161	0.125	0.118	0.124	0.107	0	0
		TR2	none	COD	**F Discards**	0.124	0.087	0.098	0.068	0.091	0.083	0.068	0	0
		TR2	CPart13	COD	**landings**								82.177	78.243
	Catch	TR2	CPart13	COD	**discards**								71.206	35.096
		TR2	none	COD	**landings**	899.967	559.071	345.968	346.367	252.285	181.568	85.898		
		TR2	none	COD	**discards**	391.38	305.917	211.268	189.112	193.096	122.006	54.494		
Germany					**effort 13**								20020	4180
13.2b					**effort none**	35966	31861	7505	10318	35338	38716	19918	10710	9490
		TR2	CPart13.2.b	COD	**F Landings**	0	0	0	0	0	0	0	0	0
	F	TR2	CPart13.2.b	COD	**F Discards**	0	0	0	0	0	0	0	0	0
		TR2	none	COD	**F Landings**	0.001	0.001	0	0	0.001	0.001	0	0	0.002
		TR2	none	COD	**F Discards**	0	0.002	0	0	0	0	0	0	0.002
		TR2	CPart13.2.b	COD	**landings**								0.15	0.018
	catch	TR2	CPart13.2.b	COD	**discards**								0	0
		TR2	none	COD	**landings**	1.661	2.652	0.342	0.626	1.582	0.769	0.304	0.144	1.311
		TR2	none	COD	**discards**	1	6	0	0	1	0	0	0	1

Table 7.5.1 (cont)

North Sea - Area b														
						Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total						effort Kwdays	156186752	147705349	141095369	135039296	124767454	108731863	106559973	97217419	87326881
(all gears						F total	0.898	0.856	0.796	0.72	0.666	0.625	0.602	0.581	0.569
all countries)						F landings	0.442	0.521	0.465	0.453	0.313	0.297	0.372	0.372	0.325
						F discards	0.059	0.122	0.139	0.135	0.192	0.281	0.144	0.1	0.048
						Catch	64526.68792	47630.36391	49861.69914	44216.9017	53687.3979	60231.60967	55038.93019	57587.649	58629.0071
						Landings	31938.61592	28988.51191	29120.34214	27681.5907	25248.7759	28704.26767	33975.68619	36912.71	33633.0291
						Discards	4142.072	6798.852	8791.357	8486.311	15486.622	27076.342	13238.244	9945.939	4932.978
Germany						effort 13							927872	918707	846030
13b						effort none	1895838	1719696	2166578	2436727	2041064	1774792	891953	912558	805546
		TR1	CPart13.2.b	COD		F Landings	0	0	0	0	0	0	0.001	0.002	0.002
	F	TR1	CPart13.2.b	COD		F Discards	0	0	0	0	0	0	0	0	0
		TR1	none	COD		F Landings	0.024	0.033	0.037	0.038	0.022	0.016	0.022	0.023	0.017
		TR1	none	COD		F Discards	0.002	0.003	0.004	0.008	0.007	0.011	0.004	0.004	0.002
		TR1	CPart13.2.b	COD		landings							106.011	150.52	153.939
	catch	TR1	CPart13.2.b	COD		discards							40.564	5.159	42.383
		TR1	none	COD		landings	1724.139	1842.403	2281.842	2329.423	1739.845	1552.675	1981.653	2261.111	1775.857
		TR1	none	COD		discards	128.543	194.409	232.955	503.124	543.355	1078.459	338.755	369.065	181.956
						effort 13							2420	39820	31020
						effort none	1040874	905330	704404	771597	680681	457259	471414	424525	410357
		TR2	CPart13.2.b	COD		F Landings	0	0	0	0	0	0	0	0	0
	F	TR2	CPart13.2.b	COD		F Discards	0	0	0	0	0	0	0	0	0
		TR2	none	COD		F Landings	0.003	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0
		TR2	none	COD		F Discards	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0
		TR2	CPart13.2.b	COD		landings							0.445	7.985	2.361
	catch	TR2	CPart13.2.b	COD		discards							1	15.005	8
		TR2	none	COD		landings	188.646	146.59	130.618	68.583	50.436	51.357	71.435	85.749	48.523
		TR2	none	COD		discards	71.876	106.801	70.696	61.123	55	81.281	115	90.031	25
France															
						effort 13	3485216	2348974	1961936	2724981	2642190	2787798	2696190	2004742	1841280
13b															
	F	TR1	CPart13.2.b	COD		F Landings	0.001	0.001	0.006	0.008	0.003	0.014	0.015	0	0.002
		TR1	CPart13.2.b	COD		F Discards	0	0	0	0.002	0.002	0.009	0.004	0	0
	catch	TR1	CPart13.2.b	COD		landings	98.333	63.759	391.663	489.667	209.674	1360.493	1360.058	40.23	156.552
		TR1	CPart13.2.b	COD		discards	6	5	28	102	145	889	343	4.158	17.32
						effort 13	14154807	14841436	13427913	15043571	14787652	12000527	11759062	8070194	7727033
	F	TR2	CPart13.2.b	COD		F Landings	0.017	0.012	0.012	0.013	0.016	0.012	0.012	0.01	0.01
		TR2	CPart13.2.b	COD		F Discards	0.012	0.009	0.013	0.026	0.046	0.016	0.011	0.014	0.006
	catch	TR2	CPart13.2.b	COD		landings	1243.989	668.34	762.019	774.962	1295.215	1121.991	1119.287	950.975	1053.317
		TR2	CPart13.2.b	COD		discards	829	494	795	1572	3702	1532	1005	1369	617
ENG						effort 13							2145727	2110555	2142321
						effort none	2375456	1498089	1256186	1824680	1501767	1851664			
	F	TR1	CPart13	COD		F Landings	0	0	0	0	0	0	0.013	0.014	0.013
13		TR1	CPart13	COD		F Discards	0	0	0	0	0	0	0.001	0.001	0.001
(abc?)		TR1	none	COD		F Landings	0.015	0.019	0.011	0.013	0.01	0.009	0	0	0
		TR1	none	COD		F Discards	0.002	0.002	0.001	0.004	0.002	0.004	0	0	0
		TR1	CPart13	COD		landings							1183.488	1360.084	1299.002
		TR1	CPart13	COD		discards							67.108	139.756	66.481
		TR1	none	COD		landings	1077.66	1035.49	659.217	794.447	825.113	866.317			
		TR1	none	COD		discards	135.187	87.763	74.906	268.95	143.625	400.654			
						effort 13							1910232	1720025	1620355
						effort none	2098696	1976703	2187597	1892451	1769650	1959629			
	F	TR2	CPart13	COD		F Landings	0	0	0	0	0	0	0.002	0.002	0.001
		TR2	CPart13	COD		F Discards	0	0	0	0	0	0	0.003	0.002	0.003
		TR2	none	COD		F Landings	0.003	0.003	0.003	0.003	0.002	0.002	0	0	0
		TR2	none	COD		F Discards	0.001	0.001	0.001	0.004	0.001	0.001	0	0	0
		TR2	CPart13	COD		landings							168.968	165.677	123.623
	catch	TR2	CPart13	COD		discards							295.08	208.698	297.279
		TR2	none	COD		landings	212.591	154.746	175.898	184.935	172.827	169.597			
		TR2	none	COD		discards	59.305	82.508	78.226	263.159	87.917	102.392			
N Ireland						effort 13							56140	29360	33246
13.2c						effort none		16948	70711	51951	61460	49104			
		TR1	CPart13	COD		F Landings	0	0	0	0	0	0	0	0	0
	F	TR1	CPart13	COD		F Discards	0	0	0	0	0	0	0	0	0
		TR1	none	COD		F Landings	0	0	0	0	0	0	0	0	0
		TR1	none	COD		F Discards	0	0	0	0	0	0	0	0	0
		TR1	CPart13	COD		landings							4.13	1.664	0.26
	catch	TR1	CPart13	COD		discards							2	0	0
		TR1	none	COD		landings		1.274	7.018	1.77	7.325	7.764			
		TR1	none	COD		discards		0	0	0	1	8			
						effort 13							385631	398496	273858
						effort none	6784	12440	221904	532885	758972	409182			
		TR2	CPart13	COD		F Landings	0	0	0	0	0	0	0	0	0
	F	TR2	CPart13	COD		F Discards	0	0	0	0	0	0	0.001	0	0
		TR2	none	COD		F Landings	0	0	0	0.001	0	0	0	0	0
		TR2	none	COD		F Discards	0	0	0	0.001	0.001	0	0	0	0
		TR2	CPart13	COD		landings							34.402	19.545	3.002
	catch	TR2	CPart13	COD		discards							89	39	11
		TR2	none	COD		landings	0.682	1.313	25.611	30.69	35.946	20.638			
		TR2	none	COD		discards	0	1	29	62	117	43			
Scotland						effort 13							12245575	10444829	9986666
13.2bc						effort none	16080003	12684328	12158294	11661338	11022980	12176291			
		TR1	CPart13.2.b-c	COD		F Landings	0	0	0	0	0	0	0.095	0.113	0.096
	F	TR1	CPart13.2.b-c	COD		F Discards	0	0	0	0	0	0	0.065	0.03	0.013
		TR1	none	COD		F Landings	0.092	0.101	0.091	0.097	0.073	0.066	0	0	0
		TR1	none	COD		F Discards	0.009	0.012	0.012	0.017	0.055	0.114	0	0	0
		TR1	CPart13.2.c	COD		landings							8676.982	11113.438	9846.4
	catch	TR1	CPart13.2.c	COD		discards							5944.551	2952.053	1335.891
		TR1	none	COD		landings	6557.63	5617.047	5698.841	5926.47	5819.312	6344.176			
		TR1	none	COD		discards	628.332	690.626	754.885	1056.545	4412.392	10905.386			
						effort 13							8344074	8205442	6768863
						effort none	10011344	9486074	9108230	8677821	8887263	9195955			
		TR2	CPart13.2.b-c	COD		F Landings	0	0	0	0	0	0	0.004	0.004	0.002
	F	TR2	CPart13.2.b-c	COD		F Discards	0	0	0	0	0	0	0.01	0.01	0.009
		TR2	none	COD		F Landings	0.013	0.014	0.012	0.011	0.008	0.005	0	0	0
		TR2	none	COD		F Discards	0.009	0.006	0.008	0.011	0.027	0.011	0	0	0
		TR2	CPart13.2.c	COD		landings							333.806	416.107	235.105
	catch	TR2	CPart13.2.c	COD		discards							926.958	980.196	904.812
		TR2	none	COD		landings	943.767	766.229	778.733	650.582	605.605	514.58			
		TR2	none	COD		discards	635.475	335.758	506.323	674.705	2146.802	1040.408			

Table 7.5.1 (cont)

Irish Sea - Area c														
					Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total					effort Kwdays	11200158	8823417	8802044	7543636	7248087	6599406	5511646	5158870	5090122
(all gears					F total	1.286	1.264	1.24	1.264	1.262	1.249	1.23	1.208	1.185
all countries)					F landings	1.286	1.264	1.24	1.264	1.262	1.249	1.23	1.208	1.185
					F discards									
					Catch	1432.2695	1177.554	964.296	947.125	1216.543	1218.892	724.8462	600.549	502.437
					Landings	1432.2695	1177.554	964.296	947.125	1216.543	1218.892	724.8462	600.549	502.437
					Discards	NOT INCLUDED BY EWG 12 06								
France														
13 b														
					effort 13	264447	167253	180515	109174	67487	19701	19701	6668	6138
	F	TR1	CPart13.2.b	COD	F landings	0.13	0.04	0.039	0.023	0.018	0.003	0.005	0	0.008
	land	TR1	none	COD	landings	144.521	36.921	30.097	17.192	17.681	3.069	3.069	0.24	3.516
						588		2352		810				
	F	TR2	CPart13.2.b	COD	F landings	0	0	0.001	0	0	0	0	0	0
	land	TR2	none	COD	landings	0.15		1.051						
Ireland														
13					effort 13									465118
	F	TR2	Cpart13.2.b	COD	F landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.154
	land	TR2	Cpart13.2.b	COD	landings									65.000
					effort 13							30827	115391	373511
	F	TR2	Cpart13.2.c	COD	F landings	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.097
	land	TR2	Cpart13.2.c	COD	landings							0.000	0.300	41.000
					effort 13	1242769	1386883	1475114	1452830	1583605	1300696	806523	673682	
	F	TR2	none	COD	F landings	0.199	0.152	0.160	0.162	0.246	0.114	0.140	0.233	0.000
	land	TR2	none	COD	landings	221.450	141.860	124.390	121.610	237.590	111.120	82.120	115.670	
ENG					effort 13							21860	25111	14364
13abc					effort none	399886	197351	94201	68905	16846	5932			
	F	TR1	CPart13	COD	F landings	0	0	0	0	0	0	0.006	0.018	0.012
		TR1	none	COD	F landings	0.067	0.078	0.031	0.018	0.003	0.001	0	0	0
	land	TR1	CPart13	COD	landings							3.597	9.157	5.031
		TR1	none	COD	landings	74.574	72.783	24.202	13.299	2.944	0.513			
					effort 13							171656	180844	161841
					effort none	211774	347848	287791	247447	244461	219456			
	F	TR2	CPart13	COD	F landings	0	0	0	0	0	0	0.002	0.003	0.003
		TR2	none	COD	F landings	0.01	0.02	0.021	0.004	0.005	0.005	0	0	0
	land	TR2	CPart13	COD	landings							1.206	1.364	1.191
		TR2	none	COD	landings	11.118	18.198	16.567	2.946	4.437	4.862			
NIreland					effort 13							384860	350609	171175
13.2c					effort none	2053909	1161889	872476	785380	340235	510151			
	F	TR1	CPart13	COD	F landings	0	0	0	0	0	0	0.485	0.382	0.213
		TR1	none	COD	F landings	0.182	0.331	0.4	0.508	0.241	0.358	0	0	0
	Land	TR1	CPart13	COD	landings							285.552	189.871	90.327
		TR1	none	COD	landings	202.402	308.518	311.075	380.836	232.514	349.876			
					effort 13							3097345	2777582	2674691
					effort none	3366613	3110597	3185141	2951782	3125387	3345023			
	F	TR2	CPart13	COD	F landings	0	0	0	0	0	0	0.16	0.173	0.135
		TR2	none	COD	F landings	0.162	0.248	0.289	0.24	0.178	0.189	0	0	0
	Land	TR2	CPart13	COD	landings							94.086	86.09	57.162
		TR2	none	COD	landings	180.497	231.073	224.391	179.753	172.343	184.587			
					effort 13							30815	17981	43748
Scot					effort none	44655	93771	34416	7435	16808	21995			
13.2 bc														
	F	TR2	CPart13.2.b-c	COD	F landings	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.002
		TR2	none	COD	F landings	0.003	0.005	0.004	0.001	0.002	0.000	0.000	0.000	0.000
	land	TR2	CPart13	COD	landings							0.51	0.113	0.987
		TR2	none	COD	landings	2.823	4.775	3.186	0.428	1.451	0.375			

Table 7.5.1 (cont)

West Scotland - Area d														
					Year		2003	2004	2005	2006	2007	2008	2009	2010	2011
Total					effort Kwdays		21416808	18983522	16048331	14392388	15121778	14268884	14011369	11111226	9227739
(all gears					F total		1.044	0.982	1.082	0.9	1.063	1.027	0.883	0.793	0.95
all countries)					F landings		1.003	0.901	1.008	0.386	0.354	0.308	0.223	0.149	0.126
					F discards		0.041	0.081	0.074	0.514	0.709	0.719	0.66	0.644	0.824
					Catch		1310.091	634.963	531.268	1062.93	1341.766	1301.783	879.945	1089.585	1387.576
					Landings		1258.317	582.385	494.817	455.089	446.821	389.398	223.809	206.194	184.542
					Discards		51.774	52.578	36.451	607.841	894.945	912.385	656.136	883.391	1203.034
						effort 13								4530	
Germany						effort none	19191	12530	35586	27897	23652	3060	4854	2427	
13b															
		TR1	CPart13.2.b	COD		F Landings	0	0	0	0	0	0	0	0	0
	F	TR1	CPart13.2.b	COD		F Discards	0	0	0	0	0	0	0	0	0
		TR1	none	COD		F Landings	0	0	0	0.002	0.002	0.001	0	0	0
		TR1	none	COD		F Discards	0	0	0	0.002	0.006	0.002	0	0	0
	catch	TR1	CPart13.2.b	COD		landings								0.005	
		TR1	CPart13.2.b	COD		discards								0	
		TR1	none	COD		landings	0.054		0.068	2.135	2.232	0.64	0.06	0.06	
		TR1	none	COD		discards	0		0	2	8	2	0	0	
France															
13.2.b						effort 13	6010785	5807538	6038254	5193815	5058616	4486887	4482329	3469228	2149300
	F	TR1	CPart13.2.b	COD		landings	0.129	0.134	0.205	0.075	0.066	0.064	0.082	0.034	0.026
		TR1	CPart13.2.b	COD		discards	0.002	0.011	0	0.071	0.12	0.228	0	0.097	0.001
	catch	TR1	CPart13.2.b	COD		landings	161.971	86.634	100.572	88.439	83.495	81.688	81.688	47.13	38.5
		TR1	CPart13.2.b	COD		discards	3	7	0	84	152	289	0	132.8	1.16
						effort 13	43098	12350			883	269645	274203		
	F	TR2	CPart13.2.b	COD		landings	0.001	0	0	0	0	0	0	0	0
		TR2	CPart13.2.b	COD		discards	0	0	0	0	0	0	0	0	0
	catch	TR2	CPart13.2.b	COD		landings	0.656	0.054							
		TR2	CPart13.2.b	COD		discards	0	0							
Ireland															
13.2c						effort 13							160305	211175	111504
and d															
	F	TR1	Cpart13.2.c	COD		landings	0	0	0	0	0	0	0.005	0.002	0.003
		TR1	Cpart13.2.c	COD		discards	0	0	0	0	0	0	0	0	0
	catch	TR1	Cpart13.2.c	COD		landings							5.1	3.33	4.42
		TR1	Cpart13.2.c	COD		discards							0.034	0.009	0.068
						effort 13							136556	228772	120795
	F	TR1	Cpart13.2.d	COD		landings	0	0	0	0	0	0	0.01	0.025	0.015
		TR1	Cpart13.2.d	COD		discards	0	0	0	0	0	0	0	0	0
	catch	TR1	Cpart13.2.d	COD		landings							9.9	33.67	21.58
		TR1	Cpart13.2.d	COD		discards							0.066	0.091	0.332
						effort 13	496439	316477	308681	325597	530740	435661			
	F	TR1	none	COD		landings	0.023	0.005	0.02	0.006	0.031	0.03	0	0	0
		TR1	none	COD		discards	0.004	0.001	0.003	0.009	0.002	0.005	0	0	0
	catch	TR1	none	COD		landings	28.96	3.3	9.9	7.49	39.47	37.48	0		
		TR1	none	COD		discards	5.124	0.879	1.345	11	2.062	6.815	0.002		
Scotland						effort 13							2228713	2315824	2079554
13bcd						effort none	5722626	4502155	2635381	2099672	1986484	1990142			
	F	TR1	CPart13.2.b-c	COD		F Landings	0	0	0	0	0	0	0.097	0.08	0.068
		TR1	CPart13.2.b-c	COD		F Discards	0	0	0	0	0	0	0.613	0.337	0.756
		TR1	none	COD		F Landings	0.574	0.522	0.606	0.232	0.179	0.16	0	0	0
		TR1	none	COD		F Discards	0.004	0.01	0.005	0.222	0.448	0.45	0	0	0
		TR1	CPart13.2.c	COD		landings							96.56	109.626	99.675
	catch	TR1	CPart13.2.c	COD		discards							609.249	463.235	1102.632
		TR1	none	COD		landings	719.717	337.234	297.568	273.6	225.679	203.151			
		TR1	none	COD		discards	5.277	6.508	2.678	262.525	565.672	570.924			
						effort 13							4524898	2731450	2637238
						effort none	5760859	5335231	4586126	4380883	4692157	4804497			
	F	TR2	CPart13.2.b-c	COD		F Landings	0	0	0	0	0	0	0.007	0.003	0.005
		TR2	CPart13.2.b-c	COD		F Discards	0	0	0	0	0	0	0.047	0	0.059
		TR2	none	COD		F Landings	0.116	0.081	0.051	0.016	0.024	0.02	0	0	0
		TR2	none	COD		F Discards	0.013	0.049	0.056	0.05	0.099	0.005	0	0	0
		TR2	CPart13.2.c	COD		landings							7.412	4.629	7.366
	catch	TR2	CPart13.2.c	COD		discards							46.766	0	86.456
		TR2	none	COD		landings	146.129	52.371	25.157	19.25	29.994	25.298			
		TR2	none	COD		discards	16.017	31.866	27.278	59.316	124.889	6.96			

Notwithstanding the issues outlined above, STECF has attempted to summarise the various pieces of information and (as appropriate for each country) provides a provisional assessment of the effectiveness of the cod avoidance measures (13.2 c) and the compatibility and impact of other elements of Article 13 on the cod plan and cod mortality. A summary of this assessment is provided in Table 7.5.2.

Table 7.5.2. Summary of Article 13 activities and available information from United Kingdom (England and Wales, Northern Ireland, Scotland), France, Ireland, Germany and Denmark. For each country, gear and part of Article 13 used, information provided (where available) on effort, measures used, catches, partial F and summary comment.

		United Kingdom						France		Ireland		Germany		Denmark
		Eng		NI		Scot								
		TR1	TR2	TR1	TR2	TR1	TR2	TR1	TR2	TR1	TR2	TR1	TR2	TR2
Kattegat														
Article	**Information**													
13.2 c	effort													All effort in 13.2c
	measures													Closed area
	catches													Declining
	partial F													v small decline
	Comment													Extra effort maybe too high
13.2 b	effort												negligible	
	measures													
	catches												negligible	
	partial F												negligible	
	Comment												Not inconsistent with cod plan	
North Sea														
Article	**Information**													
13.2 c	effort	All effort in 13.2*	All effort in 13.2*	neglible	negligible	All 13.2-falling	All 13.2 falling							
	measures	Mainly RTCs	Mainly RTCs			RTCS & gear	RTCs &gear							
	catches	fluctuating	higher in last 3 yrs	negligible	negligible	declining	small decline							
	partial F	fairly stable	low and stable			large decline	small decline							
	Comment	CPUE stable/ falling	CPUE rising			Avoidance occurring	Extra effort too high							
13.2 a	effort	see above												
	measures	gear												
	catches													
	partial F													
	Comment													
13.2 b	effort	see * above	see * above			see above	see above	All effort in 13.2b	Alleffort in 13.2b			negligible	negligible	
	measures													
	catches	quite significant	significant			negligible	significant	significant	significant			negligible	negligible	
	partial F							small decline	small decline			negligible	negligible	
	Comment	Extra effort too high	Extra effort too high			Option withdrawn 2012	Option withdrawn 2012	V sparse information	V sparse information			Not inconsistent with cod plan	Not inconsistent with cod plan	

* UK effort information for Article 13 a-d combined.

Table 7.5.2. (cont)

		United Kingdom						France		Ireland		Germany		Denmark
		Eng		NI		Scot								
		TR1	TR2	TR1	TR2	TR1	TR2	TR1	TR2	TR1	TR2	TR1	TR2	TR2
Irish Sea														
Article	**Information**													
13.2 c	effort	All effort in 13.2*	All effort in 13.2*	All 13.2 -declining	All 13.2 -declining						Art 13.2c increasing			
	measures	not clear	not clear	unknown	unknown									
	catches	small	small	declining	snall decline						significant			
	partial F	v small , variable	v small , variable	large drop	small drop						unclear			
	Comment	Discards not included	Discards not included	unclear if effort or Art 13 responsible	unclear if effort or Art 13 responsible	All neglible, no analysis	All neglible, no analysis				Effort allocation may be too high.			
13.2 a	effort	see * above												
	measures													
	catches													
	partial F													
	Comment													
13.2 b	effort							negligible			remainder of TR2			
	measures													
	catches							neglibile			v significant			
	partial F										unclear			
	Comment							Compatible with cod plan			Not compatible with plan			
West Scotland														
Article	**Information**													
13.2 c	effort					All effort in 13.2*	All effort in 13.2*			Half of effort				
	measures					limited RTCs	limited RTCs			Closed area				
	catches					Highly significant	small			negligible				
	partial F					high v significant	small , variable			small & decline				
	Comment					No avoidance, Effort allocation too high	hard to evaluate effects			Avoidance occurring				
13.2 b	effort					see * above	see * above	Significant	neglible			neglible		
	measures													
	catches					significant	high prop of TR2	Significant				neglible		
	partial F													
	Comment					Option withdrawn 2012	Option withdrawn 2012	effort may be too high. Improve data				Not inconsistent with cod plan		
13.2 d	effort					see * above				Rest of TR1 eff				
	measures													
	catches					significant				fairly small				
	partial F									small				
	Comment					Not compatible with cod plan				Generally compatible with plan				

* UK effort information for Article 13 a-d combined.

United Kingdom

In May 2011 the United Kingdom notified the Commission of the allocation of additional effort in accordance with article 13.2, primarily under point (c) but additionally in respect of points (a), (b) and (d); highly selective gear, the intended application of cod avoidance fishing trips and fishing to the west of the cod recovery zone. The request for additional effort was made by England and Wales, Scotland, and Northern Ireland for application in North Sea, West of Scotland and Irish Sea. Submissions of background data and EWG 12-06 effort data compilation was also presented by national administration and this approach has been used here.

England and Wales

A substantial report of the activities and outcomes carried out in 2011 under Article 13 by vessels from England and Wales was submitted to the Commission and made available at the STECF-PLEN-12-02 meetings web site (background documents: http://stecf.jrc.ec.europa.eu/web/stecf/plen02) This document reported on the following items:

i. Spatial measures (RTCs and spawning closures; under 13(2)(c)): Two methods of analysis were presented one based on an evaluation of activity prior to, during and post closure (after re-opening), and the second based on an evaluation of the vessels affected by the closures. The majority of vessels respected the closures and for those vessels whose activities were affected by the closures, cod catches during the closure period were reduced compared to catches obtained prior to the closure and resulted in lower CPUE.

ii. Technical measures (square mesh panel – SMP; under 13(2)(c)): One vessel opted for the derogation using 160 mm SMP . Cefas' discard observers accompanied three (3) trips where the derogation was in place and cod discards were less than 1% per trip. In the absence of comparative trials, a comparison of catch rates with, and without, the derogation was not possible.

iii. Information on derogations (less than 5% cod; under 13(2)(b)): 13 vessels using TR1 and 21 vessels using TR2 were allocated additional days-at-sea under this derogation. LPUE values are presented. Overall cod landings by vessels operating under this derogation were 181.9 tonnes (137.8 tonnes TR1; 44.1 tonnes TR2) with estimated catches of 297.2 tonnes (145.0 TR1; 152.2 TR2) based on gear-specific discard rates.

iv. Information on derogations (FDF; under 13(2)(c)): 8 vessels which primarily operated with TR1 gear were granted additional days under this derogation. CPUE values are presented. Overall cod landings by vessels operating under this derogation were 692 tonnes (TR1) with estimates catches of 693.4 tonnes; i.e. 0.2% discards.

In addition to information specific to the measures above, overall fishery metrics; CPUEs and absolute catches by gear types and vessels operating under various derogations were also provided, together with details of the raising procedure and estimates of partial F by gear type. A discussion of the issues relating to the estimation of partial F by fleet and gear type is also presented.

UK England and Wales did not respond to the special data call requesting detail on effort and catches under the various elements of Article 13 so that the information reported in Table 7.5.1 only provides overall Article 13 figures. In fact, most of the information in Table 7.5.1 relates to Article 13c and an idea of the scale of Article 13b activity is given in the submitted report (summarised above, point iii).

A preliminary evaluation of the out-turn impact of the cod avoidance measures in terms of partial fishing mortality was attempted using material in Table 7.5.1 for the two areas in which Article 13 has been used by England and Wales. Where relevant, information is included from the detailed report submitted by England and Wales.

Annex IIa Area b North Sea

England and Wales have requested additional effort for two gears TR1 and TR2 operating in the North Sea in the period 2009 to 2011. For both gears there has been a full shift from the 'no special condition' situation to Article 13 operation – this is because all vessels are obliged to observe the Real Time Closure (RTC) measure in the North Sea. The annual amount of TR1 effort used in this period (just over 2 million KWdays) is substantially higher than in the previous five years and amounts to about 2.5% of the total international effort in the North Sea. Catches have broadly fluctuated in line with population changes and quota opportunities throughout the time period and the observed discard rate is quite low (<5% in 2011). TR1 CPUE results presented in the CEFAS report suggest stable catch rate against a background of increasing stock biomass (as assessed by ICES) which may signify that some avoidance of cod is occurring. On the other hand, estimates of partial F in Table 7.5.1 appear to have remained quite constant for the TR1 gear and it is difficult to identify a positive effect from this metric. Around 11% of the catch of TR1 Article 13 was attributable to Article 13.2b and a more useful analysis of the 13.2c performance could be carried out of these were presented separately. In view of the continuing high use of effort and absence of an obvious response in partial F, STECF considers that the previous effort allocation under Article 13.2 has been too high.

For the TR2 gear, the effort use has declined in recent years and in 2011 amounted to <2% of the international total. Here the catches are generally higher in the period of the current cod plan and the discard rate is much higher (around 70% in 2011). TR2 CPUE (as presented in the CEFAS report) appears to have increased relatively more quickly than the cod stock biomass, which runs counter to the idea of cod avoidance. Partial mortality rate is very low and has stayed fairly constant, again making the evaluation of either positive or negative benefits very difficult. Around 36% of the catch of TR2 Article 13 was attributable to Article 13.2b and a more useful analysis of the 13.2c performance could be carried out of these were presented separately.

Annex IIa Area c Irish Sea

In the Irish Sea, TR1 and TR2 activity by vessels from England and Wales was again fully shifted from the 'no special condition' situation to Article 13. The quantities of effort used represent very small fractions of the International effort (<1% and 3% for TR1 and TR2 respectively in 2011). Landings of cod made by the 2 gears operating under Article 13 are small and the partial F estimates very small compared to the overall F. The time series of partial F estimates appears to be very variable and it is difficult to draw conclusions about the

effects of Article 13, particularly since no account is taken of discards in the assessment or data summary of Table 7.5.1.

Scotland

A substantial report of the activities and outcomes carried out in 2011 under Article 13 by vessels from Scotland was submitted to the Commission and made available at the STECF-PLEN-12-02 meetings web site (background documents: http://stecf.jrc.ec.europa.eu/web/stecf/plen02). This submission consisted of a written document and two spreadsheets, one containing observer data from vessels using selective gears and one containing information on <5% vessels. The following items were reported on:

i. Spatial measures (RTCs and spawning closures; under 13(2)(c). 185 closures were put in place during 2011 and there was a high degree of compliance (as shown by VMS data). Analysis was based on an evaluation of activity and catches prior to, during and post closure (after re-opening), of the vessels affected by the closures. Information on vessel movement showed that there was significant movement away from closures to areas of lower cod abundance but a return towards closure areas when they re-opened again. Analysis of vessels affected by closures suggested that after moving, their catch was reduced compared to that in the area of the closure. The net reduction was about half of that predicted for the number of closures put in place. Results for closures in place in 2010 (reported at the STECF summer plenary in 2011 –STECF 11_02) also showed that about half the expected reduction was achieved.

ii. Technical measures under 13.2c: Additional effort was granted to a number of vessels operating any one of a range of selective gears. Trials of the efficacy of these gears was reported to STECF in earlier years and gear trial reports are available from the 2011 STECF summer plenary report. Observer data collected on these vessels during operation in 2011 is reported. The overall number of vessels involved is small compared to the total fleet size so that contributions to overall reductions in F are inevitably small. On the other hand, the relative amount of extra effort allocated was also small. Gears were as follows: 130mm mesh (8 vessels), Orkney trawl (15), 200mm SMP (2), 600mm belly panel (1). Calculation of overall catch rate of all observed TR1 vessels (including those not employing selective gear) shows an overall decline in CPUE against a background of increasing cod stock biomass. Observed discard rates were lowest in the selective gears (<10% in some cases).

iii. Information on derogations (less than 5% cod; under 13(2)(b)): Observer data was collected on vessels operating under Article 13.2b. In some cases (mainly TR1 vessels) there were instances of high cod catch (>5%) but in most TR2 vessels the condition was found to be observed.

iv. Information on derogations (FDF; under 13(2)(c)): Observer data were presented for some of the 22 vessels operating CCTV (FDF vessels). These vessels, the main cod catching vessels in the fleet, had high cod catch rates (although stable in recent years) and no discards.

In addition to information specific to the measures above, overall fishery metrics were presented including information on overall discard rates which have declined dramatically in TR1 vessels. Furthermore, estimates of catch uptake against a Scottish PO allocation (quota) of landings plus discards, showed that the outturn Scottish catch in 2011 was in line with the

predicted (Scottish) catch based on the cod plan forecast catch from ICES the year before (assuming the Scottish catch – including discards - to have the same share of the international catch as the landings based TAC).

UK Scotland did not respond to the special data call requesting detail on effort and catches under the various elements of Article 13 so that the information reported in Table 7.5.1 only provides overall Article 13 figures. Article 13 landings information for 2011 broken down into the constituent parts (13.2 a-d) was sent during the course of the STECF plenary. In some cases the information in Table 7.5.1 relates mostly to Article 13c although on the west coast of Scotland, cod catches associated with 13.2b are higher and an idea of the contribution of other elements of Article 13 is provided where possible.

A preliminary evaluation of the out-turn impact of the cod avoidance measures in terms of partial fishing mortality was attempted using material in Table 7.5.1 for the two areas in which Article 13 has been used by Scotland. Where relevant, information is included from the detailed report submitted by MSS Scotland (background documents: http://stecf.jrc.ec.europa.eu/web/stecf/plen02).

Annex IIa Area b North Sea
Scotland requested additional effort for two gears TR1 and TR2 operating in the North Sea in the period 2009 to 2011. For both gears there has been a full shift from the 'no special condition' situation to Article 13 operation – this is because all vessels are obliged to observe the Real Time Closure (RTC) measure in the North Sea. The annual amount of TR1 effort used in this period under Article 13.2c has declined by about 18% and in 2011 this amounted to about 11% of the international total effort. Table 7.5.1 shows that catches have declined markedly since 2008 although landings have fluctuated according to availability of quota. The major change has been a marked reduction in discarded cod (as reported in the MSS document). In terms of partial F, a decline of nearly 40% is observed between 2008 and 2011, which is much higher than the decline in effort use. Taken together with the observations in the MSS report, this suggests that significant cod avoidance has been taking place by the TR1 vessels.

In the TR2 vessels, the annual amount of effort used has declined by about 26% and in 2011 represented about 8% of the international total effort. In the case of this gear operating under Article 13.2c, landings have generally declined but discard rates have stayed rather high. Partial F by this fleet has declined by 31% compared to 2008. Taken at face value this suggests that some cod avoidance has occurred but not to the same extent as in the TR1 fleet and STECF considers that this may indicate an allocation of an inappropriate amount of extra effort.

Landings data supplied to STECF suggested that in the North Sea, <1% of TR1 landings were from the 13.2b vessels and about 10% of TR2 landings were from 13.2b vessels. In view of the failure of some boats to meet the <5% condition and the observation that TR2 catches from 13.2b vessels could contribute so much, this option for additional effort has already been removed from the 2012 Scottish cod conservation plan.

Annex IIa Area c Irish Sea
Although available data show that some activity by Scottish vessels took place in the Irish Sea, the quantities of effort, the catches and the partial Fs are so small as to make the analysis of no practical value.

Annex IIa Area d West of Scotland
Scotland requested additional effort for two gears TR1 and TR2 operating to the West of Scotland in the period 2009 to 2011. For both gears there has been a full shift from the 'no special condition' situation to Article 13 operation – this is because all vessels are obliged to observe the Real Time Closure (RTC) measures. The annual amount of TR1 effort used in this period under Article 13.2c has stayed relatively constant and in 2011 amounted to about 22% of the international total effort. Catches of cod made by this fleet have remained relatively high and are characterised by high discard amounts. With the exception of 2010 (when a decline was observed) partial F by this fleet has increased on the west coast and there appears to be no evidence of cod avoidance taking place. This is consistent with the MSS report which indicates that few RTCs were established there and vessels have not adopted selective gears – unlike in the North Sea. STECF considers that the amount of extra effort allocated is too high and has not been justified by reductions in partial F. Given the uncertanties in the assessment, however, STECF is not able to advise precisely on the adjustment required.

TR2 effort used under Article 13.2c has declined but still represents around 28% of the international total. Unlike the TR1 vessels, those operating TR2 gear under Article 13.2c have low cod catches (<7% of the total) and relatively small partial F values. The estimates of partial F are highly variable for this gear and it is not possible to detect any obvious trends up or down which could give indications on the success otherwise of cod avoidance.

Landings data supplied to STECF suggested that in the West of Scotland, 12% of TR1 landings were from the 13.2b vessels and over 90% of TR2 landings were from 13.2b vessels. In view of the failure of some boats to meet the <5% condition and the observation that TR2 catches from 13..2b vessels could contribute so much, this option for additional effort has already been removed from the 2012 Scottish cod conservation plan.

The additional data made available to STECF also showed that about 28% of landings in 2011 by TR1 vessels were taken outside the cod zone under Article 13.2d. STECF has repeatedly pointed out the incompatibility of a management provision which does not encompass the entire distribution of the stock.

Northern Ireland
Additional material was not supplied by Northerm Ireland and the evaluation is based only on the data contained in Table 7.5.1.

Annex IIa Area b North Sea
Although available data in Table 7.5.1 shows that some activity by Northern Irish vessels took place in the North Sea, the quantities of effort (<0.5% of international effort), the catches and the partial Fs are so small as to make the analysis of no practical value.

Annex IIa Area c Irish Sea
Northern Ireland requested additional effort for two gears TR1 and TR2 operating in the Irish Sea in the period 2009 to 2011. For both gears there has been a full shift from the 'no special condition' situation to Article 13 operation. The annual amount of TR1 effort used in this period under Article 13.2c has dropped sharply (by 66%) since 2008. This is associated with

reducing landings and a decline in partial F in the landings (by 40%). Whether this picture would emerge if the assessments were conducted using catches (and if the information available in Table 7.5.1 had shown catches instead of only landings), is difficult to say. Without additional information on the extent to which there were substantive measures introduced to assist in the avoidance of cod, it is difficult to comment on what contribution avoidance may have made, at face value, the effort reduction in TR1 appears to have been important in this area. It is not known why the used effort reduced so much, given that requests were made for additional effort under Article 13.

TR2 effort reduction is less marked (a reduction of 20%) but here the partial F has declined by 28%. Uncertainties in catches and the estimation of partial F make it difficult to conclude on the reliability of these observations. At face value the result suggests that other factors such as cod avoidance may have contributed to the decline. Without further information on the extent that measures to avoid cod were actually implemented, it is not possible to say what the relative contribution of effort reduction or avoidance measures was.

France

In April 2011 France notified the Commission of fishing effort increases in 2011 in accordance with article 13.2 (cod avoidance measures) point (b) on less than 5% cod catch composition, for application in North Sea and West of Scotland. Results presented in EWG 12-06 indicate that effort under Article 13.2 b was also expended in the Irish Sea although no mention of this was made in the submission by France.

In its request, France provided an extensive list of vessels to be included under the 13.2b provision indicating that they would be subjected to a specific monitoring of their fishing effort and of the catches they land. The consumption of fishing effort was monitored by means of an application using logbooks' and VMS data of vessels fishing in the cod protection areas. Presence time in those areas was monitored in accordance with Article 26 and following of Regulation (EC) 1224/2009 establishing a Community control system. The French authorities also stated that they monitored the catches of those vessels on a monthly basis.

A report was provided at the STECF spring plenary 2012 summarising the effort used in 2011 and listing amendments to the vessel list arising because some vessels failed to meet the criteria for receiving extra effort. There were, however, no data supplied on the sampling of vessel catches at sea (landings and discards) and it is not possible to judge the extent to which the 5% of catch criteria was met.

Annex IIa Area b North Sea

Based on information in Table 7.5.1 , effort used by TR1 vessels from France under 13.2b amounted to just over 2% of the total used in the North Sea by all gears. Catches were apparently very variable in the last three years amounting to around 0.3% of the international catch in 2011. TR2 effort allocated to the 13.2 b group of French vessels was over 8% of the total international effort this time accounting for around 3% of international catches in 2011. Taken together, these two gears operating under the low cod catch provision of article 13.2b are responsible for around 90% of the entire French catch of cod from Area b. At face value, results suggest that combined partial mortality from these two groups has declined over the last 3 years. However, the catch information is unsupported by any indication of sampling

coverage or of confidence in the estimates of catch. The absence of detail on observed catches from the substantial number of vessels involved and the uncertainty associated with catch estimation gives cause for concern. This suggests that monitoring should be strengthened and made more transparent.

Annex IIa Area c Irish Sea

Effort by French TR1 vessels operating under the provision of Article 13.2b was recorded in the Irish Sea, despite the fact that this area was not notified by the French authorities. However, the quantity of effort involved (just over 0.1% of total Irish Sea effort by all gears) and the very small catch involved (8kg), suggests this is not something to cause concern. Most French TR1 effort and landings from the Irish Sea come from vessels operating outside Article 13.2b.

Annex IIa Area d West of Scotland

Additional effort was recorded by France for two gears, TR1 and TR2 operating to the west of Scotland under Article 13.2b. Only the TR1 activity is considered significant and in the last two years there has been no 13.2.b TR2 effort reported. In this area the French TR1 13.2 b effort accounts for quite a high proportion of the international activity (32% in 2009, 23% in 2011). Discard estimates are rather erratic and in 2009 it is not possible to say whether they were sampled or not. The catch made by these vessels is variable and amounts to between 3 and 16% of the total international catch. In common with the comments made for the North Sea above there is a need for monitoring to be strengthened and made more transparent.

Ireland

In May 2011 Ireland notified the Commission of the additional fishing effort allocated as a result of either spatial or technical measures in 2011, under Article 13.2 (c) for application in Irish Sea and West of Scotland and Article 13.2(d) for application in the West of Scotland.

Various submissions were made during 2011 providing updates on the use of effort through the year and amendments. These were made available to the STECF spring plenary 2012. One of these, provided in December 2011, gave details of measures to be included under the Article 13.2.c provision including predictions of the effective of closed area measures and an update on selectivity trials. Some of these have already been reviewed by STECF at its Summer plenary in 2011. Information on the actual effectiveness of any of these measures was not provided subsequent to the completion of 2011. Ireland responded, however, to the recent special data call for information on effort and cod catches made under the provisions of Article 13 and this was incorporated in the work of EWG 12-06

Annex IIa Area c Irish Sea

Ireland requested and used a small amount of additional TR2 effort for use in the Irish Sea in 2009 under Article 13.2c (Table 7.5.1). This amount was progressively increased and in 2011 13.2c effort accounted for 44% of the Irish TR2 effort in the Irish Sea and 7% of the total international effort for all gears. In 2011, Ireland used the remaining 54% of its TR2 effort in the Irish Sea under Article 13.2b. The total TR2 effort used has been stable in the period 2009 to 2011, following an initial drop between 2008 and 2009.

Discard information is not included in EWG 12-06report for the Irish Sea or used in the estimation of F by the ICES WG and so it is difficult to fully evaluate the performance under

the Article 13 provision. Discard information for the Irish vessels was, however, submitted to the Commission and was available to STECF, results suggested the quantities were relatively small (discard rate of zero in 2011) although no detail was provided on sampling coverage. Landings information and the associated partial F, suggests that Article 13.2c vessels accounted for about 39% of the Irish TR2 total. This is slightly smaller than the associated effort share and may point to a positive shift towards improved avoidance but this remains very uncertain. The landings amount to about 8% of the international landings. Evaluation of this case is also confounded by the relatively short time series during which effort transfer to Article 13.2.c has been increasing. In view of the uncertainty on the effectiveness of cod avoidance, STECF considers that the amounts of effort allocated to these vessels may have been too high. Owing to uncertainty in the assessment, however, STECF is not able to say precisely what the adjustment should be.

Effort used in 2011 reported by Ireland under the 13.2b low cod catch category amounted to 66% of the Irish TR2 total in the Irish Sea. This group of vessels accounted for 61% of the TR2 landings by Ireland, around 24% of the total Irish cod landings and accounted for almost 13% of the total international landings. Discard information available to STECF the plenary suggested a rate of 7% in 2011. Given the relative quantities of catch involved it is questionable whether this constitutes a suitably low cod catch group, and there is a risk that this situation is not compatible with the cod plan objectives. The absence of detail on observed catches from the vessels involved (i.e. whether they achieve the <5% criteria required) and the uncertainty associated with mortality estimation gives cause for concern. This suggests that monitoring should be strengthened and made more transparent.

Annex IIa Area d West of Scotland
In cod plan Area d, (ICES Area VIa) Irish TR1 effort has been split after 2008 between two of the Article 13 options (c and d) in roughly equal proportion (13.2c was higher in 2009, 13.2d in 2011). In both cases, the effort used increased between 2009 and 2010 but then decreased in 2011.

In respect of cod avoidance measures (13.2c) Ireland requested additional TR1 effort in ICES Area VIa, notably for the Cape cod closure. STECF suggested in 2011 that in principle this should reduce catches by 24% and partial F by 25%. Results in Table 7.5.1 show that TR1 catches by Ireland have stayed relatively constant (albeit at a low level of total international catches) and that there has been an overall drop in partial F by 40%. Early indications are of a partial mortality decline in the right direction but care is required here since STECF views the ICES assessment as uncertain at the present time and because the partial Fs are very small. Furthermore, effort utilised under the provision has also declined since 2008 (by 30%).

In respect of Article 13.2d, additional effort was requested for Irish vessels fishing to the west of cod recovery zone. The effort used amounts to between 1 and 2% of the total international effort and the associated catches are no more than 3% of the International catch (as shown in Table 7.5.1), although in terms of the overall Irish cod catch, this represents by far the greatest proportion. In terms of partial mortality rate, the values are relatively small and even when combined with those observed for Article 13.2.c, the level is reduced compared to the pre- cod plan period. Given that the effort used under this provision has also declined (by 11% since 2009), this use of Article 13.2d appears to be generally compatible with the cod plan objectives.

Denmark

Annex IIa Area a Kattegat

In May 2011 Denmark notified the Commission of the allocation of additional effort in accordance with article 13.2 (c) for application in Kattegat. The justification for the increased effort was the development of a closed area management system designed to reduce fishing mortality on cod from the TR2 vessels operating in the area. Denmark submitted to the Commission, a detailed evaluation of the scheme based on calculations of fishing impact from the temporal and spatial distribution of the cod stock and the fishery assuming that impact is proportional to the sum of product of local cod density, local fishing effort and size selection for the applied gears. This evaluation was available to STECF at its spring 2012 plenary.

The calculations suggested reductions in relative fishing impact on cod from the TR2 fleet according to the Table 7.5.3 below.

Year	Age 1	Age 2	Age 3+	Average, Age 2 and 3+
2007	100%	100%	100%	100%
2008	97%	93%	90%	92%
2009	91%	70%	57%	64%
2010	90%	66%	55%	61%
2011	97%	54%	36%	45%

The biggest reductions were predicted for cod of 2 and older and particularly in the first year of the closure (2009).

Denmark responded to the 2012 special data call for detailed information on Article 13 effort and catches and these were incorporated in the work of EWG-12-06 and are shown in Table 7.5.1. These results permit a first opportunity to consider the out-turn changes arising from the avoidance measure. A difficulty in the Kattegat is the lack of a reliable assessment generating fishing mortality rates and so the approach used involves the calculation of harvest rates (catches/biomass estimates). In Table 7.5.1 the partial 'mortality' refers to partial harvest rates. In common with most assessments, the estimates for the most recent year are the most uncertain, which limits the scope for a comprehensive evaluation of the success of the avoidance measures.

Table 7.5.1 shows that Danish effort by TR2 vessels in the Kattegat was fairly stable in the period 2006 to 2009 and that for the most recent two years, effort was transferred to operate under Article 13.2c. In 2010 there was slight increase in deployed effort but in 2011 effort declined to 93% of the 2008 value. This gear represents about 80% of the total international effort used in the Kattegat in 2011.

Information on catches (landings plus discards) suggests a continual decline over time (with a small rise in 2010) while the estimates of partial harvest rates declined markedly between 2003 and 2004 and then fluctuated around an average of about 0.223. Recently the lowest partial harvest rate of the time series was observed in 2009, followed by a temporary increase in 2010 before dropping again in 2011. This preliminary analysis does not seem to reflect the

expectations of the predicted declines in fishing impact in the evaluation described above, but as pointed out, the reliability of the assessment of harvest rate and particularly the most recent year obviates substantive comment at this stage. A longer time series of observations should improve the ability to detect changes. In view of the uncertainty about the effectiveness observed so far of the avoidance measures, STECF considers that the extra effort allocated may have been too high. Uncertainties in the most recent estimates of harvest rate, however, mean STECF is not able to calculate the level of adjustment required.

Germany

In April and in December 2011 Germany notified the Commission of fishing effort increases in 2011 in accordance with article 13.2 (b), for application in Kattegat, North sea and West of Scotland. In its application, Germany indicated that the vessels were subject to special catch monitoring to ensure they met the criterion set out in Article 13(2)(b) and were specially monitored using VMS. Reference was made to a von Thünen Institute observer programme for monitoring this group of vessels and the data used to check the catch data from the log books. However, no information was made available to STECF with which to check whether the criterion of <5% cod in the catch (Article 13.2b) was met.

Germany responded to the 2012 data call for specific information on Article 13 and the material supplied was dealt with at the 2012 effort group EWG-12-06.

Annex IIa Area a Kattegat

Based on information in Table 7.5.1, effort used by TR2 vessels from Germany under 13.2b amounted to less than 1% of the total used in the Kattegat by all gears. Landings were less than 200kg (in 2010 and 2011), there were no recorded discards and the resultant partial harvest ratio (proxy for F) was negligible. The limited activity and catches is compatible with the broad objectives of the cod plan.

Annex IIa Area b North Sea

Additional effort was requested by Germany for two gears, TR1 and TR2 operating in the North Sea under Article 13.2b. The annual quantities of TR1 effort used by the 13.2b vessels between 2009 and 2011 were always less than 1% of the overall total effort. Catches amounted to less than 10% of the German TR1 total and less than 0.5% of the international catch. Partial F was of a similarly negligible amount. The continued maintenance of the limited activity and catches over the 3 years is compatible with the broad objectives of the cod plan.

The annual quantities of TR2 effort used by the 13.2b vessels between 2009 and 2011 were always extremely small relative to the overall total effort. Catches and estimates of partial F were almost imperceptible suggesting that over the 3 years the provision of extra effort has been fully compatible with the broad objectives of the cod plan.

Annex IIa Area d West of Scotland

The use of effort associated with Article 13.2 b on the West coast of Scotland was only evident in 2010 and amounted to 0.04% of the total effort by all gears. No such effort was reported in 2011. Landings in 2010 were 5kg. This is not considered to represent any problem to the objectives of the cod plan.

STECF general conclusions

STECF is not able to make generalisations about the use or effectiveness of Article 13 provisions and the results have been variable between countries, areas and the different elements of Article 13.

STECF concludes that the rather limited requirements for reporting under Articles 13.2 a, b and d and the opportunities for variable interpretation render these elements of Article 13 extremely difficult to understand and operate. Across the various areas, there seem to be more situations in which there appears to be incompatibility with the objectives of the cod plan, under Articles 13.2) a, b and d than for Article 13.2 c.

STECF concludes that in respect of Article 13.2c, some very positive signs are evident in some areas of major reductions in partial F – achieved through a variety of measures. This has led to reduced catches compared to what they would have been mainly through a reduction in discard quantities.

There were also some examples where, by using Article 13.2c, effort was maintained at levels higher than implied by the effort reduction schedule in Article 12 of the cod plan and where there were no tangible signs or reductions in partial F and little evidence of significant efforts to implement cod avoidance measures. Under these circumstances, STECF concludes there has been allocation of inappropriate amounts of effort (instances are highlighted in the relevant country, area sections above). Given the uncertainties in many of the assessments, however, and particularly in the estimates of partial F in the final year, STECF has not been able to calculate what the appropriate 'paybacks' in effort should be.

STECF notes that in many cases the justification for additional effort under Article 13 is rather weak and consideration should be given to strengthening the requirement for documenting the cod catchability that forms the justification for the additional effort. A further amendment to the Commission's proposed amendment to Article 13 which is discussed in the EWG 12-07.

STECF concludes that the extent to which evaluations of partial F reduction arising from avoidance measures are possible is limited and the absence of reliable assessments in some areas and dependence on terminal F estimation (which is necessarily uncertain), confounds the ability to provide evaluation in the short term (3 years or so) implied by management plans.

STECF concludes that in any future plans including provisions for 'results based' measures, that simpler metrics relating directly to catch (landings plus discards) would be preferable to the use of F (fishing mortality).

STECF notes that the calculation and interpretation of partial F values needs to carried out with care, the document provided by UK (CEFAS) in (on STECF-PLEN-12-02 website, background documents: http://stecf.jrc.ec.europa.eu/web/stecf/plen02) includes a very informative discussion of some of the shortfalls and difficulties encountered.

STECF notes that the time involved in preparing this preliminary analysis was significant and that the activity is not compatible with a participatory meeting requiring continual

involvement of members in plenary sessions. For future requests of this nature STECF notes that a dedicated meeting of a limited number of experts (as previously discussed by STECF-PLEN-09-01) or an ad hoc contract to compile and analyse the data ahead of the STECF plenary will be required.

Comments on the information required to conduct an evaluation of cod avoidance measures

The above analyses continue to illustrate the importance of detailed information being provided to allow STECF to evaluate cod avoidance measures in operation or proposed. STECF therefore reiterates its recommendation from 2010 that *'inter alia'* the following information should be considered as reporting requirements from MS to allow for future evaluations:

i. Spatial measures:
    a. Detailed information on spatial measures implemented (i.e. closed areas);
    b. Detailed VMS vessel tracks (particularly in relation to closures);
    c. Analysis of landings (or preferably catches) made by vessels affected by closures.

ii. Technical measures:
    a. Numbers of vessels utilizing different technical solutions;
    b. Detailed information on gear characteristics of these vessels (i.e. trawl design, swept area,
    c. sweeps size, selectivity, etc.);
    d. Estimates of catch and discards from vessels opting for gear measures before and after implementation;
    e. Estimates of catch and discards representative of groups of vessels (using more selective gears
    f. and not using these gears).

iii. Information on derogations:
    a. Numbers of vessels qualifying for derogations;
    b. Catch rates of cod by derogated vessels;
    c. Overall cod catch by derogated vessels.

iv. Overall fishery metrics:
    a. Raised estimates of discards for groups of vessels and the overall fleet – carefully describing the
    b. raising procedure used;

Estimates of partial F (could be by specific vessels, groups of vessels or gear types employing certain measures).

7.6. Request for an STECF advice on the ranking of effort groups under the cod plan fishing effort regime according to their contribution to cod catches in 2011

Background

Article 12 of Council Regulation (EC) No 1342/2008 establishing a long-term plan for cod stocks sets out the rules for adjusting each year the maximum allowable fishing effort.

In accordance with paragraph 4 of the aforementioned article 12, the annual adjustment should apply to the effort groups where the cumulative catch calculated according to paragraph 3(b) of the same article is equal to or exceeds 20%. It is therefore necessary to compile a list of the aggregated effort groups and their corresponding cod catches, including discards. This list should be arranged in ascending order of cod catch in each effort group.

Terms of Reference

The STECF is requested to provide the Commission with the absolute and percentage cumulative catch calculated in accordance with article 12.3 of the cod plan. The effort groups should be ranked according to their contribution to cod catches, including discards, in 2011.

STECF response

The basis for the STECF response is data from log books and associated biological discard sampling received from Member States in response to the 2012 DCF data call to support fishing effort regime evaluations.

Tables 7.6.1 and 7.6.2 present the annual cod catches, cumulative cod catches, relative contribution and cumulative relative contribution by management area and regulated gear groupings 2003-2007 and 2008-2011, ranked in ascending order according to the relative contribution in 2011. Red rows indicate gears in excess of cumulative 20% contribution to cod landings. The same information is given for cod landings in Tables 7.6.3 and 7.6.4.

STECF concludes that in area a (Kattegat) only the dominating TR2 gear exceeded the 20% limit in 2011. In area b, the Skagerrak, North Sea including 2EU and the Eastern Channel, both TR1 and TR2 gear groups exceeded the 20% limit in 2011. In the Irish Sea (area c), where the discard information is poor, the gears in excess of 20% cumulative landings contribution are BT2, TR1 and TR2. The TR1 gear group is identified as the only gear which exceeds the 20% limit in area d, the area to the West of Scotland. STECF emphasizes that the information relating to cod catches to the West of Scotland corresponds to the entire ICES Div. VIa, as STECF was unable to estimate the proportion of catches taken by regulated gears within the cod recovery zone which is delimited by the West of Scotland management line.

Table 7.6.1 Annual cod catches (C, t), cumulative cod catches (C cum, t), relative contribution (Rel) and cumulative relative contribution (Rel cum) by management area and regulated gears 2003-2007, ranked in ascending order according to the relative contribution in 2011. Red rows are in excess of cumulative 20%.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 C	2003 C cum	2003 Rel	2003 Rel cum	2004 C	2004 C cum	2004 Rel	2004 Rel cum	2005 C	2005 C cum	2005 Rel	2005 Rel cum	2006 C	2006 C cum	2006 Rel	2006 Rel cum	2007 C	2007 C cum	2007 Rel	2007 Rel cum
IIa	3a	COD	LL1	20	20	0.00712	0.00712	2	2	0.00087	0.00087	1	1	0.00076	0.00076	3	3	0.00212	0.00212	0	0	0.00000	0.00000
IIa	3a	COD	GT1	21	41	0.00747	0.01459	14	16	0.00611	0.00698	7	8	0.00530	0.00606	3	6	0.00212	0.00424	4	4	0.00394	0.00394
IIa	3a	COD	TR3	79	120	0.02811	0.04270	26	42	0.01134	0.01832	14	22	0.01059	0.01665	36	42	0.02542	0.02966	7	11	0.00689	0.01083
IIa	3a	COD	TR1	257	377	0.09146	0.13416	188	230	0.08202	0.10034	174	196	0.13162	0.14827	59	101	0.04167	0.07133	130	141	0.12795	0.13878
IIa	3a	COD	GN1	87	464	0.03096	0.16512	36	266	0.01571	0.11605	26	222	0.01967	0.16794	25	126	0.01766	0.08899	28	169	0.02756	0.16634
IIa	3a	COD	TR2	2346	2810	0.83488	1.00000	2026	2292	0.88394	0.99999	1100	1322	0.83207	1.00001	1290	1416	0.91102	1.00001	847	1016	0.83366	1.00000
IIa	3b	COD	TR3	51	51	0.00178	0.00178	28	28	0.00095	0.00095	31	31	0.00106	0.00106	30	30	0.00098	0.00098	4	4	0.00011	0.00011
IIa	3b	COD	LL1	211	262	0.00738	0.00916	127	155	0.00433	0.00528	133	164	0.00455	0.00561	228	258	0.00748	0.00846	183	187	0.00522	0.00533
IIa	3b	COD	GT1	499	761	0.01746	0.02662	340	495	0.01158	0.01686	343	507	0.01173	0.01734	344	602	0.01129	0.01975	346	533	0.00987	0.01520
IIa	3b	COD	BT1	677	1438	0.02368	0.05030	1183	1678	0.04029	0.05715	1122	1629	0.03838	0.05572	1336	1938	0.04384	0.06359	688	1221	0.01962	0.03482
IIa	3b	COD	BT2	3395	4833	0.11876	0.16906	3843	5521	0.1309	0.18805	2946	4575	0.10078	0.15650	2691	4629	0.08830	0.15189	2303	3524	0.06567	0.10049
IIa	3b	COD	GN1	3418	8251	0.11957	0.28863	4040	9561	0.13761	0.32566	3751	8326	0.12832	0.28482	3228	7857	0.10592	0.25781	2421	5945	0.06904	0.16953
IIa	3b	COD	TR2	7021	15272	0.24561	0.53424	7327	16888	0.24957	0.57523	6733	15059	0.23033	0.51515	7827	15684	0.25683	0.51464	11280	17225	0.32166	0.49119
IIa	3b	COD	TR1	13314	28586	0.46575	0.99999	12471	29359	0.42478	1.00001	14173	29232	0.48485	1.00000	14792	30476	0.48537	1.00001	17843	35068	0.50881	1.00000
IIa	3c	COD	LL1	1	1	0.00075	0.00075	1	1	0.00085	0.00085	2	2	0.00201	0.00201	3	3	0.00318	0.00318	1	1	0.00081	0.00081
IIa	3c	COD	TR3		1		0.00075		1		0.00085	0	2	0.00000	0.00201		3		0.00318		1		0.00081
IIa	3c	COD	GT1		1		0.00075		1		0.00085		2		0.00201		3		0.00318	1	2	0.00081	0.00162
IIa	3c	COD	GN1	93	94	0.07008	0.07083	117	118	0.09907	0.09992	55	57	0.05517	0.05718	131	134	0.13892	0.14210	329	331	0.26575	0.26737
IIa	3c	COD	BT2	247	341	0.18613	0.25696	125	243	0.10584	0.20576	156	213	0.15647	0.21365	78	212	0.08271	0.22481	128	459	0.10339	0.37076
IIa	3c	COD	TR1	568	909	0.42803	0.68499	456	699	0.38611	0.59187	375	588	0.37613	0.58978	416	628	0.44115	0.66596	339	798	0.27383	0.64459
IIa	3c	COD	TR2	418	1327	0.315	0.99999	482	1181	0.40813	1	409	997	0.41023	1.00001	315	943	0.33404	1.00000	440	1238	0.35541	1.00000
IIa	3d	COD	BT1	2	2	0.00154	0.00154	6	6	0.00949	0.00949	1	1	0.00188	0.00188	0	0	0.00000	0.00000		0		0.00000
IIa	3d	COD	BT2	0	2	0	0.00154		6		0.00949		1		0.00188		0		0.00000		0		0.00000
IIa	3d	COD	LL1	8	10	0.00615	0.00769	5	11	0.00791	0.0174	5	6	0.00942	0.01130	14	14	0.01331	0.01331	8	8	0.00597	0.00597
IIa	3d	COD	TR3	0	10	0	0.00769		11		0.0174	0	6	0.00000	0.01130		14		0.01331	0	8	0.00000	0.00597
IIa	3d	COD	GN1	6	16	0.00462	0.01231	1	12	0.00158	0.01898	6	12	0.01130	0.02260	9	23	0.00856	0.02187	14	22	0.01046	0.01643
IIa	3d	COD	TR2	283	299	0.21769	0.23000	127	139	0.20095	0.21993	79	91	0.14878	0.17138	266	289	0.25285	0.27472	209	231	0.15609	0.17252
IIa	3d	COD	TR1	1001	1300	0.77	1.00000	493	632	0.78006	0.99999	440	531	0.82863	1.00001	763	1052	0.72529	1.00001	1108	1339	0.82748	1.00000

Table 7.6.2 Annual cod catches (C, t), cumulative cod catches (C cum, t), relative contribution (Rel) and cumulative relative contribution (Rel cum) by management area and regulated gears 2008-2011, ranked in ascending order according to the relative contribution in 2011. Red rows are in excess of cumulative 20%.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2008 C	2008 C cum	2008 Rel	2008 Rel cum	2009 C	2009 C cum	2009 Rel	2009 Rel cum	2010 C	2010 C cum	2010 Rel	2010 Rel cum	2011 C	2011 C cum	2011 Rel	2011 Rel cum
IIa	3a	COD	LL1	14	14	0.02469	0.02469		0		0.00000		0		0.00000		0		0.00000
IIa	3a	COD	GT1	3	17	0.00529	0.02998	1	1	0.00418	0.00418	1	1	0.00485	0.00485	0	0	0.00000	0.00000
IIa	3a	COD	TR3	7	24	0.01235	0.04233	0	1	0.00000	0.00418		1		0.00485	0	0	0.00000	0.00000
IIa	3a	COD	TR1	35	59	0.06173	0.10406	29	30	0.12134	0.12552	4	5	0.01942	0.02427	2	2	0.01124	0.01124
IIa	3a	COD	GN1	45	104	0.07937	0.18343	13	43	0.05439	0.17991	10	15	0.04854	0.07281	3	5	0.01685	0.02809
IIa	3a	COD	TR2	463	567	0.81658	1.00001	196	239	0.82008	0.99999	191	206	0.92718	0.99999	173	178	0.97191	1.00000
IIa	3b	COD	TR3	57	57	0.00126	0.00126	2	2	0.00005	0.00005	18	18	0.00046	0.00046	4	4	0.00013	0.00013
IIa	3b	COD	LL1	207	264	0.00458	0.00584	127	129	0.00314	0.00319	287	305	0.00726	0.00772	181	185	0.00588	0.00601
IIa	3b	COD	GT1	373	637	0.00825	0.01409	470	599	0.01163	0.01482	410	715	0.01038	0.01810	345	530	0.01122	0.01723
IIa	3b	COD	BT1	549	1186	0.01214	0.02623	230	829	0.00569	0.02051	323	1038	0.00817	0.02627	411	941	0.01336	0.03059
IIa	3b	COD	BT2	3560	4746	0.07871	0.10494	2754	3583	0.06815	0.08866	2127	3165	0.05383	0.08010	1630	2571	0.05299	0.08358
IIa	3b	COD	GN1	2519	7265	0.05569	0.16063	2872	6455	0.07107	0.15973	3443	6608	0.08713	0.16723	2799	5370	0.09100	0.17458
IIa	3b	COD	TR2	7503	14768	0.16589	0.32652	8155	14610	0.20181	0.36154	7621	14229	0.19286	0.36009	5619	10989	0.18268	0.35726
IIa	3b	COD	TR1	30462	45230	0.67349	1.00001	25799	40409	0.63845	0.99999	25287	39516	0.63992	1.00001	19770	30759	0.64274	1.00000
IIa	3c	COD	LL1	12	12	0.00788	0.00788		0		0.00000		0		0.00000	0	0	0.00000	0.00000
IIa	3c	COD	TR3		12		0.00788		0		0.00000		0		0.00000	0	0	0.00000	0.00000
IIa	3c	COD	GT1	1	13	0.00066	0.00854	1	1	0.00152	0.00152	2	2	0.00239	0.00239	1	1	0.00194	0.00194
IIa	3c	COD	GN1	392	405	0.25739	0.26593	78	79	0.11890	0.12042	78	80	0.09319	0.09558	70	71	0.13566	0.13760
IIa	3c	COD	BT2	32	437	0.02101	0.28694	24	103	0.03659	0.15701	55	135	0.06571	0.16129	108	179	0.20930	0.34690
IIa	3c	COD	TR1	468	905	0.30729	0.59423	363	466	0.55335	0.71036	242	377	0.28913	0.45042	162	341	0.31395	0.66085
IIa	3c	COD	TR2	618	1523	0.40578	1.00001	190	656	0.28963	0.99999	460	837	0.54958	1.00000	175	516	0.33915	1.00000
IIa	3d	COD	BT1		0		0.00000		0		0.00000		0		0.00000		0		0.00000
IIa	3d	COD	BT2		0		0.00000		0		0.00000		0		0.00000		0		0.00000
IIa	3d	COD	LL1	0	0	0.00000	0.00000	0	0	0.00000	0.00000	0	0	0.00000	0.00000		0		0.00000
IIa	3d	COD	TR3	0	0	0.00000	0.00000		0		0.00000		0		0.00000	0	0	0.00000	0.00000
IIa	3d	COD	GN1	10	10	0.00769	0.00769	6	6	0.00678	0.00678	3	3	0.00277	0.00277	3	3	0.00218	0.00218
IIa	3d	COD	TR2	69	79	0.05304	0.06073	58	64	0.06554	0.07232	6	9	0.00554	0.00831	96	99	0.06982	0.07200
IIa	3d	COD	TR1	1222	1301	0.93928	1.00001	821	885	0.92768	1.00000	1075	1084	0.99170	1.00001	1276	1375	0.92800	1.00000

Table 7.6.3 Annual cod landings (L, t), cumulative cod landings (L cum, t), relative contribution (Rel) and cumulative relative contribution (Rel cum) by management area and regulated gears 2003-2007, ranked in ascending order according to the relative contribution in 2011. Red rows are in excess of cumulative 20%.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 L	2003 L cum	2003 Rel	2003 Rel cum	2004 L	2004 L cum	2004 Rel	2004 Rel cum	2005 L	2005 L cum	2005 Rel	2005 Rel cum	2006 L	2006 L cum	2006 Rel	2006 Rel cum	2007 L	2007 L cum	2007 Rel	2007 Rel cum
IIa	3a	COD	LL1	20	20	0.01003	0.01003	2	2	0.00175	0.00175	1	1	0.00126	0.00126	3	3	0.00403	0.00403	0	0	0.00000	0.00000
IIa	3a	COD	GT1	21	41	0.01053	0.02056	14	16	0.01222	0.01397	7	8	0.00881	0.01007	3	6	0.00403	0.00806	4	4	0.00697	0.00697
IIa	3a	COD	TR3	79	120	0.03960	0.06016	26	42	0.02269	0.03666	14	22	0.01761	0.02768	36	42	0.04832	0.05638	7	11	0.01220	0.01917
IIa	3a	COD	TR1	201	321	0.10075	0.16091	108	150	0.09424	0.13090	117	139	0.14717	0.17485	49	91	0.06577	0.12215	83	94	0.14460	0.16377
IIa	3a	COD	GN1	87	408	0.04361	0.20452	36	186	0.03141	0.16231	26	165	0.03270	0.20755	25	116	0.03356	0.15571	28	122	0.04878	0.21255
IIa	3a	COD	TR2	1587	1995	0.79549	1.00001	960	1146	0.83770	1.00001	630	795	0.79245	1.00000	629	745	0.84430	1.00001	452	574	0.78746	1.00001
IIa	3b	COD	TR3	51	51	0.00208	0.00208	28	28	0.00124	0.00124	31	31	0.00134	0.00134	30	30	0.00136	0.00136	4	4	0.00020	0.00020
IIa	3b	COD	LL1	211	262	0.00862	0.01070	127	155	0.00561	0.00685	133	164	0.00574	0.00708	228	258	0.01035	0.01171	183	187	0.00925	0.00945
IIa	3b	COD	GT1	499	761	0.02039	0.03109	340	495	0.01503	0.02188	343	507	0.01481	0.02189	344	602	0.01562	0.02733	346	533	0.01748	0.02693
IIa	3b	COD	BT1	677	1438	0.02766	0.05875	1183	1678	0.05229	0.07417	1122	1629	0.04846	0.07035	1001	1603	0.04544	0.07277	688	1221	0.03476	0.06169
IIa	3b	COD	BT2	3394	4832	0.13866	0.19741	2415	4093	0.10675	0.18092	2197	3826	0.09489	0.16524	2258	3861	0.10251	0.17528	2085	3306	0.10534	0.16703
IIa	3b	COD	GN1	3415	8247	0.13951	0.33692	4037	8130	0.17845	0.35937	3741	7567	0.16157	0.32681	3228	7089	0.14654	0.32182	2421	5727	0.12232	0.28935
IIa	3b	COD	TR2	4472	12719	0.18269	0.51961	3767	11897	0.16651	0.52588	3440	11007	0.14857	0.47538	3071	10160	0.13941	0.46123	3110	8837	0.15713	0.44648
IIa	3b	COD	TR1	11759	24478	0.48039	1.00000	10726	22623	0.47412	1.00000	12147	23154	0.52462	1.00000	11868	22028	0.53877	1.00000	10956	19793	0.55353	1.00001
IIa	3c	COD	LL1	1	1	0.00075	0.00075	1	1	0.00092	0.00092	2	2	0.00209	0.00209	3	3	0.00320	0.00320	1	1	0.00083	0.00083
IIa	3c	COD	TR3		1		0.00075		1		0.00092	0	2	0.00000	0.00209		3		0.00320		1		0.00083
IIa	3c	COD	GT1		1		0.00075		1		0.00092		2		0.00209		3		0.00320	1	2	0.00083	0.00166
IIa	3c	COD	GN1	93	94	0.07019	0.07094	117	118	0.10783	0.10875	55	57	0.05741	0.05950	131	134	0.13981	0.14301	329	331	0.27326	0.27492
IIa	3c	COD	BT2	247	341	0.18642	0.25736	125	243	0.11521	0.22396	156	213	0.16284	0.22234	78	212	0.08324	0.22625	107	438	0.08887	0.36379
IIa	3c	COD	TR1	568	909	0.42868	0.68604	445	688	0.41014	0.63410	374	587	0.39040	0.61274	416	628	0.44397	0.67022	339	777	0.28156	0.64535
IIa	3c	COD	TR2	416	1325	0.31396	1.00000	397	1085	0.36590	1.00000	371	958	0.38727	1.00001	309	937	0.32978	1.00000	427	1204	0.35465	1.00000
IIa	3d	COD	BT1	2	2	0.00160	0.00160	6	6	0.01034	0.01034	1	1	0.00202	0.00202	0	0	0.00000	0.00000		0		0.00000
IIa	3d	COD	BT2	0	2	0.00000	0.00160		6		0.01034		1		0.00202		0		0.00000		0		0.00000
IIa	3d	COD	LL1	8	10	0.00641	0.00801	5	11	0.00862	0.01896	5	6	0.01012	0.01214	14	14	0.03146	0.03146	8	8	0.01798	0.01798
IIa	3d	COD	TR3	0	10	0.00000	0.00801		11		0.01896	0	6	0.00000	0.01214		14		0.03146	0	8	0.00000	0.01798
IIa	3d	COD	GN1	6	16	0.00480	0.01281	1	12	0.00172	0.02068	6	12	0.01215	0.02429	9	23	0.02022	0.05168	14	22	0.03146	0.04944
IIa	3d	COD	TR2	245	261	0.19616	0.20897	89	101	0.15345	0.17413	46	58	0.09312	0.11741	35	58	0.07865	0.13033	65	87	0.14607	0.19551
IIa	3d	COD	TR1	988	1249	0.79103	1.00000	479	580	0.82586	0.99999	436	494	0.88259	1.00000	387	445	0.86966	0.99999	358	445	0.80449	1.00000

Table 7.6.4 Annual cod landings (C, t), cumulative cod landings (C cum, t), relative contribution (Rel) and cumulative relative contribution (Rel cum) by management area and regulated gears 2008-2011, ranked in ascending order according to the relative contribution in 2011. Red rows are in excess of cumulative 20%.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2008 L	2008 L cum	2008 Rel	2008 Rel cum	2009 L	2009 L cum	2009 Rel	2009 Rel cum	2010 L	2010 L cum	2010 Rel	2010 Rel cum	2011 L	2011 L cun	2011 Rel	2011 Rel cum
IIa	3a	COD	LL1	14	14	0.03500	0.03500		0		0.00000		0		0.00000		0		0.00000
IIa	3a	COD	GT1	3	17	0.00750	0.04250	1	1	0.00658	0.00658	1	1	0.00800	0.00800	0	0	0.00000	0.00000
IIa	3a	COD	TR3	7	24	0.01750	0.06000	0	1	0.00000	0.00658		1		0.00800	0	0	0.00000	0.00000
IIa	3a	COD	TR1	32	56	0.08000	0.14000	17	18	0.11184	0.11842	4	5	0.03200	0.04000	1	1	0.00833	0.00833
IIa	3a	COD	GN1	45	101	0.11250	0.25250	13	31	0.08553	0.20395	10	15	0.08000	0.12000	3	4	0.02500	0.03333
IIa	3a	COD	TR2	299	400	0.74750	1.00000	121	152	0.79605	1.00000	110	125	0.88000	1.00000	116	120	0.96667	1.00000
IIa	3b	COD	TR3	57	57	0.00259	0.00259	2	2	0.00007	0.00007	18	18	0.00061	0.00061	4	4	0.00015	0.00015
IIa	3b	COD	LL1	207	264	0.00942	0.01201	127	129	0.00467	0.00474	287	305	0.00967	0.01028	181	185	0.00699	0.00714
IIa	3b	COD	GT1	373	637	0.01697	0.02898	470	599	0.01729	0.02203	409	714	0.01378	0.02406	344	529	0.01329	0.02043
IIa	3b	COD	BT1	337	974	0.01533	0.04431	230	829	0.00846	0.03049	323	1037	0.01089	0.03495	411	940	0.01588	0.03631
IIa	3b	COD	BT2	2620	3594	0.11920	0.16351	2332	3161	0.08580	0.11629	1849	2886	0.06232	0.09727	1357	2297	0.05242	0.08873
IIa	3b	COD	GN1	2519	6113	0.11461	0.27812	2872	6033	0.10567	0.22196	3301	6187	0.11126	0.20853	2799	5096	0.10812	0.19685
IIa	3b	COD	TR2	2922	9035	0.13295	0.41107	3327	9360	0.12242	0.34438	3141	9328	0.10586	0.31439	2994	8090	0.11565	0.31250
IIa	3b	COD	TR1	12944	21979	0.58893	1.00000	17818	27178	0.65560	0.99998	20342	29670	0.68561	1.00000	17799	25889	0.68751	1.00001
IIa	3c	COD	LL1	12	12	0.00988	0.00988		0		0.00000		0		0.00000	0	0	0.00000	0.00000
IIa	3c	COD	TR3		12		0.00988		0		0.00000		0		0.00000	0	0	0.00000	0.00000
IIa	3c	COD	GT1	1	13	0.00082	0.01070	1	1	0.00155	0.00155	2	2	0.00350	0.00350	1	1	0.00212	0.00212
IIa	3c	COD	GN1	392	405	0.32263	0.33333	78	79	0.12093	0.12248	78	80	0.13636	0.13986	70	71	0.14862	0.15074
IIa	3c	COD	BT2	31	436	0.02551	0.35884	18	97	0.02791	0.15039	40	120	0.06993	0.20979	71	142	0.15074	0.30148
IIa	3c	COD	TR1	468	904	0.38519	0.74403	363	460	0.56279	0.71318	242	362	0.42308	0.63287	161	303	0.34183	0.64331
IIa	3c	COD	TR2	311	1215	0.25597	1.00000	185	645	0.28682	1.00000	210	572	0.36713	1.00000	168	471	0.35669	1.00000
IIa	3d	COD	BT1		0		0.00000		0		0.00000		0		0.00000		0		0.00000
IIa	3d	COD	BT2		0		0.00000		0		0.00000		0		0.00000		0		0.00000
IIa	3d	COD	LL1	0	0	0.00000	0.00000	0	0	0.00000	0.00000	0	0	0.00000	0.00000		0		0.00000
IIa	3d	COD	TR3	0	0	0.00000	0.00000		0		0.00000		0		0.00000	0	0	0.00000	0.00000
IIa	3d	COD	GN1	10	10	0.02577	0.02577	6	6	0.02632	0.02632	3	3	0.01376	0.01376	3	3	0.01639	0.01639
IIa	3d	COD	TR2	47	57	0.12113	0.14690	11	17	0.04825	0.07457	6	9	0.02752	0.04128	9	12	0.04918	0.06557
IIa	3d	COD	TR1	331	388	0.85309	0.99999	211	228	0.92544	1.00001	209	218	0.95872	1.00000	171	183	0.93443	1.00000

7.7. Request for an STECF advice on the fishing effort ceilings allocated in Sole and Plaice fisheries for the North Sea

Background

In accordance with Article 9 of the Council Regulation (EC) No 676/2007 establishing a multiannual plan for fisheries exploiting stocks of plaice and sole in the North Sea the maximum level of fishing effort available for fleets where either or both plaice and sole comprise and important part of the landings or where substantial discards are made should be adjusted to avoid that planned fishing mortalities rates are exceeded.

The Commission has to request STECF advice on the maximum level of fishing effort necessary to take catches of the plaice and sole. When preparing the advice STECF should take into consideration TAC advice, the Consultation on Fishing Opportunities for 2011 and follow the regulation [R (EC) No 676/2007]. Similar advice was requested from STECF in the previous years.

Terms of Reference

STECF is requested:

1. to advise on the maximum level of fishing effort necessary to take catches of the plaice and sole equal to the EU share of the TACs adopted according to the multiannual plan for plaice and sole in the North Sea [R (EC) No 676/2007];
2. to report on the annual level of fishing effort deployed by vessels catching plaice and sole, and to report on the types of fishing gear used in such fisheries;
3. to provide the ranking of the gear groupings as provided in Annex IIa of the FO regulation according to contributions of those gears to plaice and sole (separately) catches and landings in 2011.

STECF response

STECF observes that similar advice has been requested annually since 2007. The approach to providing the advice below is the same as that previously adopted by STECF.

Maximum level of effort to take for plaice and sole TACs

The TAC advice for 2013 (following the regulation [R (EC) No 676/2007]) given for North Sea sole and plaice respectively implies a reduction of F in 2013 relative to F in 2012 of 10% for sole but an increase of 17% for plaice. Assuming a proportional relationship between fishing mortality and effort in kW*days, and a constant EU share of the TAC for plaice, STECF considers that the best estimate of the maximum level of fishing effort necessary to take catches equal to the EU shares of the TACs, would be equivalent to a reduction in effort in 2013 relative to 2012 of 10% when considering sole in isolation and a 17% increase when considering plaice in isolation.

Plaice is mainly caught together with sole in a mixed beam trawl fishery. Therefore, the maximum level of fishing effort necessary to take catches of both species equal to the respective EU shares of their TACs, would be equivalent to an increase in effort in 2013 relative to 2012 of 17%. STECF notes that this amount of effort would likely lead to a mismatch between effort and the sole TAC

adopted according to the flatfish plan [R (EC) No 676/2007], potentially leading to over-quota sole catches (under the assumptions of the calculations above the predicted landings of sole commensurate with a 10% reduction in F on sole in 2013 would be overshot by about 3,500 t (25% higher than predicted)

STECF notes, however, that in order to deal with the imbalance in effort, there is a potential for spatial management to balance the mixed fishery TACs of both species under some circumstances. There are more northerly areas of the North Sea where concentrations of plaice are much higher than sole. North of 56°N (Council Reg. 2056/2001) the mandatory 120mm codend mesh nets will catch plaice with negligible sole catches. A fishery to take plaice independently of sole is therefore possible in these more northerly areas of the North Sea. If there is surplus effort available in addition to that required to take the sole TAC, it would be possible to redeploy that effort within a spatial management regime (subject to any constraint resulting from the NS cod plan).

Such a spatial approach would give a mechanism for balancing the respective quota, such that any remaining plaice quota can be fished without any undesirable sole bycatch, when the sole quota has been exhausted. However, it would require spatial effort regulation, restricting the transfer of existing and potential additional effort from the more northerly North Sea (plaice fishery) to the mixed sole and plaice fishery in the southern part of the North Sea (see also SGMOS-10-06b, impact assessment of North Sea sole and plaice multi-annual plan).

Annual level of fishing effort deployed by vessels catching plaice and sole

The main regulated gear catching sole and plaice are the beam trawls with mesh size equal to or larger than 80 mm and less than 120 mm (BT2); bottom trawl with mesh size equal to or larger than 100 mm (TR1); bottom trawls with mesh size equal to or larger than 70 mm and less than 100 mm (TR2); and to a lesser extent gill nets (GN1); beam trawls with mesh size equal to or larger than 120 mm (BT1); trammel nets (GT1); bottom trawls with mesh size equal to or larger than 160 mm and less than 32 mm (TR3) and longlines (LL1). The deployed level of effort (kW*days) in the North Sea for these gears over the period 2000-2011 is presented below in Table 7.7.1.

ANNEX	REG AREA	REG GEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
IIa	IV	BT2	81454512	77585759	66598651	60347021	59374478	58960080	50359617	48377347	36065424	36872572	36216644	31530532
IIa	IV	TR1	55949932	51538752	55884044	31790919	25421124	24741705	24777389	21408891	24059117	23912701	21282461	20473905
IIa	IV	TR2	8172106	10976862	21837265	19369052	18604904	17248758	16123695	16229836	16416392	14823033	13523336	11607613
IIa	IV	GN1	4897946	4499989	4297404	3392804	3447820	3323114	3252787	2271150	2413722	2439004	2594922	2560593
IIa	IV	BT1	2781127	2675692	7238757	5675042	4967390	4613201	5347147	3253567	2039300	1677805	1586690	1498589
IIa	IV	GT1	809347	899300	4011118	969896	1039412	1056798	1973787	1820771	1142813	1230115	843099	925782
IIa	IV	TR3	5132676	3516779	3691963	3110526	3076432	2407530	1779807	842489	933455	622117	1141206	362099
IIa	IV	LL1	685063	540285	662902	264989	168268	189027	119561	44523	420653	765666	417656	207949

Ranking of the gear groupings in Annex IIa

The ranking of the gear groupings according to Annex IIa of the FO regulation in the North Sea on catches/landings for plaice and sole in 2011 are tabulated below in Table 7.7.2:

Ranking plaice catches		Ranking plaice landings		Ranking sole catches		Ranking sole landings	
Gear	**%**	**Gear**	**%**	**Gear**	**%**	**Gear**	**%**
BT2	70	BT2	55	BT2	91	BT2	87
TR1	14	TR1	26	GN1	4	GN1	6
TR2	11	TR2	8	GT1	3	GT1	5
BT1	4	BT1	6	TR2	2	TR2	2
GN1	1	GN1	2				

7.8. Request for an STECF advice on homogeneity of the geographical area grouping (b) of Annex I of the cod plan and its possible split

Background

In accordance with Council Regulation (EC) No 1342/2008 (the cod plan) maximum allowable fishing effort is set for each effort group of Member State concerned that is defined by a gear grouping and an area as set out in Annex I of that regulation. These effort groups should be established on basis of principles set out in Article 31, like homogeneity and cost-effectiveness.

As a follow up of joint agreement on the discard ban in the Skagerrak considerable changes in the fishery are envisaged. If the discard ban is implemented it might not be appropriate to continue with fishing effort management for the Skagerrak within the geographical area grouping (b) of Annex I.

The Commission, based on the advice of STECF, may amend the Annex I to Council Regulation (EC) No 1342/2008 if needed.

Terms of Reference

The Commission requests STECF to advice on:

- whether with implementation of the discard ban in Skagerrak the geographical area grouping (b) would comply with the principles set out in the Article 31 and whether it would be appropriate to define Skagerrak as a separate geographical area in order to respect those principles;

- describe pros and cons and possible consequences for such split. The assessment should be done also for each Member State concerned to identify what would be the consequences on their fleet.

STECF response

The Agreed Record of Fisheries Consultations between the European Union and Norway on Measures for the Implementation of a Discard Ban and Control Measures in the Skagerrak Area, 4 July 2012, sets the following procedure for implementing a discard ban in the Skagerrak:

1) *The discard ban should be implemented in two steps. The first step should be introduced from 1 January 2013. The second step should be introduced no later than 1 January 2015.*

2) *All individuals of the species covered by the discard ban should be landed.*

3) *All catches by vessels using mesh size of less than 32mm should be landed irrespective of species.*

4) *Fisheries using pots and traps should be exempted from the discard ban*

5) *The species to be included in the first step of the discard ban should be as follows:*

    - *Cod (Gadus morhua)*

- *Haddock (Melanogrammus aeglefinus)*
- *Herring (Clupea harengus)*
- *Mackerel (Scomber scombrus)*
- *Pandalus Borealis (Pandalus borealis)*
- *Saithe (Pollachius virens)*
- *Sprat (Sprattus sprattus)*
- *Whiting (Merlangius merlangus)*
- *Hake (Merluccius merluccius)*
- *Ling (Molva molva)*
- *Monkfish (Lophius piscatorius)*
- *Pollack (Pollachius pollachius)*
- *Grenadier (Coryphaenoides rupestris)*
- *Blue ling (Molva dypterygia)*
- *Tusk (Brosme brosme)*

6) *The species to be included in the second step of the discard ban should be as follows:*

- *Plaice (Pleuronectes platessa)*
- *Witch (Glyptocephalus cynoglossus)*
- *Long rough dab (Hippoglossoides platessoides)*
- *Blue Whiting (Micromesistius poutassou)*
- *Norway pout (Trisopterus esmarkii)*
- *Argentine (Argentina spp.)*
- *Sole (Solea solea)*
- *Nephrops (Nephrops norvegicus)*
- *Brill (Scophthalmus rhombus)*

STECF notes that the discard ban means that all catches of the species concerned including cod shall be counted against the quota for these species.

Article 31 of Council Regulation (EC) No 1342/2008 stipulates that:
"*Based on the advice of STECF, the Commission may amend the Annex I to this Regulation in accordance with the procedure laid down in Article 30(2) of Regulation (EC) No 2371/2002 and on the basis of the following principles:*
(a) effort groups shall be laid down as homogeneously as possible with respect to the biological stocks captured, the sizes of fish captured either as target or as by-catch and the effects on the environment of the fishing activities associated to the effort groups;
(b) the number and size of effort groups shall be cost-efficient in terms of management burden relative to conservation needs."

Annex I defines the gear groupings and the groupings of geographical areas. Area b includes Skagerrak, that part of division IIIa not covered by the Skagerrak and the Kattegat, subarea IV, EU waters of division IIa, and division VIId;

In the context of developing area based management plans the STECF expert working group EWG-12-07 addressed the grouping of geographical areas and concluded that it is preferable i.e.to include both Skagerrak (IIIaN) and Kattegat (IIIaS) as part of an extended North Sea management area. The conclusion was mainly based on biological considerations the economic predominance of *Nephrops* and pelagic fisheries. EWG-12-07 pointed out that the inclusion of the Skagerrak and the Kattegat as part of an extended North Sea management areas should not prevent more specific and local management considerations to be taken for the individual sub-areas.

STECF agrees with EWG-12-07 that in relation to the development of area based management plans it would be preferable to manage the Skagerrak and the Kattegat with the North Sea. STECF, however, notes that under the present management system the fisheries in the Skagerrak are, with the exception of the effort management, for all practical purposes not managed as part of area b.

Separate technical measures are in force for the Skagerrak and the Kattegat which implies that the main demersal fisheries are carried out under different rules than in the North Sea. Furthermore, most of the fishing possibilities in the Skagerrak and the Kattegat are managed jointly by EU and Norway through a separate fisheries agreement for the areas. This means that separate TAC's are set for the Skagerrak and the Kattegat for the economically most important species including cod.

The introduction of the discard ban in the Skagerrak will add further to the differences between the fisheries in the North Sea and the Skagerrak. The discard ban will have a large impact on the landings from the demersal fisheries and is likely to affect the fishing behaviour of the vessels concerned. The demersal fisheries in the Skagerrak will deviate significantly from the fisheries in the other areas forming area b.

STECF therefore, with reference to the principle that effort groups shall be laid down as homogeneously as possible (point (a) of article 31) considers it appropriate under the present management arrangements to define the Skagerrak as a separate geographical area.

Five EU member states have reported fishing activities in the Skagerrak in 2011 (see the Table 7.8.1 below). Denmark and Sweden stand for more than 98% of the reported fishing effort in 2011. The only other member state who in practise will be directly affected by the discard ban is Germany, who has 9% of the fishing effort of the TR1 gear group.

Table 7.8.1. EU KwDays in Skagerrak in 2011 by gear category and member state.

KwDays 2011	COUNTRY					
Gear code	Germany	Denmark	Lithuania	Netherlands	Sweden	Total
BT1		59305		442		59747
BT2				884		884
DEM_SEINE		104				104
DREDGE		390				390
GN1		306981			70682	377663
GT1		40159			23899	64058
LL1		33199			396	33595
none		60433			98143	158576
OTTER		1115225			2060217	3175442
PEL_SEINE		14914			187002	201916
PEL_TRAWL	23610	129661	9800		242433	405504
POTS					504191	504191
TR1	93551	919610			27124	1040285
TR2	2200	2947195			1210263	4159658
TR3		1145				1145
Total	119361	5628321	9800	1326	4424350	10183158

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Defining the Skagerrak as a separate geographical area will make it possible to adjust the effort management system for the area to take account for the introduction of the discard ban. At its April 2012 plenary meeting (PLEN-12-01), STECF was requested to advise on the probable consequences of excluding vessels involved in the catch quota management (CQM) trials from the effort management system. In its response to the request STECF concluded that if the total catch of

the species concerned is counted against the quotas exemption of CQM trial vessels from effort management is unlikely to affect the catch of those vessels unless the effort limitation prevents the vessels from taking their catch quotas of the stocks concerned.

If the discard ban is fully enforced and a member states fishery is stopped if its cod quota is taken STECF considers that the quota management system will be sufficient to limit the catches of cod in the Skagerrak and exemption from the effort management of Council Regulation (EC) No 1342/2008 of the EU fisheries in the Skagerrak is unlikely to affect the catch of cod in the Skagerrak.

7.9. Request for an STECF advice on tuna fisheries where sharks are associated species, particularly in Malagasy waters

Background

The so called "Tunas Fisheries Partnership Agreements" currently covers fishing activities of EU fleets oriented to highly migratory species listed in Annex I of the UNCLOS, including tunas and tuna-like species, obviously, but other species, like elasmobranchs.

Elasmobranchs have been often considered as associated catches in métiers targeting mainly tunas and tuna-like species, particularly for longliners. However, in some fisheries, the percentage of sharks in the reported catches or landings indicates high values, possibly related to métiers targeting Elasmobranchs on a yearly basis or on a seasonal basis. Elasmobranchs should then not be always taken as associated species, but as targeted species.
In some cases, such a situation may be considered as jeopardizing the dynamic of Elasmobranch populations and as increasing risks on species which are, for some of them, already considered as threatened and endangered species.

Some third Countries (particularly Madagascar and Cabo Verde), which signed a Tuna FPA with the EU, have highlighted such a possible difficulty in fisheries located both in the Eastern Central Atlantic and in the Western Indian Ocean.

Terms of reference

- Considering last available stock advice and management recommendations released by the ICCAT and IOTC scientific committees on Elasmobranch species,
- considering management measures already agreed by contracting parties of these RFMOs on these species,
- taking into account characteristics of fisheries covered by tuna FPAs in the Eastern Central Atlantic and in the Western Indian Ocean and, more particularly, taking as study cases the Ue-Malagasy and Ue-Cabo Verde FPA,

the STECF is requested to discuss:

If the status of Elasmobranch species, as given in ICCAT and IOTC advice, may allow the continuation of fishing activities, following a similar fishing pattern as this one currently observed for métiers targeting sharks or having a high percentage of sharks considered as associated species in their reported catches or landings.
When either limiting the fishing pressure on sharks to its current level or even when aiming to reduce it, what type of mitigation and/or management measures could be implemented in these

fisheries and for these specific métiers. The discussion should indicate possible strengths and weaknesses of such measures.

Introduction

This Madagascar FPA covers the period 1 January 2007 to 31 December 2012. This fisheries agreement is for tuna seiners and surface long liners and allows community vessels mainly from Spain, Portugal, Italy and France to fish in the Malagasy waters. The Madagascar FPA is part of the tuna network fisheries agreements in the Indian Ocean. For Cape Verde, the current agreement covers the period from 1 September 2011 to 31 August 2014 and allows tuna seiners, surface long liners and pole and line vessels from Spain, Portugal and France to fish in the Cape Verde waters. The Cape Verde FPA is part of the tuna network fisheries agreements in West Africa.

To support their request for advice the EC provided catch data for sharks taken by EU vessels operating under the Madagascar FPA and Cape Verde FPA. Data were provided by year for 2007 to 2010 by nation and by long-line métiers for Madagascar. For Cape Verde data were provided by species for 2007 to 2010 but not by métier (Annex 1). Catch data for three shark species were provided by the EC for Cape Verde: blue shark accounted for 89.6% to 93.8% by weight in each year, short-fin mako for 6.1% to 9.7% and silky shark for the remainder. The weight of shark catches as a proportion of tuna catches reported in the Madagascar fisheries is much higher in the Spanish and Portuguese fisheries than the French fisheries.

Population status

ICCAT (2011) have applied a range of assessment methods for northern stock of blue shark and short-fin mako in the Atlantic area that includes Cape Verde FPA waters. Owing principally to data deficiencies, ICCAT regard the results of their assessments to be uncertain. The following table, extracted from ICCAT (2011), summarises the results of the assessments for blue shark.

NORTH ATLANTIC BLUE SHARK SUMMARY

2007 Yield		61,845 t[1]
Provisional Yield (2010)		37,238 t[2]
Relative Biomass:	B_{2007}/B_{MS}	1.87-2.74 [3]
	B_{2007}/B_0	0.67-0.93[4]
Relative Fishing Mortality:	F_{MSY}	0.15[5]
	F_{2007}/F_{MSY}	0.13-0.17[6]

1 Estimated catch used in the 2008 assessments.

2 Task I catch.

3 Range obtained from the Bayesian Surplus Production (BSP) (low) and the Catch-Free Age Structured Production (CFASP) (high) models.
Value from CFASP is SSB/SSB_{MSY}.

4 Range obtained from BSP (high), CFASP and Age-Structured Production Model (ASPM) (low) models.

5 From BSP and CFASP models (same value). CV is from CFASP model.

6 Range obtained from BSP (high) and CFASP (low) models.

Based on the results of these assessments, ICCAT conclude, that the biomass of North Atlantic blue shark stocks is above the biomass that would support MSY and that current harvest levels are below F_{MSY}, but they note that all models used were conditional on the assumptions made (*e.g.*, estimates of historical catches and effort, the relationship between catch rates and abundance, the initial state of the stock in the 1950s, and various life-history parameters), and a full evaluation of the sensitivity of results to these assumptions was not conducted. However, based on these assessments and a previous assessment ICCAT conclude that fishing has yet resulted in depletion to levels

below the Convention objective to main stocks 'at levels which will permit the maximum sustainable catch'.

For short-fin mako, the following table, extracted from ICCAT (2011) summarises the results of their assessments.

NORTH ATLANTIC SHORT-FIN MAKO SUMMARY

2007 Yield		5,996 t[1]
Provisional Yield (2010)		4,016 t[2]
Relative Biomass:	B_{2007}/B_{MS}	0.95-1.65[3]
	B_{2007}/B_0	0.47-0.73[4]
Relative Fishing Mortality:	F_{MSY}	0.007-0.05[5]
	F_{2007}/F_{MSY}	0.48-3.77[6]
Management measures in effect		[Rec. 04-10], [Rec. 07-06]

1 Estimated catch used in the 2008 assessments.

2 Task I catch.

3 Range obtained from BSP (low) and CFASP (high) models. Value from CFASP is SSB/SSB_{MSY}.

4 Range obtained from BSP (low), ASPM, and CFASP (high) models. Value from CFASP is SSB/SS_{B0}.

5 Range obtained from BSP (low) and CFASP (high) models.

6 Range obtained from BSP (high) and CFASP (low) models.

For North Atlantic short-fin mako, ICCAT conclude that the results of the different assessments conducted in 2008 were much more variable than for blue shark. For the North Atlantic, most model outcomes indicated stock depletion to about 50% of biomass estimated for the 1950s. Some model outcomes indicated that the stock biomass was near or below the biomass that would support MSY with current harvest levels above F_{MSY}, whereas others estimated considerably lower levels of depletion and no overfishing. ICCAT note that biological information for elasmobranchs indicates that the point at which B_{MSY} is reached with respect to the carrying capacity is higher than for many teleost stocks. They conclude that there is a non-negligible probability that the North Atlantic short-fin mako stock could be below the biomass that could support MSY. A similar conclusion was reached by ICCAT in 2004, and the recent biological data showed decreased productivity for this species.

ICCAT reported that Working Group on sharks will conduct a stock assessment for short-fin mako sharks in 2012 and that the SCRS will advise the Commission on (a) the annual catch levels of short-fin mako that would support MSY and (b) other appropriate conservation measures for short-fin mako sharks, taking into account species identification difficulties. The working group has now completed the assessment and the results indicated in general that the status of the North Atlantic stock is healthy and the probability of overfishing is low. The results will be reviewed by ICCAT SCRS meeting in September. Cortés et al. (2008) conducted a productivity and susceptibility analysis (PSA, also known as Ecological Risk Assessment ERA) for eleven species of pelagic elasmobranchs to assess their vulnerability to pelagic longline fisheries in the Atlantic Ocean. The risk analysis estimated productivity (estimates of intrinsic rate of increase) and susceptibility to the fishery as the product of availability to the fleets, encounter with the gear in relation to depth, gear selectivity and post-capture mortality. Species grouped in the high-risk area of the productivity-susceptibility plot included short-fin mako, which was ranked second or third in terms of risk (depending on assumptions) and at greater risk than silky shark.

Simpendorfer et al. (2008) assessed the risk of over-exploitation for pelagic shark species taken in Atlantic longline fisheries based on a combination of a productivity and susceptibility analysis (PSA), the inflection point of the population growth curve (treated as a proxy for B_{MSY}) and IUCN

Red List status. The results were analysed using multivariate statistics to provide an integrated measure of the risk of overexploitation to help advise on status in the face of data limitations. Results of the analysis for a range of shark species were compared with those for blue shark, for which the current ICCAT stock assessment suggests the species is not overexploited. All other shark species had higher levels of risk than the blue shark. The analysis suggested that the species at highest risk were the bigeye thresher, short-fin mako, longfin mako, and, to lesser extent, the silky shark.

For silky shark, no ICCAT assessment was available, although they were included in the productivity and susceptibility analysis (PSA) of Cortés et al. (2008) and risk analysis of Simpendorfer et al. (2008). In the analysis of Cortés et al. (2008) silky shark were identified as intermediate vulnerability with respect to blue shark (less vulnerable) and short-fin mako (more vulnerable). In the analysis of Simpendorfer et al. (2008) silky shark were estimated to be at lower risk than short-fin mako but higher risk than blue shark.

IOTC have not completed full assessments for shark species taken in Madagascar FPA waters. Shark species were not identified in the data provided by the EC for the Madagascar FPA, although blue shark and short-fin mako have elsewhere been reported as major catch in Portugese longline fisheries (Santos et al. 2011) and Spanish longline fisheries (EU, 2011) in this area.

Although no formal stock assessment is available for any of the fished shark species in the IOTC area, the vulnerability of sharks species to various longline and purse seine fleets has been assessed by an ERA in the Indian Ocean (Murua et al., 2009). In this analysis, blue shark was identified as intermediate vulnerability with respect to short-fin mako and silky shark (both with high risk) for the Taiwanese and Reunion (French) longline fleets.

The IOTC Working Party on Ecosystems and Bycatch (WPEB) have recently concluded (IOTC 2011) that there is a paucity of information available on blue shark in the Indian Ocean and they do not expect this situation to improve in the short to medium term. With no quantitative stock assessment and limited basic fishery indicators available the stock status of blue shark in the Indian Ocean is highly uncertain. However, the available blue shark assessments for the Atlantic and Pacific oceans, including the ICCAT assessments previously described, indicate that blue shark stocks can sustain relatively high fishing pressure in comparison with other shark species taken in tuna long line fisheries.

Scientific advice on management of shark s in ICCAT and IOTC areas

IOTC WPEB suggest that maintaining or increasing fishing effort in the Indian Ocean area will probably result in further declines in biomass, productivity and CPUE of blue shark. The Scientific Committee of the IOTC considered that the two primary sources of data required to support an initial assessment of blue shark status, total catches and CPUE, are highly uncertain and should be investigated further as a priority. The Scientific Committee recommended that mechanisms are developed by the Commission to encourage Contracting and non-Contracting Cooperating Parties (CPC) to comply with their reporting requirement on sharks. The WPEB noted that CPC are required to collect and report the same information as is collected and reported for tuna and tuna-like species (catch, effort and size frequency). In the report of the Report of the Seventh Session of the IOTC WPEB, IOTC made specific suggestions for data collection, in particular to clarify the species included in "most commonly caught shark species", used in IOTC Resolution 10/02 (2011b).

For short-fin mako in the Indian Ocean, The WPEB of the IOTC noted the paucity of information available on this species and that this situation is not expected to improve in the short to medium

term. No quantitative stock assessments or basic fishery indicators are currently available for short-fin mako shark in the Indian Ocean and the stock status is highly uncertain. WPEB note that maintaining or increasing effort will probably result in declines in biomass, productivity and CPUE. The Scientific Committee (SC) of IOTC has made several recommendations to the Commission concerning shark conservation. The recommendations have centred on the need to improve the collection and reporting of data on shark catches in association with IOTC fisheries: in particular the need to improve data collection at the species level for stock assessment purposes, including species, sex ratios, numbers and size distributions of catches. To facilitate the collection of shark fishery data at species specific level, the SC recommends that shark fins be matched to the carcass; that is, that sharks be landed with their fins attached naturally or using tamper-proof mechanisms.

Moreover, on the basis of information presented at the SC meeting in 2011, and in previous years, the SC recognised that the use of wire trace (leaders) in longline fisheries may imply targeted shark fishing. Consequently, the SC has recommended that if the Commission wants to reduce the catch rates of sharks by longliners it should prohibit the use of wire trace throughout the IOTC area.

Based on a review of research presented at the International Symposium on Circle Hooks in 2011, the WPEB of IOTC (IOTC, 2011b) noted that the use of circle hooks in longline fisheries will decrease the catch rates for swordfish but at the same time (i) will increase the proportion of animals being brought alive to the fishing vessel, implying better quality and value for target species and an improved chance of survival for bycatch species which are to be released, (ii) is likely to result in an increase in catches of sharks when using wire trace (although their use would also result in a reduction in post-release mortality) and (iii) noted that if circle hooks were combined with the use of monofilament leaders instead of wire leaders, they would reduce shark catch rates and likely post-bite-off mortality, because the use of circle hooks will result in less gut hooking of sharks. Consequently, the WPEB encouraged the use of circle hooks in all longline vessels targeting tuna and tuna-like species in the IOTC area of competence, in particular for shallow sets, and encouraged further studies on the socio-economic impact of the use of circle hooks in longline fisheries.

However, the IOTC WPEB also recommended further research into the effectiveness of circle hooks adopt a multi-species approach, so as to avoid, as far as possible, promoting a mitigation measure for one bycatch taxon that might exacerbate bycatch problems for other taxa.

There is a range of evidence on survivorship of sharks caught on long-lines, but estimates are necessarily variable among fisheries For short-fin mako, 60-85% of individuals have been reported as alive when gears are retrieved (e.g. Griggs et al 2007, Semba et al 2008), suggesting that mandatory release can reduce fishing mortality for this species. For blue shark, Moyes et al (2006) report high post-release survival and suggest that sharks can be handled more roughly on release from wire traces (Moyes et al 2006).

Existing management measures

For the ICCAT area, the 'Compendium of management recommendations and resolutions adopted by ICCAT for the conservation of Atlantic tunas and tuna-like species' summarises management recommendations (mandatory) and resolutions with regard to shark populations (ICCAT, 2012). The EC FPA require that both 'recommendations' and 'resolutions' are followed. ICCAT already require full utilisation (defined as retention by the fishing vessel of all parts of the shark excepting head, guts and skins, to the point of first landing) of entire shark catches and that shark fins should not total more than 5% of the weight of the sharks onboard (Recommendation 04/10). In the same resolution, ICCAT requires that Contracting Parties, Cooperating non-Contracting Parties, Entities or Fishing Entities (CPCs) annually report Task I and Task II data for catches of sharks, in

accordance with ICCAT data reporting procedures, including available historical data. ICCAT have also adopted recommendation 11/08 that requires that Contracting Parties, and Cooperating non-Contracting Parties, Entities or Fishing Entities (CPCs) fishing vessels flying their flag and operating in ICCAT managed fisheries to release all silky sharks whether dead or alive, and prohibit retaining on board, transshipping, or landing any part or whole carcass of silky shark. Similar recommendation have been adopted for hammerhead sharks (family Sphyrnidae) in recommendation 10/08, oceanic whitetip shark (*Carcharhinus longimanus*) in recommendation 10/07, and bigeye thresher sharks (*Alopias superciliosus*) in recommendation 08/07. It is further required that CPCs record through their observer programs, the number of discards and releases of those species with indication of status (dead or alive) and report it to ICCAT.

For the IOTC area, the "Collection of Active Conservation and Management Measures for the Indian Ocean Tuna Commission" summarises management resolutions (mandatory and binding) and recommendations which are not binding (IOTC, 2012).

For the IOTC area, existing regulations (Resolution 05/05; Resolution 12/03) requires that Contracting Parties, Cooperating non-Contracting Parties (CPCs) shall annually report data for catches of sharks by species, in accordance with IOTC data reporting procedures, including available historical data. Moreover, Resolution 05/04 obliged full utilisation (defined as retention by the fishing vessel of all parts of the shark excepting head, guts and skins, to the point of first landing) of entire shark catches and that fins should not total more than 5% of the weight of sharks onboard.

IOTC have also adopted resolution 12/09 that requires that IOTC Member and Cooperating non-Contracting Parties are prohibited from retaining on board, transshipping, landing, storing, selling or offering for sale any part or whole carcass of thresher sharks of all the species of the family Alopiidae.

STECF observations

STECF notes that the high catch rates of sharks in the Madagascar and Cape Verde FPA longline fisheries show that these fisheries are targeting sharks as well as tuna and tuna like species.

STECF observe that ICCAT assessments are available for two of the three shark species caught by EU vessels from the Cape Verde FPA area. For blue shark the assessment suggests the current catch rates in the entire North Atlantic are sustainable. For short-fin mako the results of previous published assessments suggest that current catch rates are not sustainable, but the most recent assessment in July 2012 suggests that they are. The 2012 assessment report will be reviewed by SCRS in September 2012. STECF observes that PSA and risk analyses suggest that the short-fin mako is among the pelagic sharks most at risk from long-line fishing and subject to greater risk than silky shark. For silky shark, although a full assessment is not available, ICCAT have already introduced measures that require their release after capture.

STECF observe that the high catch rates of sharks in the Madagascar and Cape Verde FPA longline fisheries show that these fisheries are targeting sharks as well as tuna and tuna like species.

STECF observe that IOTC have not assessed any of the shark species taken in the Madagascar FPA area. Species are not identified in the data provided by the EC, but data from other sources suggest that blue and short-fin mako shark dominate catches. Data are not available to support assessment of these species. STECF observe that a PSA indicates high risk for short-fin mako and silky shark for two IOTC longline fleets.

STECF observe that the WPEB of the IOTC note the paucity of information available on shark fisheries and status in the Indian Ocean and their comment that this situation is not expected to improve in the short to medium term. STECF also note the observation that maintaining or increasing effort will probably result in declines in biomass, productivity and CPUE of blue shark and short-fin mako shark, and that the life histories of short-fin mako sharks make them more vulnerable to a given rate of fishing mortality than blue shark.

STECF observe that the Scientific Committee (SC) of IOTC has made several recommendations to the IOTC concerning shark conservation. The recommendations have centered on the need to improve the collection and reporting of data on shark catches in association with IOTC fisheries: in particular the need to improve data collection at the species level for stock assessment purposes, including species, sex ratios, numbers and size distributions of catches. STECF note that to facilitate the collection of more accurate species specific fishery data that can be used to develop assessments, the SC have advised that shark fins be matched to the carcass; that is, that sharks be landed with their fins attached naturally or using tamper-proof mechanisms. However, the STECF also noted that SC pointed out the difficulty of practical implementation and safety issues for some fleets and, thus, SC recommended all CPCs to obtain and maintain the best possible data for IOTC fisheries impacting upon sharks, including improved species identification.

STECF observes that the use of monofilament rather than wire traces will reduce shark catches and mortality if this needs to be achieved to meet management objectives.

STECF observes that NOAA has published voluntary guidance on best-practice for the release of short-fin mako sharks taken by long-line and other fisheries in the North Atlantic. To maximize survival and minimize injury they recommend using non-stainless steel circle hooks, not removing the shark from the water or gaffing it, removing the hook using a de-hooking device or cutting the line as close to the hook as possible.

STECF conclusions

STECF concludes that effective management of exploitation of sharks in both the Cape Verde and Madagascar FPA areas, and in any other areas fished by EU fleets, will require (a) the collection of adequate species-specific catch and biological data to support the assessment of population status, to model the effects of fishing and to model the effects of alternate management options and (b) effective implementation of measures to support data collection and to ensure catches are sustainable.

STECF concludes that, based on available evidence, that there is a high probability that the current catch levels of blue shark are sustainable in the Cape Verde FPA.

Existing evidence suggests that there is a non-negligible probability that the North Atlantic short-fin mako stock could be below the biomass that could support MSY. Short-fin mako sharks are at least as vulnerable to fishing as silky sharks that already have to be released in ICCAT fisheries to reduce mortality.

STECF notes that the preceding conclusion about the status of short-fin mako in the ICCAT area may be revisited if the results of an ICCAT short-fin mako stock assessment conducted in July 2012, which suggests that the biomass of the north Atlantic stock is above B_{MSY} and $F < F_{MSY}$, are accepted by the SC of ICCAT in September 2012.

For short-fin mako shark in the Cape Verde FPA (and in FPA areas in the ICCAT area more widely), STECF has insufficient information to determine whether the exploitation rate arising from the recently observed fishing pattern is sustainable. Hence STECF is not able to determine whether the currently observed pattern of fishing activities should continue.

STECF concludes that the existing ICCAT requirement to release or return silky sharks should reduce mortality rates for this species in the Cape Verde FPA.

STECF concludes that the status of the blue shark stock in the IOTC area that includes the Madagascar FPA is uncertain but notes that blue shark can sustain a higher rate of fishing mortality than other shark species in the IOTC area.

STECF concludes that there is no conclusive information on stock status of short-fin mako shark in the IOTC area. However, the PSA for the stock in this area shows that short-fin mako sharks are at least as vulnerable to fishing as silky sharks.

STECF concludes that if there is a desire to reduce shark mortality rates then this can be achieved by releasing sharks caught in long-line fisheries and by the use of monofiliament traces. The disadvantage of this approach is that they will reduce catches of shark species that are targeted in directed fisheries because they affect catches of all sharks.

For blue shark in the Madagascar FPA (and in FPA areas in the IOTC area more widely), STECF concludes that there is insufficient information to determine whether the exploitation rate arising from the recently observed fishing pattern is sustainable. Hence STECF is not able to determine whether the currently observed pattern of fishing activities should continue.

For short-fin mako shark in the Madagascar FPA (and in FPA areas in the IOTC area more widely), STECF has insufficient information to determine whether the exploitation rate arising from the recently observed fishing pattern is sustainable. Hence STECF is not able to determine whether the currently observed pattern of fishing activities should continue.

For any other shark species caught in the Madagascar FPA (and in FPA areas in the IOTC area more widely), STECF has insufficient information to determine whether the exploitation rate arising from the recently observed fishing pattern is sustainable. Hence STECF is not able to determine whether the currently observed pattern of fishing activities should continue.

STECF recommendations

STECF recommends that the conclusion above relating to short-fin mako shark in the Cape Verde FPA (and in FPA areas in the ICCAT area more widely) should be revisited when the SCRS meeting on September 2012 review the results of the 2012 ICCAT short-fin mako assessment. The results of the assessment should be reviewed together with existing results from PSA risk analysis. STECF suggests that this could be undertaken during the EWG 12-17 which is scheduled to meet from 8-12 October 2012.

Given (i) the absence of an assessment for short-fin mako shark in the IOTC area, (ii) the high vulnerability to the longline fleet indicated by the PSA and (iii) evidence that short-fin mako shark may be a target species, STECF recommends that to adopt a precautionary approach a minimum requirement is that the annual catch of the short-fin mako shark should not increase above recent levels [2007-2010 average] in any FPA areas within the IOTC area until more reliable stock assessment results are available.

STECF recommends that more comprehensive species-specific catch and biological data for sharks are needed to support the assessment of population status, to model the effects of fishing and to model the effects of alternate management options, especially in the Madagascar FPA area. For the Madagascar area, STECF recommends that the recommendations on data collection relating to sharks that are provided by the IOTC WPEB are followed.

To facilitate data collection and accurate documentation and reporting of catches, STECF recommends that any sharks caught in FPA fisheries should be retained and landed whole (with fins wholly or partly attached to their respective carcass).

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7.10. Assessment of Herring in the Irish Sea

Background

In their advice for 2012 for herring in area VIIa, ICES identified that on the basis of precautionary considerations that landings should not be allowed to increase. That advice identified that fishing mortality was decreasing and from the 2010 acoustic survey, and that SSB was considered to be at an 18 year high. However exploitation status was unknown and the results of exploratory assessments were considered unreliable. Consequently a trends only assessment was provided. The Commission in its approach to stocks for which there was precautionary advice was to propose a decrease in fishing opportunities. The 2011 TAC was 5280t, and a 10% decrease was agreed at the December Council.

Advice for 2013

The ICES advice for 2013 takes into account the benchmarking of this stock and provides an analytical assessment with a short term forecast in respect of MSY targets. This advice indicates that the SSB and recruitment have both increased, with SSB above MSY trigger and precautionary limits. This stock is mainly fished as a directed fishery in the autumn, so the 2012 TAC has not yet been fished. The UK has requested an in-year increase in the TAC for this stock.

Terms of Reference

STECF are requested to review the advice for 2013 and to advise on

- The basis for an in-year increase in the TAC as provided by this new assessment;
- The quantity of any potential in-year revision including any resultant change in F this year; and
- The impact of any such an increase on the 2013 advice and forecasts, providing revised advice for 2013 if required.

STECF response

STECF received clarification from the Commission that the UK request refers to an in-year increase from 4752t (2012 TAC) to 5280t (roll-over of 2011 TAC).

Based on the information and data presented in the ICES Advice 2012 and ICES Herring Assessment Working Group (HAWG) 2012 report for herring in Division VIIa North of 52°30'N (Irish Sea), STECF has summarised the ICES advice in Table 7.10.1 as:

Year	Total biomass	SSB (t)	F	Landings (t)

2012	41838	21155	0.21	4752
2013	36811	17855	0.26	5081
2014	32278	15001		

Taking account of the requested change, STECF estimated the F in 2012 and the impact of this increase on the 2012 and 2013 forecasts in Table 7.10.2 as follows:

Year	Total biomass	SSB (t)	F	Landings (t)
2012	41838	20745	0.23	5280
2013	36301	17539	0.26	4993
2014	31972	14810		

STECF advises that if the agreed TAC for herring in VIIa for 2012 (4,752 t) is increased to 5,280 t, and if caught but not exceeded, F is 2012 is predicted to be F=0.23 which is below F_{MSY}. Fishing at F_{MSY} (F=0.26) in 2013 is predicted to give rise to landings in 2013 of 4,993 t. Under the above assumptions SSB in 2013 and 2014 is predicted to remain well above established spawning stock biomass reference points.

7.11. Request for an STECF evaluation of the catch quota pilot for plaice fisheries in ICES area IV by United Kingdom and the Netherlands in 2012

Background

One of the priorities for the reform of the Common Fisheries Policy progressive introduction of catch quotas (rather than landing quotas), together with an obligation to land all catches. The use of on-board CCTV cameras as a means to ensure that all catches are fully documented has been evaluated in trials on the cod fisheries, notably by Denmark and the United Kingdom.

Other methods to ensure compliance have been suggested, such as on board observers and self-sampling. These might be more suitable than the use of CCTV in some fisheries, but there have been no trials of these methods to date. In February 2012 Norway offered to the EU 3,400 tonnes of plaice quota to carry out such trials in the plaice fisheries. The Netherlands and the UK are interested in taking up this offer.

For the CCTV trials in the cod fisheries fishermen were encouraged to participate by the offer of extra quota that was additional to the TAC. This meant that strict conditions had to be applied in order to ensure that the increase in quota was more than compensated by a reduction in discards, thus ensuring that fishing mortality did not increase as a result of the trials. For the plaice trails, however, the extra quota made available to participating vessels is already accounted for in the

TAC, since it is simply a transfer of quota from Norway to the EU. The conditions that were applied to the cod CCTV trials might not therefore be essential in the case of the plaice trails.

The United Kingdom and the Netherlands have submitted to the Commission a proposal for catch quota trials for plaice fisheries in ICES area IV, using their shares of the 3400 tonnes of plaice transferred from Norway. This proposal is to be found in the background document section of the STECF-PLEN-12-02 website (http://stecf.jrc.ec.europa.eu/web/stecf/plen02). STECF is requested to evaluate the proposal, with the following Terms of Reference.

Terms of Reference

- Evaluate the feasibility and risks of the fully documented fisheries trials that are proposed, making use of the 3400 tonnes of plaice quota made available to the EU by Norway.

- Give details of the data will be needed in order for STECF to carry out a full evaluation on the effectiveness of this fully documented catch quota scheme in reducing fishing mortality and discards.

- Suggest any changes to the design of the trials that would improve the usefulness of the results for the design of suitable control and monitoring of plaice catch quotas in the future.

STECF response

STECF would like to encourage participation in FDF fisheries for plaice and development of incentives and methods discard reduction.

Evaluation of risk

Risk is interpreted as the potential for the trials to adversely affect the SSB of plaice in area IV in 2013 by reducing it, or increasing the fishing mortality in 2012 above reference levels. The latest ICES advice gives an expected F in 2012 of 0.23 which is below F_{MSY} and the below the management plan target. The TAC for 2012 is 84,410 t implying a catch of 139,455 t. Utilisation of 3,400 of the TAC for catches implies may reduce catch and as a worst case implies a maximum F=0.25. STECF considers that allowing this trial to proceed poses no significant risk to the stock of plaice in area IV.

Feasibility of the study

Article 7b of Regulation 44/2012 (amended), defining the conditions for a vessel participating in fully documented fishery trials is as follows:

(b) will make use of either a close circuit television cameras (CCTV) associated to a system of sensors to record all fishing and processing activities on board the vessel, or observers on board. It is not permitted to change this method of verification for the duration of the trial.

STECF notes that the proposal does not appear to adhere to the regulation since it contains a number of vessels to be evaluated under a 'self-sampling and observer protocols are similar to the system under the data collection framework (van Helmond et al. 2011).' This protocol involved self-sampling of 12 and 24 vessels in 2009 and 2010 resulting in 63 and 132 trips respectively.

Observer sampling coverage was just 9 and 10 trips in 2009 and 2010 respectively. This level of observer coverage does not appear to conform to the requirements of the regulation. STECF considers that for FDF there is a requirement for all participating vessels to choose either CCTV or full (or sufficiently high) observer coverage. Self-sampling is not identified as a suitable approach and its accuracy has already been questioned (see below).

The proposal as presented has no baseline included in the design. Vessels participating in the scheme do not report what they do before joining the scheme, nor is there a specific proposal to monitor other vessels not covered by the scheme. If neither of these sources of baseline are available it will be difficult to evaluate the pilot project.

Details of the data needed

STECF is requested to give details of the data will be needed in order for STECF to carry out a full evaluation on the effectiveness of this fully documented catch quota scheme in reducing fishing mortality and discards.

The aims of the proposed study given in the documentation provided are to:-

- Compare and test alternatives for the use of electronic monitoring systems to ensure compliance with a landing obligation.
- Minimise discards of plaice.
- Identify issues in the context of implementing fully documented mixed fisheries (e.g. fishery 'choke species' or where catch quota management may not be appropriate).
- Provide further data on catches (and discards) of plaice in the North Sea.

In order to test alternative ways to ensure compliance with the full documentation and landing obligation on the pilot vessels, the following means of control are proposed:

- REM system with CCTV, as proposed in *Article 6* of regulation *44/2012* to pilot FDF on cod.
- On board observers in the framework of the cod recovery plan (Netherlands) or additional observers;
- Self-sampling in combination with post-hoc catch sampling by scientists and/or enforcement agencies.

STECF does not have specific protocols to follow for data collection, FDFs are developing and the data needs are evolving. The proposed FDF implies that the skipper will be required to report all catches and to land all plaice including those below minimum landing size (MLS). STECF assumes that the participating vessels will be required to document catch on a daily basis as required under logbook regulations. To allow evaluation of the FDF against these aims will require records of quantity and size distribution of catch, landings and discards of most of the important species. The species identified in the document cited in the proposal are brill, dab, sole, plaice, cod, turbot, whiting and *Nephrops*. STECF considers that monitoring the above species is a minimum requirement.

The pilot project should provide a report documenting:

- Number of trips per vessel
- Number of hauls per trip
- Catch by species by day and by trip
- Size distribution of plaice by trip
- Catch of plaice above and below MLS by day or by haul

- Comparison of data amongst gear groups identified in the proposal

For CCTV coverage no specific system is described in the proposal and there is no indication of the proportion of the CCTV record that will be examined. Sufficient CCTV cameras should be installed to cover the fish processing area and the exterior of the vessel. Current practice is to examine 10% of the CCTV footage, randomly chosen from each fishing trip, for compliance purposes. STECF therefore considers that these standards should form a minimum requirement. A report on CCTV should be prepared showing:

- The extent of CCTV coverage of exterior of each vessel
- The extent of CCTV coverage of fish processing area.
- Proportion and amount (in time) of CCTV footage analysed.
- Extent (time and volume) of discarding of allowed discard species
- An assessment of the ability of the CCTV system to detect the presence of plaice amongst the discards of other species.

STECF is concerned that the use of self-sampling may not be informative regarding estimation of discards. The proposal refers to protocols for self-sampling in the current discard program. The report cited indicated sampling of 2 hauls per trip and only 10 trips per year with observers. STECF is concerned that such coverage is not adequate for ensuring estimation of discards in a FDF. The cited report also compared observer and self-sampling and stated that the 'the comparison of the percentage of estimated total discards per sampled haul revealed that estimates were significantly higher for the observer than the self-sampling programme in the southern North Sea ($p<0.05$)'. This significant bias calls into question the self-sampling approach as the basis for a further study. It is important that the pilot project will utilise additional observer and self-sampling resources and does not divert current discard monitoring resources as these are needed to give information on vessels that fish normally with the same gear/vessel segments included in the trial. Comparison between the discarding on non-FDF vessels with landings from FDF vessels should be an important part of the pilot.

In order to evaluate the pilot STECF identifies six groups of vessels to be considered for comparison.

Vessels in each trial gear category not participating in the trial carrying observers.
Vessels in each trial gear category not participating in the trial self-reporting catch.
Vessels in each trial gear category monitoring FDF with self-sampling.
Vessels in each trial gear category monitoring FDF with CCTV.
Vessels in each fleet category monitoring FDF with CCTV carrying an observer.
Vessels in each fleet category monitoring FDF with observers.

In order to establish the implications of FDF using either self-sampling, observers or CCTV requires monitoring of quantity and size composition of catch and/or landings of the six categories of vessels and the precision of the estimates.

Suggested changes

STECF is requested to suggest any changes to the design of the trials that would improve the usefulness of the results for the design of suitable control and monitoring of plaice catch quotas in the future.

The proposal would benefit from reporting on a haul by haul basis.

The proposal would benefit from explicit requirement to compare FDF with non-FDF vessels.

7.12. Request for an STECF assessment of bycatches in the industrial fishery in the Baltic Sea

Background

During 2011 October Council negotiations on Baltic Sea Fishing Opportunities Council and the Commission adopted a joint statement calling on MS to provide relevant data to ICES and STECF in 2012 in order to be able to quantify the by-catches in unsorted landings of sprat fisheries using trawls, Danish seines or similar gears of a mesh size less than 32 mm.

ICES WG on Baltic Fisheries Assessment has looked into this issue and concluded that further work is needed to get more details on the species composition in the mixed pelagic fisheries (WGBFAS 2012 report, WD 5).

Terms of Reference

STECF is requested to quantify the by-catch(es) present in unsorted landings of sprat fisheries using trawls, Danish seines or similar gears of a mesh size less than 32 mm and answer the following questions:

- What are the species caught as a by-catch in sprat fishery using trawls, Danish seines or similar gears of a mesh size less than 32 mm in the Baltic Sea?
- What were the quantities of those species caught annually in the last five years, i.e. 2007-2011?
- Is five years sufficient time period to quantify those by-catches?
- Is the data submitted by Denmark sufficient to quantify those by-catches?

STECF is requested to provide their additional considerations, if any for the by-catches to be quantified.

STECF comments

ICES WGBFAS 2012 investigated bycatches issues in the Baltic and concluded the following:

"Only the pelagic trawl fishery takes a mixture of herring and sprat. All passive gears as well as purse seiners, which are directed for human consumption, can be regarded as an almost clean herring fishery.

The landing figures taken within small-mesh (minimum mesh size >16 mm) industrial trawl fisheries, which are directed to catch sprat, can be considered as the most uncertain ones.

Previous investigations showed that bycatch of herring is larger in SD 27 and 28 compared to 25 and 26 but it is not confirmed if this pattern is stable.

The overall biological sampling (length and age data) seems to be sufficient. However, for some countries (i.e. Germany, Poland) it is difficult to monitor the national fishing activities since a larger part of the herring/sprat catches are landed in foreign ports.

Overall, it would be beneficial to have a higher sampling coverage of the species composition of the small-mesh industrial fisheries targeting sprat in SDs 27-29 and SD 32 to decrease the potential of uncertainties in catch levels of herring and sprat. "

For STECF, only Denmark provided additional detailed information on the catch composition of bycatch in the fishery <32mm in the Baltic. The information was provided by broad area Western / Eastern Baltic but not by individual SubDivision. Distribution of sprat landings across areas was not provided either.

According to the data provided by Denmark, herring is by far the main species represented with around 1,000-2,000 tonnes by year (up to 5.5% of the sprat quota), but there are also reported catches of cod, blue whiting and dab in very limited quantities (<0.1% of the sprat quota for most years). The by catches figures were however quite variable from year to year (from 1.2 to 5.4% of the sprat quota for herring, and from 0.002 to 0.4% for cod), and therefore the 5-year average doesn't seem to be informative of real patterns.

In addition, STECF investigated the data reported by all Member States for the effort regime (STECF EWG 12-06). In 2011, herring and sprat constituted 100% of the reported catch (landings + discards) in area 28.2 and 29-32. In area 22-24 (A), they summed up to 97.4%, the rest being constituted of sandeel (2%), whiting (0.3%) and cod (0.3%). In area 25-28 (B), only 0.2% of cod was reported. In addition, insignificant numbers of salmon, flounder and eel were reported sporadically.

STECF conclusions

According to the ICES Working Document (WGBFAS 2012 report, WD 5, http://www.ices.dk/workinggroups/ViewWorkingGroup.aspx?ID=42), most countries seem to undertake biological sampling of catch composition in conjunction with official logbook declaration. However, this could not be investigated further by STECF, as only Denmark provided additional information on sampling design and catch composition. Based on the available information, the STECF conclusions with respect to the specific requests from the Commission are as follows:

- *What are the species caught as a by-catch in sprat fishery using trawls, Danish seines or similar gears of a mesh size less than 32 mm in the Baltic Sea?* Herring is by far the main species other than sprat caught in the pelagic fishery. Cod is also a regular bycatch while reported bycatches of other species including sandeel, whiting, salmon, flounder and eel are sporadic.
- *What were the quantities of those species caught annually in the last five years, i.e. 2007-2011?* From the information reported by Denmark and the data submitted by Member States in response to the 2012 data call for the EWG on fishing effort regimes (EWG 12-06), the pelagic fisheries in the Baltic have relatively low bycatches of species other than herring in terms of percentage of tonnage landed. Nevertheless, the annual bycatch of cod has varied between 300 t - 500 t over the period 2007-2011 mainly from area 25-28.
- *Is five years sufficient time period to quantify those by-catches?* The data submitted by Member States in response to the 2012 data call for the EWG on fishing effort regimes (EWG 12-06), indicates that the species composition of the bycatches from the pelagic fisheries in the Baltic over the period 2007-2011, has been relatively constant. While the reported landings by species have varied annually, they have nevertheless remained relatively low throughout the period 2007-2011. STECF considers that a five-year time-

period is sufficient to estimate of the recent trends in quantity and species composition of the by-catches from the pelagic fishery in the Baltic.

- *Are the data submitted by Denmark sufficient to quantify those by-catches*? STECF considers that the Data submitted by Denmark are not sufficient to quantify the bycatches from all pelagic fisheries in the Baltic. The limited spatial coverage of the Danish pelagic fleet, and the variability of estimates means that the estimated by-catch from the Danish pelagic fleet may not be representative of bycatches taken by pelagic fleets from other member States. However, the data submitted by Member States in response to the 2012 data call for the EWG on fishing effort regimes (EWG 12-06) is sufficient to quantify bycatches from the pelagic fisheries in the Baltic, assuming that the data reported by the individual Member States is representative of their national fleets.

STECF recommendations

STECF notes that monitoring of the bycatch from Baltic pelagic fisheries is currently undertaken by most EU Member States and that these data are reported to ICES. Hence STECF recommends that the Commission request ICES to publish the species composition of catches from pelagic fleets in the Baltic in the Reports of the WGBFAS (as is for example done by the WGNSSK for the North Sea).

7.13. Request for an STECF assessment of alternative TORs for EWG 12-11 Balance fishing capacity -opportunity

Terms of reference

STECF is requested to examine the alternative terms of reference as listed below, and to advise on the extent to which they could be completed this year.

In the event that certain elements may not be achievable during 2012, STECF is requested to advise on :

a) any pre-requisite actions that need to be taken by MS or the Commission in order to facilitate this work;

b) insofar as feasible, advise on a likely timeframe for completion.

Alternative TORs for EWG 12-11: Balance fishing capacity-opportunity

Background

In the past, the Commission has had difficulty making evaluations of national reports because of the absence of common standards or criteria for assessing possible overcapacity of fleet segments. The Commission is therefore requesting that an analysis be made using a standard approach and based on DCF information. This could be used as a basis for comparison with the national analyses, and with the conclusions there from.

The Commission would like two parameters to be calculated for each fleet segment: an index of profitability, and two indices of biological sustainability.

The index of profitability is a calculation of ROI (where the underlying data allow a calculation), otherwise an appropriate proxy will have to be substituted.

The first index of sustainability is based on the work of STECF-EWG-11-13, and is the indicator described under ToR 6, "Ecological indicators" (ii) as follows:

"… the weighted average of the normalized fishing mortalities F* for all stocks that are exploited by the fleet and assessed by ICES ", where $F^* = (F_{current} - F_{MSY})/(Fpa-F_{MSY})$.

The second index of sustainability is similar to that described above, but expressed as:

"… the weighted average of the normalized fishing mortalities F* for all stocks that are exploited by the fleet and assessed by ICES ", where $F^* = F_{current}/ F_{MSY}$.

Terms of Reference

1. Collate the statistical background for analysis of overcapacity.

The EWG should evaluate, for all possible fleet segments and on the basis of DCF data:

(i) An index of economic profitability, based on Return on Investment (RoI) where possible, or using an appropriate proxy in other cases.

To facilitate this process DG MARE will provide values for this parameter calculated by its Structural Policy and Economic Analysis Unit. The EWG is requested to use these values where they are considered appropriate, or else to provide alternative values with explanation.

(ii) The technical indicator as described in Section 2.1.1 of the "Guidelines for an improved analysis of the balance between fishing capacity and fishing opportunities".

(iii) An index of the biological sustainability of the resources on which each fleet segment depends. This will be based on a normalised and rescaled fishing mortality rate, weighted according to the recent catches of each stock exploited by the segment. The methodology described under ToR 6 of EWG-11-13 will be used.

(iv) An alternative index will be calculated, based on comparable methodology to that in (iii) but calculated on the basis of $F^* = F_{current}/F_{MSY}$.

(v) For each fleet segment, STECF is invited to state the extent to which the fleet can be considered to be inn excessive capacity either in economic or in biological terms. Where the indices can be calculated the statements should refer to the indices. Where the indices cannot be calculated STECF should identify the problem with the data and provide a qualitative evaluation.

2. Evaluate Member States' reports

Evaluate the Member States' reports on their efforts during 2010 to achieve a sustainable balance between fleet (or fishing) capacity and fishing opportunities, structured as follows:

a). For each fleet segment, the EWG should summarise the situation with respect to the indicators calculated under ToR 1 and statements under Tor 1(v) and record :

i) any statement by the MS concerned as to whether overcapacity is (or is not) believed to exist)

ii) any statement made by MS concerning national objectives for the sector concerned (e.g. objectives to increase or decrease capacity).

iii) any statement made by MS concerning means deployed in order to adjust capacity (e.g. decommissioning schemes, national incentives etc.)

iv) any methodological problems associated with the calculation of indicators or the estimation of overcapacity.

v) Member States' evaluation of the effect of fishing effort management measures on fishing capacity

b) Compliance of MS reports with Art. 14 of Council Regulation No. 2371/2002 and Art.12 of Commission Regulation No. 1438/2003

To fulfil ToR 2. please score the Member States' reports according to the system for required elements detailed in sections 7.1 and 7.5, and table 7.1 of the report by SG-BRE10-01. The results of the scoring exercise should be presented as in tables 7.2 and 7.3 of the report of SG-BRE 10-01. Updated versions of tables 7.4 and 7.5 should also be presented. Please also provide basic observations on the content of the Member States' reports. See report of SG-BRE 10-01, sections 7.2, 7.3 and 7.4.

STECF response

Initially, STECF must again stress that measuring the balance between fishing capacity and opportunities is a complicated task and that no single indicator used in isolation, can confirm balance or imbalance. In the annual national reports delivered by Member States to the Commission, four categories of indicators are required to arrive at a comprehensive assessment of balance. The categories are biological, technical, economic and social indicators, and MS are requested to do all the calculations and provide the qualitative assessment of the situation in fishery.

STECF agrees that additional candidate indicators are worthy of consideration; for instance in relation to sustainability as proposed by the EWG 11-13: Ecosystem Approach to Fisheries Management (Section 5.1 of this report) The EWG 11-13 calculated indices of sustainability for a selection of fleets for which appropriate data were available. Extending such calculations to cover all EU fleets will not be possible with the data available from the various data calls in 2012.

Furthermore, STECF considers it to be important that Member States have the opportunity to give some qualitative assessment of the combined set of balance indicators currently presented in National Reports in order to set them into perspective.

Finally, STECF observes that in previous years the workload of *EWG 12-11 - Balance fishing capacity-opportunity* has been challenging and considers that to provide an adequate response to the proposed revision to the Terms of Reference will be impossible with the resources available to the EWG and the time available before the meeting.

Thus, STECF considers that in addition to its primary task to evaluate Member State reports and Commission summaries, as previously undertaken, STECF suggests that the EWG- 12-11 be asked to evaluate the utility of including fleet-specific sustainability indicators in addition to those indicators already specified in the guidelines for the assessment of balance (See section 6.1 of this report) and whether reliable indicators at the fleet-specific level can be estimated. This evaluation should include data requirements and interpretation, but no general calculations should be undertaken.

8. GENERAL ISSUES

8.1. STECF recommendations on scientific experts for FPA negotiations

Background

Reinforcement of the scientific approach supporting discussions and negotiations on Fisheries Partnership Agreements, and more particularly to improve the scientific expertise made available through Joint Scientific Committee established for the three following FPAs is intended:

- FPA EU-Marocco
- FPA EU-Mauritania
- FPA EU-Guinée Bissau

Terms of Reference

STECF, STECF secretariat and board are requested to suggest some names of scientists, either already involved in the STECF framework or not and either working for European scientific bodies or even outside Europe, who would have the adequate skills and competences with regards to assessments of the type of stocks and fisheries covered by such agreements (industrial and artisanal fisheries on small pelagics, cephalopods, shrimps and demersal finfish) and who have developed relevant knowledge about this geographical area. It would help DG mare to establish lists of scientists who could be regularly invited to join JSC meetings.

STECF response

STECF compiled a list of experts who would have the relevant knowledge and expertise to provide scientific backup to the Commission during fisheries partnership agreements. The list is drawn from those expert that have attended previous STECF meetings regarding such issues (i.e. the 2012 meeting on methodologies and estimation of surplus for fisheries partnership agreements and review of assessment methods for short-lived West African waters), supplemented by experts with field experience in area subject to FPAs and experts with knowledge and experience with data limited and data poor stock assessment methods as well as experience with tuna fisheries in the ICCAT framework.

STECF provided the list of proposed expert to the Commission services.

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Abstract

The Scientific, Technical and Economic Committee for Fisheries hold its 40th plenary on 9-13 July 2012 in Copenhagen (Denmark). The terms of reference included both issues assessments of STECF Expert Working Group reports and additional requests submitted to the STECF by the Commission. Topics dealt with ranged from fisheries economics to management plan evaluation issues.

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The Scientific, Technical and Economic Committee for Fisheries (STECF) has been established by the European Commission. The STECF is being consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations.

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