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–

44th Plenary Meeting Report (PLEN-13-03)

PLENARY MEETING,
4-8 November 2013, Brussels

Edited by John Casey & Hendrik Doerner

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PLENARY MEETING

4-8 NOVEMBER 2013, BRUSSELS

1. INTRODUCTION

The STECF plenary took place at the MAI - INTERNATIONAL ASSOCIATION CENTRE, rue Washington straat 40 – B-1050 Brussels, Belgium, from 4 to 8 November 2013. The Chairman of the STECF, Dr John Casey, opened the plenary session at 09:30h. 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 8 November.

2. LIST OF PARTICIPANTS

The meeting was attended by 29 members of the STECF, one external expert, and four JRC personnel. Nine Directorate General Maritime Affairs and Fisheries personnel (DG MARE) attended parts of the meeting. Section 8 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:
Didier Gascuel
Andrew Kenny
Sakari Kuikka
Hilario Murua

3. INFORMATION TO THE PLENARY

3.1. STECF plenary – information from the Commission

DG MARE informed the Committee that Stefanie Schmidt has returned to be the assigned overall focal point for STECF within DG MARE.

DG MARE informed the Committee that financial planning for STECF for 2014 and thereafter is pending the entry into force of the future EMFF. Until then planning for STECF tasks and meetings will be limited to high priorities and urgent needs under the new CFP.

4. STECF INITIATIVES

4.1. Report on EU Seminar on implementing the New CFP – Regionalisation and landing obligation

STECF member Willy Vanhee attended the "EU Seminar on implementation of the New CFP Reform" held by the Commission in Brussels on the 25 November on behalf of STECF. The seminar was attended by representatives of the Member States, Fisheries organisations, RAC's, NGO's, etc. The seminar elaborated in the landings obligation and the regionalisation. Willy Vanhee informed the STECF members during this plenary meeting on the statements of the Commission and the discussions held during the seminar.

5. ASSESSMENT OF STECF EWG REPORTS

5.1. STECF-EWG-13-09 Assessment of Mediterranean Sea stocks - part 1

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group, evaluate the findings and make any appropriate comments and recommendations.

Introduction

The report of the Expert Working Group on Assessment of Mediterranean Sea stocks - part I (STECF EWG 13-09) was reviewed by the STECF during the plenary meeting held from 4 to 8 November 2013 in Brussels, Belgium. The text below represents the outcome of that review.

STECF observations

The meeting was the first of two STECF expert meetings, within STECF's 2013 work programme, planned to assess demersal stocks from the Mediterranean Sea. The meeting was organized by the STECF Secretariat (JRC) in Ispra (Italy) from 15-19 July, 2013. The meeting was chaired by Massimiliano Cardinale and a total of 25 experts participated, including 4 STECF members plus 4 JRC experts.

Historic fishery-dependent and scientific survey data were obtained from the official Mediterranean DCF data call issued to Member States on April 9th 2013 with deadlines on 3rd June and 29th November 2013. The latter deadline was specifically set to call for in-year (2013) MEDITS survey data to improve the precision of short term forecasts of stock size and catches under various management scenarios.

In relation to each of the Terms of Reference (ToRs), STECF notes the following:

ToRs (a-c): The EWG 13-09 performed assessments and short-term catch forecasts for 15 demersal stocks. Medium-term forecast were carried out for only those stocks for which a meaningful stock recruitment relationship supported such analyses.

ToR (d): Stock-specific evaluations of data quality were conducted for all stocks addressed under ToRs (a-c). Data coverage and quality for the fisheries and survey data submitted under the data call was undertaken by JRC experts prior to the meeting using data exploration tools and the MEDITS SQL quality checks developed specifically for this purpose.

ToR (e): JRC experts distributed the latest releases of Fisheries Libraries in R (FLR) and supported the EWG participants in running assessments and solving specific R issues. JRC distributed a revised and cleaned version of the short and medium term forecast R scripts and initiated the redesign and development of the scripts for fisheries and survey data.

ToR (f): An evaluation of the current Beta version of the BEMTOOL software (developed in the MAREA framework) which is a bioeconomic model designed to carry out simulations for different management scenarios for Mediterranean fisheries was carried out. Based on the results obtained through four case studies investigated during the meeting, the EWG considered that the model is a good starting point for the evaluation of different management scenarios for Mediterranean fisheries. However, in order to better encourage the integration of BEMTOOL into the scientific advisory process for the Mediterranean the EWG 13-09 noted the following:

a) BEMTOOL would benefit from an simpler software installation procedure;

b) Simulation testing with economic and biological data of known underlying properties is needed;

c) In order to assess the risks associated with alternative management scenarios, BEMTOOL should be able to provide estimates of uncertainty associated with simulation results.

ToR (g1): The stocks to be assessed in the future meetings were identified under the assumption that annual assessments will continue to be required. It was suggested that for the expert group (EWG 13-19) planned for later this year, priority should be given to sardine, anchovy, red mullet and striped red mullet stocks. The expert group noted that mixed-fisheries assessments would need a minimum number of key stocks per GSA (e.g. 5 or 6 stocks per GSA) to provide meaningful results and suggested that results of stock assessments conducted in the most recent 2 to 3 years (i.e. 2010-2012) could be used to satisfy the criteria of a minimum number of stocks per GSA. The EWG 13-09 also considered that it would be desirable to develop a framework for mixed fisheries assessments and advice in a dedicated expert group rather than the regular expert group dealing with single-stock assessments.

ToR (g2): An analysis of compliance of Mediterranean trawl fisheries with the current minimum catch sizes enforced by EU reg 1967/2006 for a selected set of demersal stocks was also undertaken.

The EWG 13-09 report contains a proposal to convene a methodological EWG early in 2014 to set up and test different assumption of selectivity for a set of stocks, and about discard data and slicing methodologies to be used for future stock assessments. Specifically there is a need to undertake the

following: collate and assemble the necessary input data by fleet for stocks of hake and Norway lobster in selected GSAs; run statistical catch at age assessment models with different assumptions on selectivity (i.e. dome shaped, logistic, etc); discuss and compare the results with previous assessment conducted by XSA or other models; set up a common methodology to reconstruct times series of discard data to be used in future stock assessment; decide upon a common slicing methodology to reconstruct times series of catch at age data to be used in future stock assessment.

STECF conclusions

Based on the findings in the EWG 13-09 report, STECF concludes the following:

Of the 15 demersal stocks assessed by the EWG 13-09, only one, Norway lobster in GSA 15-16 is currently being exploited at a sustainable rate. Of the remaining 14 stocks, 13 are currently being exploited at rates that are not consistent with achieving MSY and one stock could not be assessed. A summary of stock status is given in Table 5.1.1.

Table 5.1.1. Summary of stock status for the 15 stocks assessed by the EWG 13-09

GSA	Common name	Species	Presentation	Assessment	Comment	Status	F/F_{MSY}
1	Hake	*Merluccius merluccius*	Yes	XSA	Accepted	Overexploited	7.32
1	Pink shrimp	*Parapenaeus longirostris*	Yes	XSA	Accepted	Overexploited	1.65
5	Pink shrimp	*Parapenaeus longirostris*	Yes	XSA	Accepted	Overexploited	1.24
6	Pink shrimp	*Parapenaeus longirostris*	Yes	XSA	Accepted	Overexploited	5.48
7	Hake	*Merluccius merluccius*	Yes	XSA	Accepted	Overexploited	16.64
9	Giant red shrimp	*Aristaeomorpha foliacea*	Yes	XSA	Accepted	Overexploited	1.72
10	Hake	*Merluccius merluccius*	Yes	XSA	Accepted	Overexploited	7.14
10	Pink shrimp	*Parapenaeus longirostris*	Yes	XSA	Accepted	Overexploited	1.33
11	Hake	*Merluccius merluccius*	Yes	XSA	Not accepted	Unknown	NA
15-16	Norway lobster	*Nephrops norvegicus*	Yes	a4a	Accepted	Exploited sustainably	0.75
15-16	Blue and red shrimp	*Aristeus antennatus*	Yes	VIT	Accepted	Overexploited	3.12
17	Common sole	*Solea solea*	Yes	SS3 by fleet	Accepted	Overexploited	3.00
18	Hake	*Merluccius merluccius*	Yes	XSA	Accepted	Overexploited	5.26
19	Pink shrimp	*Parapenaeus longirostris*	Yes	XSA	Accepted	Overexploited	1.96
19	Hake	*Merluccius merluccius*	Yes	XSA	Accepted	Overexploited	5.50

STECF supports the Expert group's proposal to convene a methodological EWG early in 2014 but notes that because of budgetary constraints such a meeting is unlikely to take place. Nevertheless, in order to address the methodological issues outlined in the EWG 13-09 report with a view to providing the best scientific advice in the future, STECF considers that it is highly desirable that such a meeting is convened at the earliest opportunity.

STECF concludes that the EWG 13-09 adequately address all of the Terms of Reference and endorses the findings presented in the report.

5.2. STECF-EWG 13-16 Landing Obligation in EU Fisheries

Background

Article 15 of the new CFP Basic Regulation (BR) recently agreed by the European Parliament and the Council, introduced a discard ban or landing obligation. This represents a fundamental shift in fisheries policy. The final text agreed by the Council and European Parliament includes a number of exemptions and flexibility tools that raise issues for implementation, catch forecasting, stock assessment and control and monitoring. The European Commission has requested STECF and ICES to consider these issues. At a scoping meeting involving STECF and the ICES Secretariat held during the summer plenary of STECF these issues were discussed and a draft work plan agreed between STECF and ICES of how to address them.

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group, evaluate the findings and make any appropriate comments and recommendations.

STECF observations

The meeting of EWG 13-16 is the first of several intended STECF meetings addressing the issue of landing obligations for EU fishing fleets. The next meeting (EWG 13-17) is already planned for 26th-28th November 2013.

The EWG 13-16 report highlights that there are a number of interpretational issues relating to the *de minimis* exemptions described in Article 15 of the the basic regulation. It is unclear whether these exemptions are meant to apply at a MS level or can be cumulative across MSs. Similarly, it is unclear whether these exemptions should apply at the individual species level or for all species combined. Regarding inter-species quota flexibilities, it is unclear whether the so-called 'donor' quota was intended to be provided at the individual vessel level, at fleet level or at Member State or regional level and whether the donor quota is restricted to single or multiple species, as 'target-species' is not defined.

The inter-species quota flexibility and the *de minimis* provisions can provide flexibility in the system to better adjust catch compositions to resemble fishing opportunities and increase both ecological and economic sustainability. However, depending on how the text in the regulation is interpreted, which and in which sequence these flexibilities are used the same provisions could be used to legally increase catches well in excess of desired or intended levels. STECF observes that the report identifies a number of important factors that will require careful consideration, if negative and unintended consequences are to be avoided.

STECF notes that any detailed rules that are made to implement the landings obligations will create several new restrictions, opportunities and incentives. Hence, before being finalised and agreed, STECF considers that proposed new rules should be carefully scrutinized to identify what business incentives they create for fishing-business owners and therefore what the responses of fishing-business operators are likely to be. In short, proposed new rules should be tested for unintended and undesired consequences.

STECF notes that the EWG 13-16 compiled an interesting and valuable spreadsheet comparing the time series of catch data held by ICES and STECF, which indicates that discrepancies between the two data sources has decreased in recent years. The report also proposes which data are the most appropriate to use for discard estimates.

STECF observes that EWG 13-16 addressed the important issue of control and enforcement in relation to the landing obligation, and that these aspects should be considered an important part of future discussions.

STECF conclusions

Based on the findings in the report of the EWG 13-16, the STECF concludes that the EWG 13-16 report represents an important step in identifying and assessing some of the key issues associated with the landing obligations and will be an important aid for those developing and assessing regional management plans.

Noting that time to provide advice on the development and assessment of discard plans and regional management plans is limited (for the pelagic stocks and for salmon in the Baltic Sea, plans need to be submitted by June 2014) and many issues still need to be resolved, STECF concludes that the most important challenges to address include the following:

- Defining management units (e.g. stocks, areas, fisheries). As an example: the pelagic fisheries should apply the landing obligation from 2015 onwards, and can be approached in many different management units involving very different combinations of Member States and Advisory Councils. Discard plans could possibly be submitted for different combinations of area, species, stock, catching method, vessel type and other relevant aspects of the fishing activity.
- Dealing with third countries (e.g. Norway)
- Defining Minimum Conservation Reference Sizes (again with no clear objective, but with major implications for the marketing of the catch and the economics of catching businesses
- Develop the criteria to evaluate discard plans (Impact Assessment indicators)
- Outlining a process for developing discard plans
- The effect of exemptions and de-minims on control, enforcement and compliance levels

STECF concludes that the EWG 13-16 adequately addressed the majority of the Terms of Reference although further exploration of some highlighted issues is required especially in the context of developing regional discard plans. These will be addressed at the forthcoming expert group meeting (EWG 13- 17) to be held in Dublin from 26-28 November 2013.

STECF endorses the findings presented in the report of the EWG 13-17.

5.3. STECF-EWG-13-07 Annual Report 2012 evaluation

Background

Member States must submit Annual Reports to the Commission under the provisions of the Data Collection Framework Council Reg. 199/2008. These reports shall be reviewed by the STECF. The STECF EWG13-07 reviewed these reports and the STECF Plenary is invited to review the report of the EWG13-07. Note that the Member State evaluation sheets, which were prepared during the EWG13-07, have already been reviewed by STECF, but this request concerns only the outstanding ToR of the EWG13-07.

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group, evaluate the findings and make any appropriate comments and recommendations.

STECF observations

STECF notes that a detailed evaluation of MSs´ data transmissions requires that the following is prepared in advance:

- a detailed list of the data specified (including e.g. segmentation) in the different data calls,
- a list specifying which data were not submitted and
- a list of derogations from the NP that have been agreed by the EC.

Such information needs to be provided to the pre-screeners by the Commission.

STECF notes that concerning section VII of the AR (follow-up of STECF recommendations), all MSs are selective with regard to which recommendations they choose to act upon and it is currently problematic to check which MSs have followed which recommendations. A first step to improve the situation could be the preparation of a list of the relevant recommendations by MS by ad-hoc contract before the meeting. For the future one may think about the storage and update of this information in a central electronic document, e.g. in the Master Reference Register or similar which MS can refer to.

STECF notes that there is an obligation to sample recreational shark fisheries.

STECF conclusions

STECF concludes that the issues highlighted by the EWG 13-07 regarding TOR 3 should be forwarded by the EC to MS for consideration in their AR 2013.

STECF considers that it is highly desirable that the current pre-screening arrangements are maintained as they proved to be very helpful for the evaluation process over the last 3 years. STECF agrees that the suggested improvements to the pre-screening process listed in chapter 3 of the EWG report would be worthwhile to make the process more efficient.

STECF concludes that a detailed evaluation of MSs' data transmissions is complex and time-consuming and requires more time and effort than is available during the EWGs dealing with these issues. In order to reduce the effort at the EWG-Meeting it should be considered if parts of the evaluation of MSs` data transmission can be done in advance by ad-hoc contracts or other means.

To improve the evaluation of ARs, STECF suggests for the next EWG dealing with AR evaluation that a request should be added to the ToRs for the EWG to discuss and decide whether the current system of compliance judgment needs a change, e.g. the application of a 5-grade scale and the introduction of a weighting system for the calculation of the overall compliance from the results for the single modules.

STECF considers that the report of the EWG 13-07 represents a thorough review of the data provided by Member States in their annual reports and endorses the findings in the report of the EWG.

5.4. STECF-EWG-13-10 Aquaculture economic report 2013

Background

Following the latest DCF call for economic data on the EU aquaculture, EWG 13-10 was requested to analyse and comment on the economic performance of the EU and national aquaculture sectors between 2008 and 2011. Previous editions of this report have been fundamentally descriptive and have focused more on the presentation of data. The 2013 report should provide a more analytical approach notably on the drivers and aspects of socio-economic relevance in aquaculture. The report should include, at least, the following sections:

1. A summary containing key findings.
2. EU aquaculture economic overview: drivers and main trends. (It must include specific sections on aquaculture employment, economic performance, and productivity at EU level)
3. National chapters on the economic performance of the aquaculture sectors, providing:
    - National aquaculture overview
    - Description of trends and drivers for change
4. EU analyses of economic performance by aquaculture sub-sector
5. Special topics of applied analysis.

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group and its summary, evaluate the findings and make any appropriate comments and recommendations.

Introduction

The Expert Working Group 13-10 convened in September 2013 in Ispra (Italy), to produce the 2013 Economic Performance of the European Union Aquaculture sector report. The report

reflects the work by 18 external experts and 4 experts of JRC that attended the meeting, but also work by 5 other external experts who participated via email.

This is the third report of this type focusing on the performance of the aquaculture sector and providing an overview of the latest available information on the structure, social, economic and competitive performance of the aquaculture sector at national and EU level. The data used in this publication relates from 2008 to 2011, and was collected under the Data Collection Framework (DCF). The call for data was issued by DG MARE on the 13th of May 2013. Member States were requested to submit the data within 1 month of the call, making the submission deadline the 13th of June 2013.

STECF observations

In addition to the ToR to STECF, during the EWG 13-10 meeting the Commission requested that the EWG also comment on aquaculture data issues documented in the Report of the EWG 13-05 on the development of the DC-MAP.

The main issues discussed by EWG 13-10 are related to:

1. the statistical unit to be considered: the company or the farm (production unit)
2. distinguish cost and income items by economic activities (considering those different from farming, e.g. processing, marketing, oil drilling);
3. improving the DCF (future DC-MAP) segmentation by considering new segments (e.g. by environment, more species);
4. inclusion of new variables (e.g. subsidies on investment, livestock, weight and value at the end of the period);
5. renaming of variables that are already collected (e.g. debts and total value of assets).

STECF summary observation in relation to each of points 1-5 above are given below.

1) STECF notes that the choice between the company or the farm (production unit) strongly depends on the requirement of the primary end-user or users, in this case (i.e. DG MARE). The statistical unit should be the enterprise (legal unit) if the end-user is interested in the economic performance of the aquaculture sector. Indeed, all costs and incomes are recorded at the company level. If the end-user is instead interested to know the socio-economic importance from a spatial point of view and a more detailed knowledge of the economic performance of particular aquaculture farming, then there is the need to use the farm (production unit) as the statistical unit. However, if businesses themselves do not record data at a certain level of detail, e.g. production unit level, then it will be impractical to try to collect data at that level.

2) STECF observes that some companies that carry out aquaculture activities also carry out other economic activities (for instance, processing, marketing, oil drilling). Taking into account that, in the present DCF, aquaculture data are collected at company level, STECF notes that if an economic performance or productivity analysis of the aquaculture sector is requested by key end-users, it is important that data related to the aquaculture sector are separated from data relating to other activities. If the main aim is to analyse the economic strength of the companies carrying out aquaculture, then data on all economic activities conducted by such companies are needed.

3) STECF notes that the current segmentation of aquaculture data collection does not permit an evaluation of production in different environments (salt-water, fresh water, brackish, etc.) even though DG-MARE has explicitly requested facts and figures in the report based on such an

evaluation. STECF agrees that such an evaluation is required for a more complete analysis and understanding of the sector.

4) and 5) STECF notes that some of the issues associated with variables and conceptual issues are in some cases common to other sectors (fleet and processing).

STECF notes that there some confusion remains due to the fact that EU Member States are required to collect and provide data on marine (salt water) aquaculture, whereas the collection and provision of data on inland (freshwater) aquaculture is only voluntary under the DCF. Indeed, some MS submitted freshwater aquaculture data, even if not mandatory, while other MS did not, even if the inland (freshwater) production in these countries is relevant (e.g. Germany). Bearing this in mind, and in order to have a complete picture of the EU aquaculture (including freshwater), DCF data have been complemented by data held by the FAO.

Although there was an improvement in the quality of the data submitted compared to the previous data calls, there are still issues with several parameters that Member States are working to improve. Data checks were performed by the JRC through the analysis of the data submitted and by experts at the EWG meeting to prepare this report. The checks identified some questionable data and resulted in data resubmissions by some MS after the deadline and even after the EWG meeting.

Regarding coverage issues (submission of data), STECF notes that there were a) MSs that did not submit 2011 data (Netherlands, representing 2-3% of the EU production; they have specified in their national programs that aquaculture data is available at the end of the year +2); b) MSs submitting incomplete reports with some parameters missing thereby preventing an assessment economic performance (e.g. Greece and UK, representing 28% of the EU aquaculture sector) and c) MSs not submitting data (or full data) by fleet segment (e.g. Bulgaria, Cyprus).
The EWG 13-10 report provides more qualitative information about the main trends and the drivers of the changes that have occurred in the EU aquaculture industry.

STECF notes that a chapter on data alignment among DCF, FAO and EUROSTAT sources is provided. This chapter highlights why DCF data for MSs do not always match data from FAO and Eurostat and provides reasons why the collection of volume and value of sales should continue to be collected under the DCF (and not replaced by FAO or Eurostat data). In particular, the exercise of comparing the different data sets showed that a cross-check is possible by aggregating the more detailed EUROSTAT and FAO statistics at the level of the main species groups in the DCF. However, this cross-check is more problematic when considering the segmentation by farming technology due to differences between the DCF and EUROSTAT classifications.

STECF conclusions

STECF concludes that the EWG 13-10 report represents the culmination of a considerable amount of work by a numerous dedicated experts and provides a good overview of the economic performance of the EU aquaculture sector. It also represents an improvement in terms of quality and coverage compared to previous reports and puts more emphasis on qualitative knowledge. Despite the effort of individual experts, useful analysis was limited by the coverage and quality of the data submitted by MS and in some cases non submission of the data requested.

STECF concludes that, the collection of economic data disaggregated to farm or production unit level would be very difficult to achieve in practice.

STECF concludes that for companies that undertake both aquaculture and non-aquaculture activities, collection of data disaggregated by activity would be very difficult or impossible and would not be cost-effective. This is because most MSs base the collection of economic data on the official statistics, where companies are classified according to their main economic activity and hence, their incomes and costs relating to secondary activities are not easily distinguishable from those relating to their main activity.

STECF agrees with the proposals in Appendix 3 of EWG 13-10 on the issues concerning the need, in the future DCMAP, of further (i.e. new species segments or culture techniques) and more detailed segmentation (i.e. by environment). However, it should be noted that if one company has operations in different types of water, a range of species or culture techniques, then this desired distinction could be very difficult to make because the companies involved in multiple types of production techniques may not produce figures that distinguish between them. If companies themselves do not produce separate figures for different types of aquaculture production then it is not practical to collect data for different techniques of aquaculture production.

STECF concludes that issues relating to the inclusion of new variables as well the renaming of others would best be addressed by the forthcoming EWG 13-18 dealing with the future DCMAP because some of them are also pertinent to the fleet and the processing sectors. EWG 13-18 should also address the issues related to the distinction of income and cost items by economic activity and the feasibility, costs and benefits of including, in the new data collection regulation, a more detailed segmentation, e.g. by farming environment (marine and freshwater) as well as new important species segments, i.e. tuna, eel, others.

STECF concludes that data submission by MS after the deadlines compromises the ability of the EWG to undertake its work effectively and may also compromise the quality of the report.

STECF concludes that the timing of the EWG dealing with the aquaculture report is not optimal (EWG 13-10 was held in the first week of September, just after the summer break for many contributors to the report). It proved impossible to have all national chapters almost ready ahead of the EWG meeting as planned, with the result that there was less time to address more qualitative issues and general discussion on the main findings (e.g.trend and triggers).

STECF also concludes that a feasibility studies will be required if disaggregation of aquaculture production to farm or production unit level, disaggregation of economic data (income and costs) by type of economic activities, or disaggregation according to any other aspects of production are needed. The aim of such studies should be to evaluate if it is possible to collect data at the desired level of aggregation and the associated cost of doing so.

In keeping with the conclusions of EWG 13-05 on DCMAP and EWG 13-10, STECF concludes that that the standardization of the DCF segments on farming technology for finfish with the EUROSTAT classification is desirable. This is considered particularly important since it would allow comparison of economic data in the DCF with EUROSTAT and hence allow the use of some EUROSTAT figures (not collected under DCF), e.g. farm surface areas available since 2012 with the entry into force of Regulation (EC) No 762/2008.

STECF acknowledges that the EWG-13-10 adequately addressed all of the the Terms of Reference and endorses the findings in the report.

5.5. STECF-EWG-13-15 Fish processing sector economic report 2013

Background

Following the 2103 DCF call for economic data on the EU fish processing sector, EWG 13-15 was requested to analyse and comment on the economic performance of the EU and national fish processing sectors between 2008 and 2011. The main objective economic report for the 2013 on the fish processing sector is to develop more economic analysis and bring the report more "up to date". Quality of data remains essential and data quality checks and data validation tools were applied by the JRC. This report shall include, at least, the following sections:

1. EU fish processing sector economic overview: drivers and main trends. (It must include specific sections on employment and average salaries, economic performance and productivity at EU level as well as a brief summary for each national chapter).
2. National chapters on the economic performance of the fish processing sector providing:
   - National fish processing sector overview
   - Description of trends and drivers for change.
   - Outlook
3. Data coverage and quality
4. Special topic of analysis

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group and its summary, evaluate the findings and make any appropriate comments and recommendations.

Introduction

The report is the forth report of its kind and provides a comprehensive overview of the latest information available on the structure, social, economical and competitive performance of the fish processing industry at the national and EU level. The Expert Working Group was convened in Hamburg 14-18 October 2013.

The key findings of the report are:

- in 2011 the fish processing sector in the EU comprised appr. 3,400 enterprises with fish processing as main activity,
- accounting for about €24.8 thousand million of turnover and more than €5.1 thousand million of Gross Added Value (GVA), and
- employed around 114 thousand people in the whole of Europe.

STECF observations

STECF notes that EWG 13-15 addressed all TORs. In addition the EWG also answered a few additional requests and questions regarding the future data collection for the fish processing industry in the framework of the DC-MAP and the delivery of data by segments.

STECF notes that the data coverage and quality improved compared to the last report in 2012. However, for Belgium no data was delivered and due to the lack of specific expertise in some countries several national chapters include only a description of the data which was delivered instead of also describing major drivers and trends for development.

STECF notes that compared to 2010, turnover in the fish processing industry declined in 2011. After the start of the global financial crisis, many countries reported increases in several socioeconomic indicators over 2008-2010, including turnover, net profit and employment. However, the picture differed across MS. For example, in Denmark and France the situation improved, while in Ireland and Latvia it continued to deteriorate. From 2010 to 2011, there was again a marked decline in the economic condition of the European fish processing industry (e.g. -30% for net profit) and net profit from fish processing declined in all Member States except Cyprus, Denmark, France Lithuania, and Slovenia. Preliminary indications are that over 2012/2013, the situation has improved compared to 2010/2011, but again varies by Member State.

STECF conclusions

STECF concludes that there are several good reasons to include economic data on the fish processing sector in the new data collection regulation (DCMAP). To allow more efficient data collection, the new list of proposed variables to be collected for DCMAP is closer to the list of variables that must also be collected for the Structural Business Statistics (SBS) for delivery to EUROSTAT. Further, some of the additional variables proposed for DCMAP need not be collected annually

STECF concludes that data on social indicators should be reported twice in total (rather than annually) during the period of the DCMAP (2014-2020) and that MS should base their data disaggregation regions on NUTS 2 and 3 classification and define these in their national programmes.

STECF concludes that overall the processing sector is suffering from low margins, which continue to decrease owing essentially to increases in raw material and energy cost,s that cannot be translated into price increases due to the retail sector's high negotiation power.

STECF concludes that the EWG 13-15 addressed the issue of the added value of including data collection on the fish processing industry in the new DC-MAP. The report describes in detail the need for a study on the possible data collection for raw material as this forms the link between the processing industry and the fishing sector. Such a study was also recommended by the STECF in the Report of the November 2010 plenary meeting (PLEN 10-03).

STECF concludes that, under the new DCMAP, when reporting on numbers of enterprises and numbers of persons employed in order to illustrate the importance of the fishing and seafood sector in each region, data from fish catching, fish farming and fish processing should all be used to give a more useful indication of industry importance to the regions. This overview of three parts of the

supply chain could enable more useful impact assessments of proposed management measures for catching or aquaculture.

STECF concludes that the appropriate segmentation for data delivery requires further investigation as it would appear to be more useful for the analysis of main drivers and trends in the industry to use a segmentation based on products rather than number of employees. However, as the STECF proposes to include new socio-economic variables in the DC-MAP dealing with location and concentration of the industry, the segmentation by number of employees may also be possible.

STECF concludes that the delivery of data on extraordinary costs and income should be optional as these data are not relevant for many MS. The variables list for the new DC-MAP should be changed accordingly.

STECF considers that a meeting with representatives from Eurostat on standardization of variable definitions is highly desirable and that it would be opportune if an invitation to participate in EWG 13-18, which will take place in Brussels at the end of November 2013, could be extended to Eurostat.

STECF concludes that the EWG 13-15 report represents the culmination of a considerable amount of work by a numerous dedicated experts and provides an excellent overview of the economic performance of the EU fish processing sector. STECF endorses the findings of the report.

5.6. STECF-EWG-13-14 Review of advice on stocks - part 3

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group, evaluate the findings and make any appropriate comments and recommendations.

STECF response

STECF reviewed, amended and adopted the draft report prepared by the STECF Expert Working group (EWG) 13-14 during its meeting held in Barza de Ispra, Italy from 14-18 October 2013.

The STECF review of advice for 2014 Part 3 summarises assessment results and advice for stocks of interest to the European Community in areas under the jurisdiction of CCAMLR, CECAF, WECAF, ICCAT, IOTC, IAATC, GFCM, NAFO, SEAFO, SPRFMO, and ICES advice on stocks in the North East Atlantic released since 28 June 2013.

The STECF review of advice for 2014 Part 1 included the latest assessments and advice for stocks in the Baltic Sea and was published in June 2014. Part 2 contained the review of assessments and advice released by ICES up to the end of June 2013 and was published in July 2013. Parts 1, 2 and 3 will be combined and published in the STECF Consolidated review of advice for 2014, which will be available in mid-November 2013.

In undertaking the review, STECF has consulted the most recent reports on stock assessments and advice from appropriate scientific advisory bodies or other readily available literature, and has attempted to summarise it in a common format. For some stocks the review remains unchanged

from the Consolidated Review of advice for 2013 (STECF 12-22), since no new information on the status of or advice for such stocks was available at the time the present review took place.

5.7. STECF-EWG-13-11 Balance fishing capacity-opportunity

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group, evaluate the findings and make any appropriate comments and recommendations.

Introduction

The tasks of the EWG were to;
1 Consider technical, economic and biological indicators for analysis of balance between fleet capacity and fishing opportunity and comment on the degree of balance or imbalance for the fleet segments provided.
2 Evaluate the Member States' reports on their efforts during 2012 to achieve a sustainable balance between fleet (or fishing) capacity and fishing opportunities, in terms of their compliance with Art. 14 of Council Regulation No. 2371/2002 and Art.13 and 14 of Commission Regulation No. 1013/2010.

The EWG assessed balance indicators for the period 2008-2011 (or for indicators, 2008-2012) using the following indicators:

- The Return on Fixed Tangible Assets.
- The ratio of current revenue to break-even revenue (CR/BER).
- The capacity utilisation per fleet segment (average days at sea / maximum observed or maximum theoretical days at sea).
- Inactive vessels per length category (Number and proportion of inactive vessels provided).
- A sustainable harvest indicator: average fishing mortality F/Fmsy for all assessed stocks that were landed by the fleet segment, weighted by the segment's landing value of the included stocks.
- Stocks-at-risk indicator: how many stocks at risk are landed by a fleet segment in a given year, where either a fleet segment takes a "significant" volume of that stock at risk or else the stock at risk constitutes a significant proportion of catch of the fleet segment.

The stock at risk indicator was designed to provide complementary information to the "sustainable harvest" indicator.

STECF observations

Based on the findings and conclusions given in the report of the EWG 13-11. STECF noted the following:

There was limited time available during the meeting due in part to the fact that the summary indicator tables of the MS had not been fully prepared at the start of the EWG, in particular

biological indicators were calculated during the meeting. More time available for working on pre-prepared tables of indicator values would have allowed experts to take a more considered and systematic approach to commenting on values of biological indicators. More time would also have allowed a more thorough analysis of the importance or meaning of findings at regional or gear-type level and could have allowed experts to give more meaningful and consistent commentary on the picture presented by the raft of indicators.

Experts provided comments on indicator values of activity for 434 fleet segments which represented 97% of the reported value of landings made by the EU fleets except Greece and Spain (these MS did not provide the necessary data) in 2011. Experts' ability to observe and comment on an overall picture was however limited by several key factors:

- lack of indicator values which could not be calculated because MS had not provided required data
- lack of stock assessments for a significant number of stocks prevented the calculation of biological indicators
- unknown levels of harvest of shared stocks by third countries prevented the calculation of biological indicators.
- Inconsistency in time series due to different clustering of fleet segments in different years of the time series
- Inconsistency of method, between and within MS and within time series for individual fleet segments, in estimating some of the indicators, in particular the vessel utilisation (technical) indicator.

Values of balance indicators across the EU fleet are not generally improving or worsening. There is a mix of different trends among fleet segments and it is not possible to make generalised comments about trends in balance between capacity and opportunity for the whole of the EU.

Any assessment of general trends and comparison across countries is complicated by the differences in availability of results and caution should be used in any interpretation of the results. E.g. the EWG found that, among MS fishing in Area 27, North East Atlantic, in 2011, Denmark and France had the highest number of fleet segments with a representative (not Low Proportion) Sustainable Harvest Indicator higher than 1.0 (indicating an unsatisfactory high exploitation status on average). However, other MS whose fleets fish in Area 27 do not have any values for this indicator and the finding relates only to those MS for which indicator values are available, rather than to all MS or fleet segments fishing in Area 27.

For the economic indicators, statistical uncertainty about the values of the indicators is taken into account by setting the conditions for the comments on sustainability (e.g. fleet segments are evaluated as being "apparently not sustainable" when Return on Fixed Tangible Assets is negative for the last 3 years). This assessment could be enhanced if the statistical uncertainty in the estimated indicators were quantified.

Both of the economic indicators are strongly affected by capital value of the vessels. The estimation of capital value has in the past proven to be based on assumptions which vary considerably by MS. In addition, the application of the indicator RoFTA for small-scale fleet segments needs to be considered with care, taking account of the low level of investments. Therefore comparisons of RoFTA and CR/BER between MS may not always be comparing like with like and should be considered with caution.

The quality and completeness of the national reports on the balance between capacity and fishing opportunities has increased substantially over the last 5 years, since STECF has been making systematic assessments of these reports. STECF observes, however, that completion of these annual reports, in full compliance with the regulation, does not necessarily imply anything relating to the degree of balance or imbalance between a MS fleet and its fishing opportunities. STECF observes that the legal basis provided in the new CFP appears to be more useful in enabling the Commission to require MS to make robust and specified assessments of the balance situation in their national fleets and fleet segments.

STECF conclusions

The way in which the balance question has been assessed this year - basing expert opinion on independently-calculated indicators based on DCF data and other publicly available information and not relying on the MS-reports - has resulted in a useful, more consistent assessment. The information in the EWG report provides a useful starting point for discussions about the balance between fishing capacity and opportunities.

The new Stocks-at-risk (SAR) indicator provides additional information on the biological status of the stocks relied upon by fleet segments and helps to identify fishing fleets whose fishing practices might include some that are unsustainable.

For the biological indicators, the comments on the indicator values for individual fleet segments, as being either sustainable or unsustainable, might be misleading given the thresholds used to determine the comment. Considering the uncertainty in the stock status, achieved F will always fluctuate around the target F_{MSY}, even in cases when fish stocks are fished sustainably, and therefore approximately half of the fleet segments will have their SHI value categorised as being unsustainable due to uncertainty in the F_{MSY} estimates.

It would be useful if there was a standardised system for allocating comments to different values of the SHI and the SAR indicator, defining the terms used and specifying threshold values that define the different comment categories. Completion of this task would enable more consistent and useful comparison of indicator value categories.

The utility of the analyses could be enhanced considerably if they were based on better data coverage for fleet segments and for time series. The coverage of the biological indicators would specifically benefit from an increase in the number of stock assessments, in particular for the Mediterranean and Black Sea. This could be solved partly by the creation of free access databases including the historical results of stock assessments for these areas (also including stock assessments carried out by ICCAT, IOTC and other relevant organisations). If information on assessments is not available, alternative indicators might need to be selected or developed.

The coverage and utility of the SAR indicator could be enhanced by including sensitive species which are (i) protected by international / regional conventions such as CITES, CMS (Bonn Convention), OSPAR, the Barcelona Convention Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, (ii) listed in European legislation such as the Habitats Directive, or (iii) included in the IUCN Red List of Threatened Species.

The current regulation requiring MS to prepare and submit annual reports on their efforts to achieve a sustainable balance between fishing capacity and fishing opportunity has not resulted in the provision of information that can be readily compared across MS by independent experts to provide a useful overview of balance or imbalance throughout the EU.

In order to facilitate more analyses of the importance or meaning of findings at regional or gear-type level and to allow experts to give more meaningful commentary on the picture presented by the range of indicators, it is desirable that calculated indicators are made available in prepared tables at the start of any future EWG meeting. This would enhance the utility of the report. In preparing the values of the indicators, ideally, the values would be checked for outliers/errors and flagged up. These outliers could exist, at least in some cases, because the calculation has been performed even if certain income or cost variables have been missing or incomplete (e.g. see Bulgaria RoFTA). It would be useful if JRC could also include additional information on the importance of the fleet segments, such as number of vessels, proportion of value of landings compared to the national fleets and of the supra-region.

For the evaluation of the annual reports, it would be useful if the Commission's translators could be provided with the annual report template in English, so that the translators could use standard terms for their translated headings, making it easier for experts to identify relevant sections. It would also be very useful if text in graphs, tables and figures could also be translated into English.

STECF concludes that the problems caused by variations in the way that data from more than one fleet segment are aggregated (clustering) would best be addressed by the forthcoming EWG 13-18 on the development of the future data collection regulation, with a view to being able to present indicator values for fleet segments that are comparable over time.

The estimation of capital value has in the past proven to be based on assumptions which vary considerably by MS. In addition, the application of the indicator RoFTA for small-scale fleet segments needs to be considered with care, taking account of the low level of investments. In order to improve comparability of balance between fleet segments and MS, at least one economic indicator which is independent of the capital value (e.g. GVA), should be added to any assessment of balance.

STECF concludes that The EWG 13-11 adequately addressed all Terms of Reference and endorses the report.

5.8. STECF-EWG-13-20 Bay of Biscay anchovy HCR

Background

Following new scientific information from ICES, in October 2014 the STECF expert group EWG 13-20 held a meeting to (i) assess and possibly revise the harvest control rule (HCR) in the proposed plan for anchovy in the Bay of Biscay (COM(2009)399 final), (ii) evaluate the results of implementing the HCR since 2010, and (iii) scope the impact assessment of management measures discussed with stakeholders.

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group, evaluate the findings and make any appropriate comments and recommendations. In particular advise on an appropriate harvest control rule and calculate the corresponding TAC for the fishing season 2013/2014 and plan for an impact assessment of management measures discussed with stakeholders.

Observations of the STECF

STECF notes that the 2009 proposal for a long-term plan for the anchovy fishery in the Bay of Biscay (COM(2009) 399 final) has, although not formally adopted, formed the basis for setting the TAC for anchovy since 2010. The plan was developed based on advice from STECF (STECF, 2008. *Working Group Report on the long term management of Bay of Biscay anchovy).*

STECF furthermore notes that the EWG-13-20 addressed the ToR by analysing four tasks:

1. *Assess options in relation to the current harvest control rule.*
2. *Advise on a possible revision of the HCR.*
3. *Evaluate the long-term plan (scoping).*
4. *Assess impacts of possible changes to the long-term plan (scoping).*

Regarding 1,assess options in relation to the current harvest control rule, the expert group concluded that a change in 2013 in the assessment model used by ICES in assessing the Bay of Biscay anchovy, had not affected the usefulness of the HCR in the present long-term plan. The rule remains within the same precautionary limits of risks. STECF notes that it remains appropriate to use the current HCR to set the TAC for the fisheries exploiting anchovy in the Bay of Biscay.

The EWG computed the TAC for 2013-2014 based on the new assessment. The SSB used by ICES for the June 2013 advice, based on the old model, was 56 055 t, leading the EC to set a TAC of 17,100 t (as stated in Annex 1 of (COM(2009) 399 final)). The estimate of SSB in 2013 with the new model is 58 475t, which in accordance with Annex 1 of (COM(2009) 399 final), gives rise to presecribes catches for the period July 2013 to June 2014 of 17,700 t.

Regarding 2, advice on a possible revision of the HCR, STECF notes that the EWG in addition to possible revision of the harvest control rule also addressed change of the management year from the current July to June set up to a management year following the calendar year (January to December) and a possible mid-year revision of the TAC.

Two HCR modifications were evaluated: i) Modification of the parameters of the current HCR, such as the harvest rate, the maximum TAC, the minimum TAC or the biomass trigger points and ii) Adding an additional upper biomass trigger point, $B_{trigger3}$ above which a constant maximum TAC would be set. This HCR modification was proposed by the South Western Waters RAC (SWWRAC).

The analysis carried out by the EWG showed that the two HCR perform well, each giving a low risk of SSB falling below B_{lim} and high yields. The HCR proposed by the SWWRAC showed, for the same harvest rates, biological risks similar to the current HCR, while showing lower average catches and higher stability in yield.

The EWG discussed the possible impacts of changing the management year from July – June to January – December and the introduction of a mid-year revision of the TAC, on the quality of the stock assessment and the TAC advice. The assessment model to be used will depend on the management period chosen. The quality of the stock assessment and thereby the TAC advice is very dependent on the estimate of the recruiting year class and STECF notes that an assessment conducted in support of a January to December management period, is estimated to a have better quality than an assessment conducted in the spring because recruitment is observed by the JUVENA survey which is carried out in the autumn. If the management period were to be changed to follow the calendar year, the HCR would need to be revised.

The option of having a mid-year revision to adjust the TAC every year based on new information resulted in increased variability in TACs, would be scientifically/technically difficult to compute and legally complex to implement.

Regarding 3, evaluating the long-term plan, the EWG considered that an evaluation of the long-term plan will be of limited value, given the short time series. The implementation of the HCR started in 2010. Furthermore, since 2010 the fleets catches have been less than the agreed TACs, which suggest that the TAC may not be controlling the fishery, thereby making it more difficult to evaluate the effect of the HCR. The EWG therefore decided not to conduct a full evaluation of the plan.

Regarding 4, assess impacts of possible changes to the long-term plan (scoping), the EWG discussed the possibility of carrying out, in the future, a set of analysis to support an impact assessment for the Bay of Biscay Anchovy long-term plan regulation. The EWG identified the candidate HCRs, a list of performance statistics, MSE developments and data requirements.

The EWG suggested that a pragmatic procedure is used to call for the data required. The data can be managed by the chair of the EWG, avoiding the regular data-call management procedures.

Conclusions of the STECF

STECF commended the EWG for the comprehensive work carried out during the meeting and endorses the findings in the report as an appropriate basis on which to base management decisions including a possible revision of the long-term management plan.

In terms of possible revision of the HCR, the STECF advises that the current HCR and the HCR proposed by the SWWRAC are both consistent with the long-term objectives of the plan.

5.9. STECF-EWG-13-13 Evaluation of fishing effort management in EU waters –part2

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group, evaluate the findings and make any appropriate comments and recommendations.

Introduction

The report of the Expert Working Group on Evaluation of fishing effort regimes in European Waters Part 2 (EWG -13-13) was reviewed by the STECF during its 44th plenary meeting held from 4-8 November 2013, Brussels, Belgium.

The following observations, conclusions and recommendations represent the outcomes of the STECF review.

STECF comments, observations, and conclusions

STECF notes that the ToR regarding the requested fishing effort regime evaluations for the following sea areas have been fully addressed:

1. Eastern and Western Baltic,
2. the Kattegat,
3. the Skagerrak, North Sea, European waters in ICES Div.2 and the Eastern Channel,
4. to the West of Scotland,
5. Irish Sea,
6. Celtic Sea,
7. Atlantic waters off the Iberian Peninsula,
8. Western Channel,
9. Western Waters and Deep Sea
10. and the Bay of Biscay.

STECF notes that the Report and its Appendices provide updated estimates of trends in fishing effort, landings and discards by species, CPUE and LPUE by fisheries and species, and partial fishing mortalities for effort regulated and non-regulated fisheries by Member States. STECF endorses the findings and observations expressed in the report.

2013 DCF Fishing Effort Data Call

The report of EWG 13-13 is based on data submitted by Member States in response to the DCF fishing effort data call in 2013. STECF notes a general improvement in Member States' submissions with regard to data completeness and quality as well as improved compliance with deadlines. However, the work of the EWG 13-13 once again was compromised by delays in some Member States' submissions, incomplete and erroneous data submissions and re-submissions. Section 4 of the Report contains detailed information regarding compliance with data submission deadlines and various aspects regarding the data quality.

STECF notes that its 2012 recommendations to amend the 2013 DCF data call to support fishing effort regime evaluation were implemented and that these changes have supported and will continue to support the accomplishment of specific ToR. STECF notes that the DCF data call in 2013 imposed an additional workload on Member States because of the need to re-aggregate and resubmit data for earlier years than 2012 in addition to the data requested for 2012. The outcome of the call was that Denmark, Portugal and UK (without Scotland) have revised their complete time series of fisheries-specific catch and effort data. Catch (landings and discards) and effort data from Spain were provided for 2012 and discard data were provided for earlier years thereby enabling an improved evaluation of the effort regime for Southern hake and *Nephrops*.

STECF proposes an Index of Discard Coverage (DQI) to facilitate the use of the discard estimates provided in the STECF data bases on fisheries-specific catch and fishing effort. The DQI is expressed by stock, fishery and Member State as the proportion of national landings covered by discard estimates in relation to the total national landings;

$$DQI = \Sigma Ld / \Sigma L$$

where L denotes landings (t) and Ld landings with a discard estimate.

While the DQI is a useful indicator of the proportion of landings by fishery by Member State and stock that are sampled for discards, it does not reflect the level of discarding each fishery carries out. Furthermore, the DQI does not distinguish between a fishery with a high discard rate and a

fishery with a low discard rate, or the level of sampling allocated to each fishery. It's an exploratory tool that allows the identification of the proportion of overall landings by fishery that was sampled.
In order to aid interpretation of the DQI, the DQI is further classified in three separate groups as follows:

- A = 67 % or more of the landings have an accompanying discard estimate,
- B = 34-66 % of the landings have an accompanying discard estimate, and
- C = less the 33 % of the landings have an accompanying discard estimate.

STECF considers category A estimates to be sufficiently reliable to be used for assessment purposes, as the majority of the landings by species and fishery are accompanied with a discard estimate. However it should be noted once again that this DQI cannot inform on the quality of the discard rate estimates supplied by nations (as affected for example by the proportion of fishing trips sampled for discards).

Category B discard estimates are considered to be less reliable than category A and require careful scrutiny before they are used for assessment purposes.

Category C discard estimates are the least reliable and STECF considers that they should not be used for assessment purposes.

STECF notes that all fisheries-specific parameters for the various fishing effort regimes can be downloaded at the corresponding aggregation level as digital Appendixes to the present report from the EWG 13-13 web page: http://stecf.jrc.ec.europa.eu/web/stecf/ewg1313
Major findings regarding the regional fishing effort regime evaluations are summarized in the following regional sections.

Effort regime evaluation for the Baltic
Since 2010, deployed effort of regulated gears remained rather constant in both cod plan areas A (subdivisions 22-24) and B (subdivisions 25-28) with a slight increase in regulated otter trawls.
The effort-regulated otter trawls are the major cod gears, contributing 55 and 74% to the cod catch in areas A and B in 2012, respectively. The second important contributor to catches among the ranked cod gears are gill nets. Cod discards are generally low but slightly higher for area B, showing an increasing trend in most recent years for regulated otter trawls.

With a lack of information from Estonia, small boats <8m LOA were found to constitute 7 and 12% to the overall effort deployed in the Baltic in 2011 and 2012, respectively. Small boats are primarily operating in the northern cod plan area C (subdivisions 29-32).

STECF undertook a provisional quantitative analysis regarding the estimation of effort deployed in units of days at sea by Member State, and compared the national uptake with the calculated maximum effort available. STECF notes that its approach to estimate the maximum days at sea available per year and Member State from the product of reported number of active vessels using one of the regulated gears times the days at sea per vessel can only serve as an approximation of the effort ceiling.

The provisional uptake analysis revealed that the average annual uptake of available days at sea over the time period 2008-2012 remained in the range of 36-38% in area A, 34-47% in the area B and 53-83% for the areas A and B combined.

According to the information submitted by member States, only Denmark has operated under the fully documented fisheries (FDF) scheme in the Baltic in 2012. The reported Danish catch of cod

caught in FDF with regulated gears amounted to 333 t in area A and 406 t in area B, representing 3% of the overall catch. A preliminary analyses of cod selectivity revealed that non-FDF fisheries were catching younger fish. However, the effects of different age reading methods applied in different national institutes remain unclear. Such preliminary results require further investigation.

Close correlations between fishing mortality and fishing effort measured in kW days at sea as well as between partial fishing mortalities and the specific fishing effort by fisheries were found. While good correlation does not always mean 'cause and effect', the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide a useful auxiliary measure to catch constraints and technical measures.

A provisional analysis on spatio-temporal patterns in cod catchability based on catch rates from commercial fisheries and surveys reveals a more homogenous distribution pattern as compared to the patterns in cod abundance indices, catches and fishing effort which are highest in the central Baltic Sea.

Effort regime evaluation for the Kattegat

Fisheries in the Kattegat are almost exclusively conducted by Denmark and Sweden (88% and 11% of the total regulated effort in 2012, respectively) using predominantly trawls and primarily the gear class TR2. The TR2 gear constitutes 90% of the total regulated effort. Beam trawls are forbidden.

There are three effort derogations in place in Kattegat for TR2, CPart13B, CPart13C and CPart11. All the Danish TR2 effort is under the derogation CPart13C from 2010 onwards while the German TR2 effort is partly under the derogation CPart13B between 2010 and 2011. STECF notes that the uptake of the regulated gear TR2 exceeds the maximum effort levels defined in the annual TAC and quota regulations since 2010 as Member States applied additional effort allocations under article 13 of the cod plan.

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 68% of the Swedish TR2 effort in Kattegat 2012. The effort deployed by passive gears (GN1, GT and LL1) is relatively small, with a stable share of around 3% of the total regulated effort in 2012. The effort deployed by unregulated gear categories (including effort under the derogation CPart11) was 30% of the total effort in 2012.

In 2012, the nominal effort (kW days at sea) deployed by small vessels (LOA<10m) constituted 12% of the total effort in the area.

According the ranked regulated gear groups' contributions to cod catch and landings in 2012, only the TR2 is estimated to exceed the level of the cumulative 20% and thus considered subject to annual effort adjustments (Coun. Reg. 1342/2008, art. 12(4)).

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 and are not evaluated further.

The estimated cod CPUE and respective effort transfer factors between donor and receiving regulated gear groups based on averages 2010-2012 are given below. Red cells are indicated to be imprecise due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information. The conversion factors are estimated based on CPUE (g/kWday) while LPUE (g/kWday) values are also provided.

Kattegat

	donor gear	receiving gear GN1	GT1	LL1	TR1	TR2	TR3	2010-2012 CPUE	LPUE
3a	GN1		1	1	1	1	1	187	50
3a	GT1	0.005		1	0.014	0.009	0.125	1	1
3a	LL1	0.005	1		0.014	0.009	0.125	1	1
3a	TR1	0.38	1	1		0.67	1	71	25
3a	TR2	0.567	1	1	1		1	106	41
3a	TR3	0.043	1	1	0.113	0.075		8	8

factor = CPUE donor/CPUE receiving
if factor > 1 then
factor = 1

if CPUE=0 or LPUE = 0 then
CPUE=1 or LPUE=1

STECF notes that that ICES did not provide an analytical assessment of cod in the Kattegat in 2013. STECF is therefore unable to provide analyses dealing with the partial fishing mortalities by fisheries (metiers), the respective correlations between partial fishing mortality and fishing effort and the review of reductions in fishing mortality of the effort regulated gear groups in relation to the cod plan provisions.

Effort regime evaluation for the Skagerrak, North Sea including 2EU and Eastern Channel

STECF notes that in this area, a substantial part of the effort is deployed by Non-European fleets (primarily Norway); this component is not accounted for in this report, except for the part dealing with partial fishing mortalities by fisheries. Norwegian fishing effort is reported to ICES (ICES, 2013). Catch and effort data including the special conditions of the cod management plan in force since 2009 (CPart11 and CPart13) have been provided by all Member States with significant fishing activity in this area. Additionally, distinction is now provided across the various CPart13 specifications (A, B, or C).

The North Sea (area 3b2) is the main fishing area (78% of the total 2012 regulated effort in area 3b), followed by the Eastern Channel (15%, 3b3), while the Skagerrak represents a smaller component (7%, 3b1). In all three sub areas, regulated effort has decreased since 2003. In area 3b2 (North Sea and 2EU), regulated effort is equally shared between beam trawls and demersal trawls/seines (47% and 47% of total 2012 regulated effort respectively). Small mesh beam trawling (80-119 mm, BT2) and demersal trawls/seines with larger mesh sizes (>=100mm, TR1) are the predominant fisheries. In the Eastern Channel, demersal trawls/seines are also the main gears (65% of the 2012 regulated effort in the area, mainly smaller mesh size 70-99mm TR2), but with beam trawls and passive gears representing important fisheries (19% and 16% of the 2012 regulated effort respectively). The main gears in management area 3b1 (Skagerrak) are demersal trawls/seines (90% of the 2012 regulated effort) with a predominance of TR2.

The estimated overall reduction in effort (kW days at sea) in 2012 of regulated gears in the entire area 3b amounts to 41% compared to the average 2005-2007 and to 10% compared to 2011.

Since 2003 the effort of small boats (LOA<10m) gradually increased from 3% to 9% of the overall effort deployed in the entire area 3b (Skagerrak, North Sea and 2EU, Eastern Channel) in 2012.
TR1 and TR2 gears were identified as the major cod catching gears and exceeded the 20% cumulative cod catch in 2012 and are thus considered subject to annual effort adjustments (Coun. Reg. 1342/2008, art. 12(4)).

In 2012 fully documented fisheries again represented only a small but increasing proportion of the total effort (5.6%). The importance of the main cod gear (TR1) has increased further and is estimated at 28.9% of the TR1 effort deployed in 2012. In total, 36% of cod catches by EU vessels were taken during FDF trials.

A preliminary analysis of selectivity for cod by FDF and non-FDF fisheries indicated that cod catch compositions at age from Danish and Scottish FDF fisheries were rather similar to the catch compositions at age from all fisheries by these countries. STECF notes that only these two countries conducted separate sampling and applied separate data aggregation and raising procedures. Any further investigations would require two individual data sets, one which comprises an exclusive set of non-FDF fisheries, and second one which represents an exclusive set on FDF fisheries.

The estimated cod CPUE (average 2010-2012, g/kWday) and respective effort transfer factors between donor and receiving regulated gear groups for the cod management area comprising the Skagerrak, North Sea, EU part of IIa, and Eastern Channel are given below. Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling and green cells good sampling information. STECF notes that the report also provides the conversion factors for each of the three sub-areas mentioned above.

Skagerrak, North Sea and 2 EU, Eastern Channel

	donor gear	receiving gear BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3
3b	BT1		1	0.228	1	0.437	0.217	0.962	1
3b	BT2	0.203		0.046	0.24	0.088	0.044	0.195	1
3b	GN1	1	1		1	1	0.949	1	1
3b	GT1	0.846	1	0.193		0.369	0.183	0.814	1
3b	LL1	1	1	0.523	1		0.496	1	1
3b	TR1	1	1	1	1	1		1	1
3b	TR2	1	1	0.237	1	0.454	0.225		1
3b	TR3	0.044	0.217	0.01	0.052	0.019	0.01	0.042	

2010-2012 CPUE	LPUE
227	227
46	41
995	970
192	140
520	520
1048	902
236	125
10	10

factor = CPUE donor/CPUE receiving
if factor > 1 then
factor = 1

if CPUE=0 or LPUE = 0 then
CPUE=1 or LPUE=1

The Report presents partial fishing mortalities by regulated fisheries and Member States in relation to the estimated fishing mortality by ICES (2013) and the landings and discards volumes in relation to the estimated total catch for the year available. STECF notes that the correlations between the partial Fs for cod and effort are significant for some important regulated metiers catching cod but insignificant for others. In all three sub-areas 3b1, 3b2 and 3b3, the correlations between the summed partial Fs of cod for regulated gears and respective sums of fishing effort in units of kW days at sea are statistically significant. While good correlation does not always mean 'cause and effect', the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide a useful auxiliary measure to catch constraints and technical measures.

Cod mortality due to discarding has generally been high, but has declined since 2008.
STECF notes that partial F of cod for all Member States has reduced since 2008, though such reductions have not always been consistent (i.e. linearly proportional) with changes in effort by regulated gears. However, STECF notes that the estimated trends in partial fishing mortality are dependent on the changed perception of the exploitation status in 2011 and 2012 derived from the 2013 ICES assessment of the North Sea cod stock. For the UK fleet, partial F appears to have reduced in line with the overall F reductions required under the plan, though effort has not. This suggests that there has been some decoupling of cod from fishing effort, consistent with cod avoidance or discard reduction.

STECF notes that Article 13.2a has not been adopted by any Member State, and so there was no detailed discussion of this provision in this section. Article 13.2b is for 'effort groups in which the fishing activity of one or more vessels results in a catch composition of less than 5% cod per fishing trip'. STECF has already stated that a catch composition special condition was not necessarily consistent with reductions in cod mortality as it does not control the overall amount of cod caught. However, STECF concludes that the proportion of the overall fishing mortality on cod accounted

for by all fisheries operating under Article 13.2b remains low and did not exceed 5% during 2009-2012.

STECF notes that Article 13.2c has only been adopted by the UK in areas 3b1, 3b2 or 3b3 and is applied to the entire fleet using regulated gears unless they are subject to Article 13.2b or exempted under Article 11. STECF notes that the respective UK (ENG, SCO, NIR) gear types TR1 have reduced their fishing effort in kWdays at sea by 20 % since 2009, which corresponds with an estimated reduction in fishing mortality of cod by 36% over the same period. During 2009-2012, the fishing effort of TR2 gears operating under Article 13.2.c declined by 11%, with a reduction in fishing mortality by 31% over the same period. The respective fisheries by Northern Ireland are negligible and were not operative in 2012.

A provisional analysis on spatio-temporal patterns in cod catchability (the probability for an individual cod to be captured) based on catch rates from commercial fisheries and surveys reveals that the probability of any individual cod in the population to be caught is not evenly distributed over the North Sea with the lowest probability where cod abundance is highest, i.e. around the Shetlands in the northern North Sea, the Skagerrak and the Eastern Channel.

Effort regime evaluation for the West of Scotland

The fishery West of Scotland is primarily an otter trawl fishery; beam trawls and static gears are hardly used. Effort within regulated gears is 56% less in 2012 compared to 2003. Regulated effort by trawl and seine gears (TR gears under Coun. Reg. (EC) 1342/2008) shows a long term decrease in effort and fell to its lowest level in the time series in 2011, but was stable between 2011 and 2012 for those nations reporting in both years. Overall effort of small boats (LOA<10m) is 10% higher in 2012 compared to 2003 although it has been relatively stable since 2006.

The most important category in terms of cod catch and landings is TR1 which over the period 2010-2012 on average, accounted for 94% and 99% of the total cod landings and catches by weight respectively from VIa. The second most important gear category is TR2, which can be seen to be a gear category with Nephrops as the dominant species in the landings. Based on the relative contribution TR1 is the only gear group where the percentage cumulative cod catch in 2012 exceeded 20% and thus considered subject to annual effort adjustments (Coun. Reg. 1342/2008, art. 12(4)).

The table of international conversion factors is based on average CPUE (2010-2012). Discard data are scarce for many regulated gear groups but have been interpreted as representative for TR1 and TR2. Red cells indicate imprecise values due to lack of adequate discard information, green cells good sampling information.

West of Scotland

	donor gear	receiving gear						2010-2012		
		BT1	BT2	GN1	LL1	TR1	TR2	CPUE	LPUE	factor =
3d	BT1		1	0.143	1	0.004	0.5	1	1	if factor > 1 then
3d	BT2	1		0.143	1	0.004	0.5	1	1	factor = 1
3d	GN1	1	1		1	0.028	1	7	7	
3d	LL1	1	1	0.143		0.004	0.5	1	1	if CPUE=0 or LPUE = 0 then
3d	TR1	1	1	1	1		1	252	33	CPUE=1 or LPUE=1
3d	TR2	1	1	0.286	1	0.008		2	2	

Overall the correlation between partial F of cod and estimated fishing effort of regulated gears is statistically significant but negative. STECF is unable to determine the reason why there are negative or insignificant relationship between F and effort for the greatest cod contributors to cod

catches from VIa. Nevertheless from the information reported by Member States, the management measures in place in VIa have not been successful in achieving a reduction in fishing mortality.

STECF notes that for Member States other than the UK partial F has reduced since 2008, though such reductions have not always been consistent (i.e. linearly proportional) with changes in effort by regulated gears. In the UK, a reduction in effort is recorded (less than that to bring effort to 0.32 of effort in 2008) but partial F is recorded as increased in 2011 and 2012 compared to 2008.

STECF notes that Article 13.2a of the cod plan has not been adopted by any Member State, and so there was no detailed discussion of this provision in this section. Article 13.2b is for 'effort groups in which the fishing activity of one or more vessels results in a catch composition of less than 5% cod per fishing trip'. West of Scotland article 13.2b fisheries are estimated to have accounted for 10% of regulated gear partial F in 2011 but less than 1% in 2012.

STECF notes that Article 13.2c has only been adopted by IRL and the UK in area 3d, and these fisheries contributed a minor part of the cod catch. STECF notes that vessels operating under article 13.2d contribute the majority of cod fishing mortality over all gear types. The partial F for this one category is between 0.7 and 0.8. This is true for landings and discards with discards making a much greater contribution to fishing mortality in recent years. Overall, STECF concludes that are no indications that the Scottish TR1 fishery working under any of articles 13.2.b, c or d have contributed to a reduction in fishing mortality of cod west of Scotland.

Effort regime evaluation for the Irish Sea

During 2003-2010, overall nominal effort (kW*days at sea) for boats LOA>=10m declined continuously by 43%. Since then, effort has remained stable. The trend in fishing effort of regulated gears appears similar with a decrease by 53% during 2003-2010 and remained stable from 2010 to 2012. Since 2007, the dominating regulated gear in terms of kW days has been the trawled TR2 (>75%) with an increasing trend (80% in 2012). Since 2009, the cod plan provisions of 13.2 a, b and c are applied when using effort-regulated gears.

During 2007-2012, small boats' effort (LOA<10m) varied without a clear trend and constituted among 11-15% of the overall effort deployed. Effort of small boats dropped during 2009 and 2010, increasing again thereafter.

STECF notes that discard information available within the Irish Sea is incomplete and thus impedes analyses of catch compositions and trends by fisheries. Based on the relative contributions to overall deployed effort, GN1, TR1 and TR2 are gear groups where the proportional cumulative cod landings in 2012 exceeded 20% and are thus subject to annual effort adjustments (Coun. Reg. 1342/2008, art. 12(4)).

The table of international effort conversion factors is based on average CPUE (2010-2012) is given below. LPUEs are used for GN1, GT1, and LL1 fisheries as time series of discard data were not available. TR2 and BT2 are the only two gear categories where discard data were available over the three previous years. Red cells indicate imprecise values due to lack of adequate discard information. Yellow cells indicate sufficient sampling.

Irish Sea

	donor gear	receiving gear BT2	GN1	GT1	LL1	TR1	TR2	CPUE	LPUE	factor =
3c	BT2		0.03	0.079	1	0.17	1	90	58	if factor > 1 then
3c	GN1	1		1	1	1	1	3033	3033	factor = 1
3c	GT1	1	0.375		1	1	1	1136	1136	
3c	LL1	0.011	0	0.001		0.002	0.013	1	1	if CPUE=0 or LPUE = 0 then
3c	TR1	1	0.174	0.465	1		1	528	523	CPUE=1 or LPUE=1
3c	TR2	0.878	0.026	0.07	1	0.15		79	42	

STECF notes that the correlations between the summed partial Fs for landings of the regulated fisheries and their estimated fishing efforts are insignificant. STECF is unable to determine the reason why the relationship between partial Fs of most Member State fisheries using regulated gears are not significantly correlated with their specific effort estimates. STECF notes that the lack of discards prevents reliable conclusions regarding the effects of fishing effort management in relation to cod in the Irish Sea.

Effort regime evaluation for the Celtic Sea

The review of trends in fisheries-specific effort and catches in the Celtic Sea is presented at the level of aggregation for the fisheries defined in the multi-annual cod plan, to allow managers to evaluate the data with the view to the potential extension of the cod plan to include the Celtic Sea. The Celtic Sea is defined into two management areas, i.e. ICES Sub-divisions 7bcefghjk and ICES Sub-divisions 7fg. In 2012 in terms of kWdays at sea deployed by effort regulated gear groups and vessels ≥10m, France contributed 40%, Ireland 20%, England and Wales 15%, Spain 13%, Belgium 7%, and Scotland 4% (ICES Sub-divisions 7bcefghjk).

Trends in fishing effort for the sensitive cod gears and non-regulated gears are presented in the report. Spanish data are only included for 2012 as no data for earlier periods have been submitted by the Spanish Authorities. The demersal fisheries are dominated by the gears TR1, TR2 and BT2. In recent years (since 2008) fishing effort has been relatively stable, with the increase in 2012 due to the inclusion of Spanish data for 2012 only. Total effort for countries excluding Spain has remained stable overall. In 2012, “unregulated” gears were deployed by France (26%), Ireland (21%), England (19%) and Dutch (16%). There appeared a peak in 2010 of pelagic boats obviously fishing for boarfish in the Celtic Sea.

The relative contribution of effort in terms of kWdays at sea deployed by small vessels (<10m) increased from 5% in 2003 to 8% in 2012 as compared with the overall effort deployed in the Celtic Sea (ICES Sub-divisions 7bcefghjk).

STECF notes that the correlations between the summed partial F of catches from all regulated gears and their specific effort estimates in kW days at sea over the main fisheries (effort regulated fisheries in the cod plan) are insignificant in the entire Celtic Sea (7bcefghjk). However, the relations between summed partial F of catches and fishing effort from all regulated gears become significant when the area is reduced to the ICES subdivisions 7fg. While good correlation does not always mean ‘cause and effect’, the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide a useful auxiliary measure to catch constraints and technical measures.

Effort regime evaluation for southern hake and Norway lobster

STECF notes that the major data deficiency in its analyses is the lack of Spanish catch and effort data in 2010 and 2011. Furthermore it is important to note that Spanish fishing vessels using

regulated gears were not granted fishing effort derogations by the Spanish Authorities in 2012 as provided for in Annex IIB to the annual TAC and Quota regulations.

The nominal effort of regulated gears (3a-c) declined by 27% during 2007-2012 and by 23% from 2009 to 2012. The major effort regulated gears are the bottom trawls. Bottom trawl effort subject to effort regulation decreased by 31% since 2007 and by 18% since 2009. Given that Spain has not provided data for small vessels (LOA<10m) and that Portuguese data for small vessels do not provide gear or fishery specific information STECF is unable to conclude on the effects of small vessels.

In 2012, regulated bottom trawls caught more than half of the hake and anglerfish catches and the 97% of Nephrops catches in Divisions VIIIc-IXa. The LPUE for hake displays a continuous increase since 2005, and catch rates (CPUE OR LPUE) of Nephrops in Div. IXa and anglerfish in Div. VIIIc-IXa have continuously decreased since 2007. The same trend is apparent in both the data submitted to STECF in response to the DCF data calls and the data estimated by ICES.

STECF estimated partial F for hake and the regulated gear groups by Member States and correlated the time series with fishing effort in units of kWdays at sea. Given the data deficiency in 2010 and 2011, STECF does not further conclude on the significant correlation between the summed partial Fs of hake for regulated gear groups and their fishing effort with respect to the effects of fishing effort management.

Effort regime evaluation for Western Channel sole

STECF notes the majority of fishing effort deployed in the Western Channel is effort that is not being regulated by the Management plan for sole in Division VIIe. The two regulated gear groups, beam trawls and the static nets, account for only a relatively small proportion (about 15%) of the overall deployed effort.

The effort (kW days at sea) of gear groups regulated by fishing effort appears to have remained stable since 2009 after a major drop prior to 2008. From 2009-2012, the reported regulated beam trawl (≥ 80 mm) effort steadily increased and by 2012 was 17% higher compared with 2009. Over the same period, the lower reported effort by regulated static nets (< 220 mm) decreased by 42%. The effort from the vessels <10m fluctuated between 13% and 25% of the effort deployed by the vessels >10m and shows an increasing trend since 2005.

STECF notes that estimated sole catches are dominated by effort regulated beam trawls (67% in 2012), while static nets contributed a minor share (6% in 2012). STECF reiterates its observation that a relatively high percentage of sole is caught by gears that are not being regulated by this regulation. Sole catches of unregulated gears are in excess of 27% of the overall sole catches in area 7e for each year of the data series (2004-2012). The otter trawl gear is the main unregulated gear involved and accounts for over of 22% of total sole catches in recent years.

STECF notes that only UK (England and Wales) had vessels operating under an FDF scheme for the first time in 2012. 7 vessels were operational in the FDF fisheries using the regulated beam trawl gear (3a) and one vessel using the unregulated beam trawl gear (mesh size <80mm). The total numbers of English vessels operating such gears are 43 and 2 respectively. The effort of the FDF fisheries to the total deployed effort by the regulated beamers (3a) and unregulated beamers amount to 17% and 1% respectively. The catches of sole from to FDF fisheries represent 23% and 28% of the total international catches of the 3a regulated gears and the unregulated beamers, respectively.

STECF estimated the uptake of the permitted fishing effort in units of days at sea per vessel. The results should be interpreted with caution as the estimated ceilings are based on number of active vessels times the number of days allowed. STECF notes that the number of active vessels and their associated days at sea may be overestimated (multiple counted) if they changed regulated gears. For the regulated beam trawl fleet (3a), the English series indicate an increasing uptake (47% - 95%) over time whereas the Belgian and the French regulated beam trawl fleet show a stable uptake on a low (around 10%) and high level (around 65%) respectively. The English regulated static gear (3b) show a slight increase in uptake (20%-40%) over time whereas the French regulated static gear show a stable uptake of around 50%. National amendments to the effort regulations were granted to UK in 2011.

STECF notes that the correlations between the summed partial Fs for sole landings of the regulated fisheries and their estimated fishing efforts are significant for the period 2005-2012. While good correlation does not always mean 'cause and effect', the results here suggest that management of fishing mortality by fishing effort in units of kWdays may provide a useful auxiliary measure to catch constraints and technical measures for the regulated gears. The lack of discard information in the assessment and forecast of fishing opportunities should be considered when assessing management risks.

Effort regime evaluation for the Western Waters and Deep Sea

In accordance with the Terms of reference, the Report presents trends in effort, catch estimates and CPUE for defined fisheries (major gear groups) for 18 management areas within the convention areas of ICES and CECAF. STECF notes that the EWG experienced extreme difficulties in preparing the data and the interpretation of them is confounded by data deficiencies described in section 4 of the report. STECF also notes that discard information is often scarce.

Effort within the Deep sea and Western waters has been compiled for kW*days-at-sea, GT*days-at-sea, and numbers of vessels. Within the report the focus is on kW*Days at sea. Information on GT*days at sea and numbers of vessels, landings, discards, CPUE and LPUE is available via the website (electronic appendixes to the report): http://stecf.jrc.ec.europa.eu/web/stecf/ewg1313

Bottom trawl effort is concentrated in ICES Area VI as well as the Continental shelf and slope to the west and southwest of Ireland and the UK. Bottom trawl effort in the Bay of Biscay, the Cantabrian Sea and off the Portuguese coast increased in 2012 compared to 2010 and 2011. Beam trawling is concentrated in the Celtic sea and the western English Channel. While beam trawls are not a deepwater gear some of the species caught are classified under Annex 2 of the deep sea regulation. Pelagic trawling was concentrated to the west of Ireland, and to the west and north of Scotland in the mid 2000s. This effort decreased greatly between 2007 and 2009, increased again in 2010, but has reduced again in 2011 and 2012. Longline effort was concentrated on the shelf and slope between Shetland and Portugal but has been in decline in recent years. Longline effort from the Azores has shown an increase since 2009. In the mid 2000s gill net effort was concentrated in the Celtic sea and Porcupine Bank. Due to existing restrictions in the use of deepwater gill nets much of this effort is now concentrated in the Celtic sea, with some effort in the North sea, west of Scotland and the Bay of Biscay. Catch estimates are provided in tabular format according to the requested rankings of deep sea, demersal and pelagic species, respectively.

Effort regime evaluation for the Bay of Biscay

STECF notes that all the analyses and trends presented in the report include data from Spain for 2012 only as Spain did not provide corresponding data for previous years to the DCF data call for

fishing effort regime evaluations. In interpreting the trends in fishing effort and estimated catches, it is important to take into account that discard information is scarce and patchy and in some cases, is of dubious quality.

STECF notes that the multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay (R (EC) 388/2006) prescribes maximum annual fishing capacity for Member States' vessels that hold a special permit to fish. The report provides fisheries-specific catch and effort data for the Northern Bay of Biscay (ICES Div. VIIIa) and the southern Bay of Biscay (ICES Div. VIIIb). In VIIIa, 90% of the reported deployed effort in 2012 was French, 9% Spanish and 1% Belgian. The main French fisheries are otter trawl, trammel net, gill net and pelagic trawls. The main Spanish fisheries are longline, otter trawl and gill net. In VIIIb, 69% of the reported deployed effort in 2012 was French, 25% Spanish and 6% Belgian. The main French fisheries are otter trawl, trammel net, gill net, longline and pelagic trawl. The main Spain fisheries are otter trawl, longline and pelagic trawl.
Due to data deficiencies, STECF was unable to fully evaluate the effort regime for sole in the Bay of Biscay. France and Spain provided the data on trends in fishing capacity requested in the data call, in the unit of gross tonnage and for the year 2012 only.

From 2010 to 2012 the overall trend in fishing effort in units of kW days at sea increased by 4% in the area VIIIa and by 35% in VIIIb, although this observation is largely due to the inclusion of Spanish data for 2012 only. During 2010-2012, less than 50% of the reported deployed effort (kW days at sea) was accounted for by vessels carrying the special fishing permit in area VIIIa. In area VIIIb, the relative contribution of licensed vessels varied between 57% and 68%.

During 2010-2012, small boats (LOA<10m) contributed about 20% to the effort deployed in area VIIIa and about 10%-15% in area VIIIb after significant increases in deployed effort by small boats for earlier years in both areas. Spain has not provided any information regarding deployed fishing effort of small boats operating in the Bay of Biscay.

STECF notes that the correlations between the summed partial Fs based only on landings from the major fisheries and the corresponding reported fishing effort are significant in area 8a but insignificant in area 8b. As those analyses do not take account of discards and the time series do not incorporate Spanish data, the results are questionable and may not be representative.
STECF acknowledges the considerable efforts taken by the Expert Working Group on Evaluation of fishing effort regimes in European Waters Part 2 (EWG -13-13) and endorses the findings in the report.

Conclusions on Future procedures

STECF notes that the aggregated information of the five so-called fishing effort data bases, compiled from annual data calls directed to Member States since 2003 and DCF data calls by DG Mare since 2011, comprise detailed time series of fishery-specific catch and effort data.

STECF notes that these fishing effort data bases relate to all European regional Seas except the Mediterranean and Black Seas. Nevertheless, the specific data calls for the Mediterranean and Black Seas are designed such that the data provided under such calls are compatible with the existing effort data bases. In the recent past, the fishing effort data bases, have not only been used to provide advice on the 10 regional fishing effort regime evaluations but have also formed the basis of advice on a diverse number of topics including requests for advice on fishery-specific discard

estimates and catch compositions in relation to various provisions prescribed in management and recovery plans.

STECF notes that due to changes in personnel in JRC, the ability to operate the data aggregation and evaluation tools developed to handle Member States' submissions under the annual effort data calls may need to be re-coded. Such a re-coding is likely to be necessary because whoever is tasked with replacing those personnel at JRC who formerly dealt with such data will have considerable difficulty in understanding the database structures and extraction procedures and there is a danger that output will be less reliable than hitherto.

Presently, the effort databases are coded in MS ACCESS. STECF notes, that in recognition of the strategic value of the effort databases, the JRC intends to devote additional resources to undertake a major revision to the databases and re-code in SQL. This will allow full integration with the DCF database scheme and facilitate the enhancement, accessibility and management of the databases. To this end the JRC will employ additional staff for a fixed period of time. Recognising the current and future importance and value of the effort databases, the STECF fully endorses the JRC initiative which aims to ensure continued provision of sound scientific advice.

6. ADDITIONAL REQUESTS SUBMITTED TO THE STECF PLENARY BY THE COMMISSION

6.1. Status of *Argyrosomus regius* in the Canary Islands (native, alien or locally absent)

Request to the STECF

DG MARE has received a complaint about the alleged farming of common meagre (*Argyrosomus regius*) in the Canary Islands, which the complainant claims is an alien species and should be subject to the authorisation regime established by Regulation 708/2007. In order to correctly assess this complaint, it is necessary to first establish if *Argyrosomus regius* is a native, alien or locally absent species in the Canary Islands, in accordance with the relevant provisions of Reg. 708/2007. Art. 3 of the Regulation defines an alien species as "a species or subspecies of an aquatic organism occurring outside its known natural range and the area of its natural dispersal potential", and a locally absent species as "a species or subspecies of an aquatic organism which is locally absent from a zone within its natural range of distribution for biogeographical reasons". We would therefore need STECF's opinion on this issue: given the above definitions, should *Argyrosomus regius* be considered as a native, alien or locally absent species in the Canary Islands?

STECF respponse

The common meagre (*Argyrosomus regius*) called "corvina" in Spanish is a coastal fish species from family *Sciaenidae*, order *Perciformes*. According to FishBase (www.fishbase. org) its acctual distribution covers the Eastern Atlantic from Norway to Gibraltar and Congo, including the Mediterranean and the Black Sea. It has migrated to the Red Sea via the Suez Canal. According FAO species identification sheets (Chao and Trewavas 1981) the common meagre is a native species in the Canary Islands coastal waters. Dooley et al. (1985) have reported the species of being observed inshore to about 200 m depths around Tenerife, Gomera, and Hierro islands. FishBase reports the species occurrence status as stray in the Canaries area. Landings of common meagre

have been reported by Spain in the Canaries/Madeira region in 1979 (1 t) and 1980 (48 t) (www.fao.org/fishery/statistics/cecaf-capture).

STECF conclusions

STECF concludes that according to the definitions of alien and locally absent given in Article 3 of Council Regulation (EC) 708/2007, the common meagre (*Argyrosomus regius*) cannot be considered as an alien or locally absent species in the waters surrounding the Canary Islands. Based on information presented above and taking into account that reports of the occurrence of *Argyrosomus regius* in waters around the Canary Islands exist for the period before aquaculture production of *Argyrosomus regius* commenced, STECF concludes that *Argyrosomus regius* is native to the coastal waters of the Canary Islands.

STECF also concludes that the available scientific information is insufficient to assess the current status of wild *Argyrosomus regius* in the waters surrounding the Canary Islands. It is also not possible to conclude whether any individuals present, comprises a local self-contained population or whether they comprise migrant individuals from neighbouring sea areas.

References

Dooley, J.K., J.V. Tassell Van and A. Brito 1985. An annotated check-list of the shore fishes of the Canary Islands. Amer. Mus. Nov., 2824 p. 1-49.

Chao, L. N., and E. Trewavas 1981. Sciaenidae. vol. 3 In Fischer, W., G. Bianchi, and W. B. Scott (eds.), 1981. FAO species identification sheets for fishery purposes. Eastern Central Atlantic; fishing areas 34,47 (in part). Canada, Funds-in-Trust. Ottawa, Dept. Fish and Oceans Can., by arrangement with the Food and Agriculture Organization of the United Nations, vols. 1-7, pass.

6.2. Request for a review of the reports of ICES advice on management rules for sole in the Bay of Biscay

Request to the STECF

The STECF is requested to review ICES advice of 18 October 2013 on management measures for the stock of sole in the Bay of Biscay, evaluate the findings and make any appropriate comments and recommendations.

The request to ICES was as follows (the following is the interpretation of the French request in English)

For a harvest control rule based on a fixed TAC and safeguard mechanisms as described below, ICES is requested to:

- *(a) advise on whether these management provisions are consistent with ICES precautionary approach in the long-term, and*
- *(b) to give the year at which Fmsy is reached with high probability for each of the TAC values in point 2 below.*

Point 1: Fixed TAC

1. *Rules for setting the TAC for the stock of sole in the Bay of Biscay are defined with the objective to reach FMSY (i.e., F = 0.26) by 2020,;*
2. *The TAC is set at a constant value until the fishing mortality is equal to FMSY. TAC levels in a range of 3500 to 4500 tonnes (by 100 tonne steps) are tested;*
3. *When fishing mortality is equal to FMSY, the TAC is set to give a forecast fishing mortality at FMSY (0.26);*
4. *When the rule of paragraph 3 applies, the TAC set for a given year shall not correspond to a variation of less than or more than 10% compared to the TAC of the preceding year;*
5. *Notwithstanding paragraph 2, if fishing mortality increases during the two years preceding the advice on the status of the stock, the TAC is reduced by 10% compared to the previous year. The TAC level set in this way becomes the reference TAC fixed for the application of the rule in paragraph 2;*
6. *If the spawning stock biomass is estimated to be less than the biomass limit (Blim = 13,000 tons), the TAC is set at a level corresponding to FMSY.*

Point 2: In the absence of validated analytical assessment

1. *If the analytical assessment of the stock of sole in the Bay of Biscay is not available or is not validated by ICES and / or STECF, the setting of the TAC is based on the trend in abundance indices;*
2. *Based on the index of abundance derived from the scientific campaign ORHAGO, the TAC is increased by 15% if the average stock abundance of the two preceding years is at least more than 20% compared to the average abundance of the previous three years. The TAC is otherwise reduced by 15% if the index indicates a decline in abundance of 20% or more on the same basis.*

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

STECF Response

STECF notes the ICES response to the Commission's request for a harvest control rule evaluation on a fixed TAC and safeguard mechanisms for sole in the Bay of Biscay (ICES Advice 2013, Book 7, section 7.3.5.2).

STECF agrees with logical explanations given in the ICES response and with the ICES advice that the evaluated harvest control rule is considered to be precautionary when the fixed TAC is set at less than or equal to 4500 tonnes. STECF notes that none of the fixed TAC regimes (3500 to 4500 tonnes) have >50% probability of reaching F_{MSY} in 2015 but all fixed TAC targets ≤4300 tonnes have >50% probability of reaching F_{MSY} by 2020. Only fixed TACs less than ≤3900 tonnes are shown to have a greater than 75% probability of reaching F_{MSY} by 2020. STECF further notes that it takes longer to reach F_{MSY} for higher fixed TAC options. As a consequence, with higher fixed TAC's there is, for a few years beyond 2020, some probability of failing to reduce F sufficiently to move from the fixed TAC target to the F_{MSY} target (Table 6.2.1).

Table 6.2.1 The probability (in %) of changing from the initial fixed TAC (Clauses 2 and 5) to the F_{MSY} target (Clauses 3 and 4), for initial fixed TAC values between 3500 and 4500 tonnes. Shaded values have >50% probability of making the change to Clauses 3 and 4 (i.e. F estimated to have reached F_{MSY}). The simulations include the implementation of all clauses of the HCR.

Fixed TAC	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
3500	0	0	24	54	81	93	98	100	100	100	100	100	100	100
3600	0	0	20	49	75	89	96	99	100	100	100	100	100	100
3700	0	0	16	42	67	84	93	98	99	99	100	100	100	100
3800	0	0	13	36	60	79	90	96	99	99	100	100	100	100
3900	0	0	11	31	53	72	86	93	97	99	100	100	100	100
4000	0	0	9	26	46	64	80	90	95	98	99	100	100	100
4100	0	0	7	20	38	56	73	84	91	94	97	98	100	100
4200	0	0	6	16	33	49	66	78	86	92	95	97	98	99
4300	0	0	5	12	27	42	58	72	81	88	93	96	97	99
4400	0	0	3	9	22	33	49	62	72	81	88	93	96	98
4500	0	0	2	8	18	29	41	53	64	74	81	87	91	95

6.3. Request for a an assessment of the efficiency of the square mesh panel introduced for certain vessels fishing in the Celtic Sea

Background

Commission implementing regulation 737/2012 provides for the introduction of a selectivity device in the form of a square mesh panel for certain TR1 and TR2 bottom trawls and seines operating in ICES areas VIIf, VIIg and part of VIIh. The regulation also provides for the setting up of an observer programme and the submission by Member States concerned of a report 'on the selective performance of the gear, including the total catches and discards of vessels subject to the observer programme no later than 15 October of each year in which the programme is implemented'. In their national legislation implementing regulation 737/2012, Belgian authorities provided for additional voluntary measures. These require Belgian beam trawls with a mesh size superior or equal to 80 mm to integrate an upper panel entirely made of a 300 mm mesh to allow for the escape of juvenile gadoids.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

1. Using the data provided by Member States, STECF is requested to:
a. assess whether any changes in retention at length of haddock and whiting are attributable to the introduction of the square mesh panel in the Celtic Seas demersal fisheries in 2012.
If possible and suitable, STECF shall also:
b. examine the effect of the said panel on cod
c. utilise 2013 data alongside 2012 data
2. Using the data provided by the Belgian Institute for Fisheries (ILVO), STECF is requested to assess the efficiency of the voluntary measures taken by the Belgian authorities as described above in the 'Background' section.

3. With regard to the results of the assessments above, STECF is requested to suggest suitable modifications of the regulation whether in its geographical scope, the gears concerned, the dimensions or the mesh size of the square mesh panel or the insertion of other selectivity devices.

STECF response

STECF acknowledges the detailed data analysis and the clear presentation of the results in the contractors' report. Observer and survey data from the relevant fisheries and the main countries (France, Ireland and UK; representing >90% of the cod, haddock and whiting catches in 2012) available for detailed spatially and seasonally resolved analyses.

The two approaches used to analyse the data were to:
1. compare commercial data of hauls with and without square-mesh panels that took place in similar regions during the same time period, and to
2. compare commercial data from before and after the introduction of the panels to the survey data from matching regions.

After comparison of the commercial data, the report concludes that although the proportion small fish (below minimum landing size) in the catches has decreased since the introduction of square-mesh panels, this change could not be attributed to this technical measure alone, since it could have resulted from the poor recruitment that all three species experienced in recent years. Furthermore, the variability in the observer data was too high to detect any change in the selection pattern.

The report also concludes that even though the survey data were adjusted to take account of the spatial distribution of the observed commercial hauls and the length data were standardised, the length distributions were too variable to draw firm conclusions about the size selectivity of the commercial gear before and after the introduction of the square-mesh panels.

STECF notes that relatively large fractions of haddock and whiting of 30-40 cm length were reported to be discarded in French fisheries in ICES Division VIIg (Dimeet et al.). Hence it would have been helpful if the reported catch data had been available separated by landings and discards.

As the length frequency distributions presented showed that haddock less than 30 cm (MLS) are still being retained by the gear, further improvements in selectivity are required to avoid catching these individuals. In this respect, STECF agrees with the recommendations in the contractors' report regarding gear modifications such as the position of the square-mesh panel in the net and an increase of mesh sizes of the square-mesh panel.

STECF conclusions

1. In keeping with the findings presented in the Contractors' report, STECF concludes that although the proportion small fish (below minimum landing size) in the catches has decreased since the introduction of square-mesh panels, this change could not be attributed to this technical measure alone.
2. As no information was made available to STECF, the efficiency of the voluntary measures taken by the Belgian authorities as described above in the background section, could not be assessed.
3. STECF did not have access to sufficient information to specifically suggest suitable modifications of the regulation with respect to its geographical scope, the gears concerned, the dimensions or the mesh size of the square mesh panel or the insertion of other selectivity devices.

6.4. Request for an evaluation of the proposed management plan for Herring VI(S) and VIIb,c

Background

In 2011 the Pelagic RAC proposed a management plan for this stock. The plan was examined by STECF during its 2011 autumn plenary meeting. Several comments were then issued concerning areas for improvement. Subsequently, the Pelagic RAC amended the plan in order to take the feedback from STECF on board.

STECF in its autumn plenary 2012 performed a preliminary evaluation of the plan and outlined the steps required for a full evaluation. In April 2013, STECF considered a partial evaluation done by JRC and suggested further amendments to the plan.

The Marine Institute (IE) announced it would perform a full evaluation of the plan in the course of 2013.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

Further to the STECF advice of November 2011, and further to the preliminary evaluations done in its autumn plenary of 2012 and spring plenary of 2013, the STECF is requested to:

1. Assess the proposed management plan, as revised, for compatibility with the Precautionary Approach and its ability to rebuild the stock and achieve MSY by 2015 or 2020 at the latest.

2. Assess the evaluation of the plan done by the Marine Institute, in line with its recommendations as contained on page 73 of the plenary report 2012-03.

3. Calculate the TAC that would be proposed for 2014 if the plan were to be followed.

STECF response

This is the fourth time in three years that STECF HAS commented on this plan, and STECF acknowledges that the development of this plan reflects principles of good governance with ongoing collaboration and feedback between the stakeholders developing the management principles they can adhere to, and STECF and national scientists providing scientific support and scenario evaluations.

The current STECF response considers the management plan as revised by the Pelagic RAC and as evaluated by the Irish Marine Institute (MI) in October 2013. Direct correspondence with the Marine Institute occurred during the STECF meeting for some specific points of clarification and correction, leading to revised versions of the evaluation report. The current STECF response is based on working document revision 6, WD uploaded in background documents).

The STECF response to each of the items listed in the Terms of Reference are given below.

Item 2

STECF considers that the analyses performed by the Marine Institute follow the established MSE guidelines and can be used as the basis for the evaluation of the plan. STECF notes that attention has been given to the previous comments formulated in previous plenary meetings.

Simulations are based on a stock-recruitment relationship parameterized over most years of the time series, which demonstrates a clear historical pattern of reduced recruitment at low stock biomass. STECF 2012 (PLEN 12-03) noted that there was no need to account for additional lower or higher recruitment regimes, supporting the use of this S-R function. However, it cannot be fully ascertained if other unknown factors might still affect the productivity if biomass recovers in the future.

Implementation error has been specifically accounted for, both assuming catches higher than the TAC and considering the major components of transboundary catches (VIaS fish being caught or reported in VIaN). This feature is one of the most important aspects to consider for the management of this stock, given that both summer feeding and winter spawning grounds straddle the boundary, with the fishing season taking place in winter.

STECF 2012 (PLEN 12-03) noted that a full evaluation of the plan should include the lessons learnt from other management plan evaluations, and not least the loss of revenue caused by reduced fishing opportunities in the short term. Such socio-economic impacts of the plan have not been quantitatively addressed in the present evaluation. Nevertheless, it is suggested that the fleets that exploit that fishery are not solely reliant on it, but rather exploit opportunistically the variety of pelagic stocks around Ireland. Also, it is underlined that the plan is unanimously supported by the Pelagic RAC and has therefore achieved acceptance from the stakeholder community. There is evidence that initiatives of this kind increase the likelihood of compliance with restrictive management measures.

Item 1

STECF is requested to assess the proposed management plan, as revised, for compatibility with the Precautionary Approach and its ability to rebuild the stock and achieve MSY by 2015 or 2020 at the latest. STECF supports the general conclusions given in the evaluation that

1. The harvest control rule delivers stock rebuilding, but recovery to B_{pa} is unlikely to be achieved unless over-quota catch is eliminated either by eliminating trans-boundary catches or explicitly accounting for them through a reduced TAC in area VIaS.
2. Although the harvest control rule can deliver recovery, provided that the trans-boundary catch issue is solved, it does not conform in the strict sense to the precautionary approach (<5% risk to B_{lim} in any year, ICES Risk 2), because initial stock size is well below B_{lim}. Taking the median trajectory in the projections indicates that recovery to B_{pa} is not expected until after 2020.
3. The harvest control rule implies low catches during the first years of implementation, which are not consistent with achieving MSY by 2015. The average probability of reaching exploitation levels consistent with MSY would occur around 2018 at the earliest.

With regards to this third point, the most optimistic scenarios (2g and 2b in WD) assuming no implementation error and full analytical assessment (ICES category 1) predict average recovery to B_{pa} after 8 years (2021), with risk of falling below B_{lim} becoming less than 5% after 10 years (2023). F and catches level-off around 2022, but F remains slightly above $F_{0.1.}$ In comparison, the baseline scenario (2h) assuming a 10% implementation error (catches 10% higher than TAC) delays average recovery by two years (2023), but the risks that SSB will be below B_{lim}

remain high until 2027 and fluctuate around 5% afterwards. In addition, the scenario with high over-quota catches, as occurs at present, gives a high risk that recovery to B_{pa} will not occur and there is about a 30% probability that biomass will remain below B_{lim}.

Additional considerations of the main clauses of the management plan are given below.

Clause 1.

The aim of the plan is to rebuild SSB to above the level consistent with unacceptable risk of recruitment impairment. Recruitment impairment according to the stock-recruitment relationship is estimated to occur at a somewhat lower value (77,000 t) than B_{lim} (81,000 t). Risk is here computed with regards to B_{lim} to be consistent with ICES advice. An acceptable risk to B_{lim} (probability of falling below 81,000t being less than 5%) implies de facto a risk of recruitment impairment which is also below 5%.

Clause 2

$F_{0.1}$ is the management plan target. STECF notes that the MI evaluation has been conducted with a lower $F_{0.1}$ value (F=0.17) than appears on the upper panel figure from the PelRAC letter page 5 (F=0.2). STECF notes that the value of 0.17 comes from the latest ICES assessment (ICES, 2013) and should be used as the HCR target F.

Clause 3

The ICES assessment is expected to be fully analytical from next year. However, should it stay as a trends-based assessment over a longer time period (ICES category 2 assessment), then the stock is predicted to recover more quickly (SSB above B_{pa} by 2019), to higher levels and with lower risk (risk to be below B_{lim} well below 5% from 2021), because Clause 3 of the Plan would down-weight the TAC, hence accelerating recovery. However, this option maintains F to low levels well below F_{MSY}.

Clause 4.

Regardless of progresses achieved within the ICES assessment (Clause 5), it could be considered appropriate to apply a down-weighting factor of the same order (or lower) as the one evaluated under Clause 3 during the first years of the management plan, in order to achieve quicker recovery of the stock. Other provisions that could be invoked under this clause are dealt with as possible additional measures under Clause 6, below.

Clause 6.

Transboundary catches (VIaS fish caught or reported in VIaN area) have repeatedly been pointed out as a key issue preventing a proper assessment and recovery of the stock. Being proportional to the Irish quota in VIaN, these catches could actually be higher than the catches in area VIaS/VIIbc. The evaluation conducted by the MI shows that under a scenario of continued transboundary catches (modeled as 40% implementation bias, scenario 2a), no recovery is observed throughout the time period, and the risk to B_{lim} remains extremely high (about 30%) due to F levels largely above $F_{0.1}$. Therefore, eliminating these transboundary catches represents the most important factor that needs to be addressed explicitly as part of the recovery plan. The PelRAC plan includes an emergency measure conprising an interim exclusion zone prohibiting herring fishing between 56^{o}N and 57^{o}30N. STECF notes that the time frame of this exclusion zone is unclear, as it is both referred to lasting 2 years and to lasting until better information on stock mixing is available. STECF understands that information on stock mixing is expected to be available in the near future, which will likely allow the herring stock to be assessed as a Category 1 assessment within two years.

STECF considers that clause 6 is certainly an encouraging step in the right direction, but accompanying measures are required through invoking Clause 4. Preliminary results of stock disaggregation work (presented to ICES HAWG) indicate that VIaS/VIIbc herring are present in VIaN beyond the limits of the proposed exclusion zone. These results also show that VIaN herring are present in VIaS, although to a somewhat lesser extent. Furthermore, clause 6 may give rise to some monitoring and enforcement issues (WD, Appendix 3). Therefore the proposed exclusion zone cannot be expected to fully eliminate transboundary catches. A reduction of these catches, rather than their elimination, would delay recovery, as is illustrated in the scenario with assumed 10% implementation bias (scenario 2c).

A qualitative analysis of additional measures that could contribute to eliminating transboundary catches (or explicitly account for them in the management) inspired by considerations by Degnbol and McCay (2006) has been provided to STECF, including a qualitative assessment of the impact that these measures would have if they were implemented in combination with each other or as alternatives (WD Appendix 3). These suggested measures include:

"**Exclusion**" proposed zone in the south of VIaN from which Irish vessels would be excluded. *This is the current provision that is part of the plan in Clause 6. This could be strengthened by extending it south of the boundary, at least to 55°30 N, thus excluding effort on both sides of the dividing line. However, the exclusion alone, even with an extension, is unlikely to be fully effective.*

"**Subtraction**" subtracting putative trans-boundary catch from the advised TAC, i.e. setting up a TAC in area VIaS/VIIbc to a lower level than specified by the harvest Control Rule, assuming the best estimate of future transboundary catches. *Such approaches have been considered for other straddling herring stocks, e.g. between the North Sea and Western Baltic, and would make explicit the distribution of VIaS stock catches between VIaS and VIaN areas.*

"**Preclusion**" vessels allowed to hold a permit only in one of VIaN or VIaS, in the same season. *May require enabling legislation in several MS, which may not be possible, neutralising the provision. This suggests need for accompanying measures such as subtraction.*

"**Zero catch**" TAC of 0 t being set in VIaS/VIIbc. *This is not explicitly part of the proposed plan, rather an alternative.*

Management options including the subtraction mechanism would be the most efficient and transparent to explicitly account for transboundary catches, but may significantly reduce fishing opportunities in area VIaS. Management options without that mechanism would be less drastic, but also less efficient to address over-quota catches.

Question 3

STECF is requested to calculate the TAC that would be proposed for 2014 if the plan were to be followed. The answer to this question is addressed in the WD (and differs slightly from the exploratory short term forecast included in HAWG 2013 report). Assuming that recruitment in 2013 follows the stock-recruitment relationship as used in the evaluation, and assuming that catches in the intermediate year (2013) include both the VIaS/VIIbc TAC and the transboundary

catches in area VIaN, catches for 2014 are calculated according to the HCR (Clause 2b). Additionally, these catches are multiplied by a precautionary down-weighting factor, G, estimated at 0.65 from Clause 3, leading to catches at 3,676 tonnes in 2014.

Full implementation of clause 6 of the management plan in 2014 may contribute to reducing transboundary catches, but as noted above, is unlikely to eliminate them. Therefore,one option would be to invoke Clause 4 of the management plan (substraction mechanism) to derive a value less than 3,676 t to be taken in VIaS/VIIbc. A forecast of the potential 2014 transboundary catches in VIaN is assumed at 86% of the 2014 Irish quota in VIaN based on the ICES advice for that area (5 years average of the unallocated catch in VIaS, ICES, 2013), corresponding to 3158 tonnes. The share of these assumed catches that could be avoided by the exclusion zone from clause 6 cannot be quantified. Fully subtracting these catches from the TAC advice for the stock would result in a TAC for the VIaS/VIIbc area as low as 519 tonnes. Alternatively, some of the additional measures suggested above could be considered.

STECF conclusions

STECF acknowledges the efforts made by the PelRAC to address and overcome the comments previously made by STECF regarding the design and evaluation of the management plan for VIaS/VIIbc herring.

On the basis of the information provided and additional communication with the Marine Institute, STECF concludes that the rebuilding plan submitted by PelRAC could deliver recovery of the stock to above B_{lim} within few years, and above B_{pa} within a decade, provided that total catches from the stock do not exceed the TAC arising from the HCR. STECF notes that any catch lower than that given by the harvest control rule during the first years of implementation (invoking clause 4 of the plan) is expected to contribute to more rapid recovery to B_{pa}.

STECF notes that the principal source of concern is the sustained high level of transboundary catches (VIaS fish caught or reported against the VIaN quota), which leads to higher catches than advised and compromises monitoring and assessment of the stock. STECF agrees that efforts should be undertaken to overcome this issue. STECF supports the encouraging steps that are being taken in this direction with the formulation of clause 6, but STECF also notes that this clause alone may not be sufficient to eliminate the problem. STECF suggests that additional measures are considered, either by explicitly accounting for these catches as part of the harvest control rule, and/or by more restrictive area management.

References

Degnbol P. and McCay B.J. (2006) Unintended and perverse consequences of ignoring linkages in fisheries systems. ICES Journal of Marine Science, 64: 793–797.

6.5. Request for a review of the effectiveness of TACs set by Member States ("delegated TACs") as a management tool

Background

Since 2011, TACs for 6 stocks have been "delegated" to the sole Member States fishing each of these stocks (Article 6 of Council Regulation No 57/2011; Article 6 of Council Regulation 43/2012; Article 6 of Council Regulation 39/2013):

MS	Species	Zone	TAC
ES	Horse mackerel	EU waters of CECAF (Canary Islands)	JAX/341SPN
FR	Penaeus shrimps	French Guiana waters	PEN/FGU
PT	Whiting	IX and X; EU waters of CECAF 34.1.1	WHG/9/3411
	Horse mackerel	X; EU waters of CECAF (Azores)	JAX/X34PRT
	Horse mackerel	EU waters of CECAF (Madeira)	JAX/341PRT
UK	Herring	VI Clyde	HER/06 ACL

Article 6(2) of Regulation 39/2013 sets out the following requirements for these TACs:

> 2. The TACs to be determined by a Member State shall:
> (a) be consistent with the principles and rules of the common fisheries policy, in particular the principle of sustainable exploitation of the stock; and
> (b) result:
> (i) if analytical assessments are available, in the exploitation of the stock consistent with maximum sustainable yield from 2015 onwards, with as high a probability as possible;
> (ii) if analytical assessments are unavailable or incomplete, in the exploitation of the stock consistent with the precautionary approach to fisheries management.

Article 6(3) of Regulation 39/2013 requires Member States to report to the Commission on these delegated TACs:

> "3. By 15 March 2013, each Member State concerned shall submit to the Commission the following information:
> (a) the TACs adopted;

(b) the data collected and assessed by the Member State concerned on which the TACs adopted are based; and
(c) details on how the TACs adopted comply with paragraph 2."

The Commission has now received reports by Member states for 2011, 2012 and 2013 for the stocks concerned. It is appropriate to examine, in the third year of implementation of this system of TACS set by Member States, how effective the system has been in light of the objectives set in the Regulation.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

STECF is required to:

1. Examine the reports submitted by Member States as referred to above;

2. Examine the scientific advice for the stocks concerned.

3. In light of 1. and 2. above,

3.a. assess the effectiveness of the system of TACs set by Member States in meeting the requirements of Article 6(2) of the Regulation, in particular point (b), if the information available is sufficient to make such assessment.

3.b. if the information available after 2 full years of operation of the system is not sufficient, STECF is asked to indicate the information required to make the assessment specified under point 3.a. of these ToRs.

STECF Response

The STECF response in relation to each of the items in the terms of Reference are given below

Item 1.
STECF examined the different reports and information provided by the Member States for the stocks concerned noting that the information provided is quite heterogeneous in terms of quantity and quality which prevents STECF from arriving at a common conclusion for all of the stocks concerned. The reports and information provided for each stock is described below:

For horse mackerel in EU waters of CECAF (Canary Islands)(JAX/341SPN), Spain reported only the TACs set for each of the years 2011, 2012 and 2013.

For *Penaeus shrimps* in French Guiana waters (PEN/FGU), France presented the TACs set for the years 2011, 2012 and 2013, an assessment of the status of the stock, catch records and a list of additional management measures taken to manage this fishery.

For whiting in IX and X; EU waters of CECAF 34.1.1 (WHG/9/3411),for Horse mackerel in X; EU waters of CECAF (Azores) (JAX/X34PRT) and for Horse mackerel in EU waters of CECAF (Madeira) (JAX/341PRT), Portugal reported the TACs set for each of the years (2011, 2012 and

2013) and a qualitative explanation of the scientific basis of how these TACs have been set, but did not provide any supporting data or quantitative assessment.

For herring in VI Clyde (HER/06 ACL), UK is reported the TACs set for each of the years (2011, 2012 and 2013), a full report of the data that are being collected for this stock and a list of the additional management measures taken to manage this fishery.

Item 2

STECF has examined the different assessments (when) provided by the Member States or if available from ICES working groups for the stocks concerned, concluding that the quality of the different assessments varies considerably which means each has to be assessed on its individual merits. The scientific advice for the stocks concerned is summarised below:

For horse mackerel in EU waters of CECAF (Canary Islands) (JAX/341SPN), there is no scientific advice available to the STECF.

For *Penaeus shrimps* in French Guiana waters (PEN/FGU), an analytical assessment is presented. In the assessment, estimations of stock biomass, recruitment, and fishing mortality are provided. Landings from the stock are also provided in a separate document. The assessment does not estimate any management reference points. Due to the inherent uncertainties coming from the model used, the most recent year for which results are provided is 2011even though the assessment uses data up to December 2012.

For whiting in IX and X; EU waters of CECAF 34.1.1 (WHG/9/3411), there is no assessment but advice is provided by ICES based on the approach to data-limited stocks. Portugal justifies the absence of an assessment due to the low abundance and low economic importance of this stock.

For horse mackerel in X (Azores) (JAX/X34PRT), for the first time a full analytical assessment has been produced by ICES in 2013 (ICES WGHANSA REPORT 2013).

For horse mackerel in EU waters of CECAF (Madeira) (JAX/341PRT), the only available assessment is the one provided by Portugal which is based on CPUE only but the details of the assessment were not reported.

For herring in VI Clyde (HER/06 ACL), there has been no analytical assessment since1990. UK provided a report with the data collected from the commercial sampling as well as the results coming from a pelagic acoustic survey carried out in 2012.

Item 3

For the case of horse mackerel in X(Azores) (JAX/X34PRT) stock, the delegated TAC set by Portugal has been kept constant for the years 2011 to 2013 at 3072 t. STECF notes that this is not consistent with the advice from ICES given in 2012 and 2013, which implies that for 2013 and 2014 catches should not exceed 1800 t.

STECF is not able to assess whether horse mackerel in Subarea X (Azores) is currently being exploited at a rate that is consistent with maximum sustainable yield or in accordance with the precautionary approach. However STECF notes that an analytical assessment of horse mackerel in X has been carried out by the ICES WGHANSA in 2013. If that assessment is accepted by the ICES ACOM, there may be no need to collect and provide additional data.

The remaining stocks considered have not any full analytical assessment so the STECF cannot determine precisely if the MSY target will be reached by 2015 or not. Nevertheless there are differences between the different stocks in terms of the scientific data available and hence on the basis of how the TACs have been set. Furthermore there are also differences in terms of the current situation of the stocks which allows the STECF to comment on the likelihood of reaching the target by 2015:

For horse mackerel in EU waters of CECAF (Canary Islands) (JAX/341SPN), the TAC for 2013 has been set at 1168 tonnes equal to the one set in 2011. The decision has been based, according to the MS, on the stable evolution of recent catches. Given the absence of any assessment or other appropriate information, STECF is not able to assess the likelihood of reaching MSY by 2015 or whether exploitation is in line with the precautionary approach. The data requirements specified in the DCF implementing regulation in principle would permit an assessment of whether the stock is being exploited at a rate consistent with MSY. However the data requested under the 2013 DCF effort data call for this stock for the years 2003 to 2012 were not submitted by Spain.

For Paenus shrimps French Guiana there is an analytical assessment but no MSY reference points are calculated. Given that the biomass estimated for the year 2011 is the lowest of the time series analysed (starting at 1989) and that the recruitment estimated is also the lowest one of the time series analysed, STECF considers that the objective of MSY for 2015 is unlikely to be met. STECF notes that while fishing pressure does not seem to be the main cause of the collapse of the stock, it may exacerbate a fragile situation. If the conditions again become favourable, maintaining a minimum of shrimp is essential. In this regard, the maintenance of moderate fishing effort and/or catches is likely to be the most effective measure and the restrictions on fishing areas should also afford some protection to juveniles in coastal waters (below 30 m). In recent years, the number of licenses does not appear to be restricting fishing activity since the number of active shrimp trawlers has been much lower than the number of licenses granted. The TAC has also rarely been achieved. There is evidence that given the low catches in the recent period, vessel profitability has contributed to the self-regulation of the fishery.

STECF concludes that if the stock remains at the low level observed in recent years, it is likely that the fishery will be self-regulating, regardless of the number of licenses granted. To give the stock a chance to improve if conditions again become favourable, it may be necessary to introduce a restrictive TAC and to reduce the number of to ensure that the catches remain moderate to ensure a sustainable renewal of the stock and meet the precautionary targets.

STECF considers that for whiting in IX and X; EU waters of CECAF 34.1.1 (WHG/9/3411) the information available is not sufficient to assess the effectiveness of the “delegated TAC” with respect to achieving MSY. While recognising the the low level of catches from this stock, STECF considers that at a minimum, an assessment based on CPUE will be required to indicate whether the TACs set are in line with precautionary considerations. STECF notes however that the TAC set for 2013 (588 t) is not in line with the ICES advice based on the approach to data-limited stocks, which is to decrease catches in 2013 by 20% relative to the average for the most recent 3 years (2010-2012average).

For horse mackerel in EU waters of CECAF (Madeira) (JAX/341PRT), the catches are currently been monitored by Portugal. According to the Portuguese report, catches they have remained relatively stable in the last 10 years. Over the same period, CPUE has been increasing perhaps indicating that the recent level of catches may not be having an adverse effect on stock abundance.

For herring in VI Clyde (HER/06 ACL), the last analytical assessment was made in 1990 and the last ICES advice was given for 2002. While catches in 2012 and 2011 are reported to be the lowest of the time series, the broad age structure suggests that the state of this stock, whilst uncertain, is not threatened by current activity. Furthermore the effort limitations (several fishing bans) and the control and monitoring regulations that have been put in place, together with a 10% reduction of the TAC on 2012, would appear to be precautionary. Nevertheless, as the are no estimates of MSY reference points for this stock, STECF is unable to determine whether MSY is likely to be achieved by 2015.

Data required to assess stocks in relation to MSY objectives

The Request from the Commission asks that STECF specify what data and information are required to assess whether the stocks subject to delegated TACs are being exploited at rates that are consistent with MSY. However without proper knowledge of the fisheries that exploit such stocks it is not possible for the STECF to reliable specify precisely the data and information required to do so. Such expertise is invariably in the Member States. Furthermore STECF notes that under the provision of the delegated TACs, it is the relevant Member State that should provide the appropriate data and information required in order to demonstrate that the management measure they have put in place are consistent with the objectives of MSY. For these reasons, STECF considers that the Commission insist that relevant Member States comply with the provisions associated with the delegated TACs and conduct an assessment of whether their measures are resulting in exploitation rates that are consistent with MSY.

6.6. Spurdog and porbeagle

Background

Porbeagle and spurdog are species without fishing opportunities in the last years (TAC=0). Besides, porbeagle is listed as a prohibited species for fisheries beyond the areas indicated in Annex I Part B of Regulation (EU) No 39/2013. ICES recommend that no fishing for porbeagle should be permitted and a rebuilding plan should be developed. Similarly for spurdog there should be no target fishery. Bycatch in mixed fisheries should be reduced to the lowest possible level and another rebuilding plan should be developed. Both species under zero TAC must be promptly released when incidentally caught. ICES are concerned on the absence of adequate data to monitor any stock recovery in view of the current legal status of both species. They pointed out as a valid option to launch ad hoc scientific surveys, though the approach differs noticeably for both cases (ICES 2012, Book 9). As for porbeagle the Commission requested STECF to determine if it was needed to engage in a targeted research fishery, instead of compiling precise data on by-catches to improve stock assessment. STECF concluded that it may be possible to monitor long term trends in the abundance of porbeagle, without engaging in a targeted research fishery, by analyzing bycatch data. However, owing to the wide distribution, low abundance and low predicted rate of recovery of porbeagle, any change in abundance is unlikely to be detected for at least 10 years. (STECF-PLEN-12-03 FINAL REPORT)

The NWWRAC wants to reopen both fisheries when seemed adequate according to the stocks status. They has asked the Commission for advice to consider the possibility of allowing the landing of unintended by-catches and the assessment of alternative management measures to the present zero TAC regimes (e.g. maximum landing size, closed areas). The aim is to achieve a better understanding of spatial and temporal aggregations of spurdog and porbeagle stocks.

Terms of Reference

STECF is requested to determine:

1) Whether granting scientific exceptions for landings of porbeagle and spurdog is a valid option to gather the needs on biological data in view of the status of the stocks.

2) What kind of information, not only regarding the biology of porbeagle and spurdog but the fishing activity, is needed to assess alternative management measures to the present zero TAC regime. Please indicate all data sets needed and the source to obtain them.

3) While gathering the information responding 2), is there any alternative management measure to be implemented yet?

STECF response

General context of STECF response

STECF already addressed questions related to porbeagle and spurdog during several plenary meetings over recent years:

- On the possibility to allow a small-scale sentinel fishery to monitor the recovery of porbeagle, during PLEN-10-01 (STECF, 2010a),
- on the spatial distribution and migratory patterns of spurdog and the possibility to implement avoidance measures to prevent unwanted catches of the species, during PLEN-10-02 (STECF, 2010b),
- and on the possibility to monitor the abundance of porbeagle without the need to engage in a targeted research fishery PLEN-12-03 (STECF, 2012).

STECF notes that, since its previous comments and recommendations on those issues and according to ICES, the status of both stocks has remained very poor:

- For porbeagle, ICES considers in its last assessment (ICES, 2012) that "*there is no new information from this stock to change the previous perception of a depleted stock*" and advises "*on the basis of the precautionary approach that no fishing for porbeagle should be permitted. Landings of porbeagle should not be allowed. A rebuilding plan should be developed for this stock"*.
- For spurdog, ICES considers in ICES (2012) that "The *stock has suffered a high fishing mortality for more than four decades.* (...) *The spawning biomass and recruitment have declined substantially since 1960 and are now stable at low level*" and advises "*on the basis of the precautionary approach that there should be no target fishery and that bycatch in mixed fisheries should be reduced to the lowest possible level. A rebuilding plan should be developed for this stock.*"

For porbeagle, STECF considers that no new information is currently available which would lead to a revision of its previous conclusions, which are reflected in the comments and conclusions given below.

For spurdog, STECF notes that an update of the assessment used by ICES in its latest advice (ICES, 2012) was carried out in 2013 (ICES, 2013 and De Oliveira *et al.* , 2013). This assessment confirms that the stock is depleted, but not to the extent estimated in the previous assessment. Model projections show that a TAC up to 1422 t (the last non-zero TAC) would allow the population to grow in the future at a similar rate to that forecast with a zero TAC (i.e. 28% increase in biomass in 10 years instead than 33% with a zero TAC).

STECF observations and conclusions

On the possibility to land unintended by-catches to gather information on the stocks (part 1 of the question)

STECF recognises that for both stocks, limited data are available to provide estimates of the current stock status and its evolution. However, STECF notes that this concerns more porbeagle than spurdog, as for the latter, some scientific survey data are currently available and used in the assessment. STECF also notes that both species are long-lived, slow-growing and late-maturing and are therefore particularly vulnerable to fishing.

STECF notes that, according to ICES, since landings have been prohibited, some unquantified amount of discarding has taken place, and may have increased in recent years. STECF notes that for both species, there is a potential for survival of discards, although rates of survival have only been reported for spurdog (Mandelman and Farrington, 2006). STECF thus considers that granting exemptions to land unintended by-catches will probably generate additional mortality which will compromise the recovery of the stocks.

STECF takes this opportunity to reiterate its previous conclusion that for such stocks, "achieving the recovery has higher priority than monitoring that recovery" (STECF, 2012). STECF consider that, as some discarding is taking place, improvement in survival rate might be beneficial to that recovery by reducing further the rate of fishing mortality. Several factors impact the survival to discarding, including the size of the catch, the catching method and the time spent on deck. As already mentioned in its advice from PLEN-10-02, STECF considers that the best way to improve survival rate is a quick and prompt release that will aid survival of released fish. For spurdog, this could be coupled with mechanisms to reduce the bulk catch e.g. reduced towing time or technical measures aimed at reducing un-wanted catches. Fishers should therefore be encouraged to develop and use techniques and equipment which serve to facilitate the rapid and safe release of the species.

Regarding data collection to monitor stock status, STECF also reiterates its previous conclusion (for porbeagle but which could also be applied to spurdog) that it may be possible to monitor long term trends in the abundance by analyzing by-catch data. However, due to the wide distribution, low abundance and low predicted rate of recovery of both species, any change in abundance is unlikely to be detected for at least 10 years. STECF considers that candidate information collection systems, that would not increase mortality include observer programs in fisheries with by-catches of both species, technical monitoring e.g. CCTV monitoring on commercial fishing vessels, improved reporting, including self-reporting of total by-catches by commercial fishing vessels.

On alternative management measures to the present zero TAC and on data needs (covering part 2 and 3 of the question)

STECF notes that before the implementation of a zero TAC, several alternative management measures had already been implemented. Among those measures, a maximum landing size (100cm for spurdog and 210cm for porbeagle) was introduced in EC waters in 2009. For spurdog, ICES concludes that, while in theory, this measure could restrict fisheries targeting mature females, it would not prevent females from being discarded and as a consequence would not guarantee complete protection for female spurdog. Improved estimates of discard survival from various commercial gears would be required to better examine the efficacy of such measures (ICES, 2012 and 2013).

Regarding the possibility to implement spatial management for spurdog, STECF concluded in its advice from PLEN-10-02 (STECF, 2010b), that "*state of knowledge on the spatial distribution of the spurdog populations in the Atlantic and North Sea and its migratory patterns during the year is still limited. This is particularly true for accurate data on the location and time of the aggregations of mature female, the location and time of pupping and the location of nursery grounds. This lack of data limits, at present time, the possibility to implement spatial-temporal avoidance measures (time and/or area closures) that could be taken by fishermen to prevent large unwanted catches, more particularly on aggregations of mature female spurdog.*"

STECF concludes that all of the proposed alternative measures discussed above are likely to be less effective at achieving recovery of spurdog and porbeagle than maintaining the current zero TAC.

References

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STECF, 2010a. 33rd Plenary meeting report of the Scientific Technical and Economic Committee for Fisheries (PLEN-10-01). Luxembourg: Office for Official Publications of the European Communities. 2010, 94 pp.

STECF, 2010b. 34th Plenary meeting report of the Scientific Technical and Economic Committee for Fisheries (PLEN-10-02). Luxembourg: Office for Official Publications of the European Communities. 2010, 162 pp.

STECF, 2012. 41st Plenary meeting report of the Scientific Technical and Economic Committee for Fisheries (PLEN-12-03). Luxembourg: Office for Official Publications of the European Communities. 2010, 115 pp.

6.7. Long line study

Background

A joint initiative from National Institutes of Spain, Portugal and France -AZTI-Technalia, IPMA, IEO and IFREMER- has been presented as a proposal for a deep-water logline survey. The proposal may be considered as a collaborative research between scientists and the fishing industry (fisheries-science partnership).

Most ecological studies of fish assemblages addressing the depth and geographical distributions of species, their density, diversity, and the effect of exploitation have been based on trawl sampling. However, in many areas trawling is impossible; either because of *non-trawlable* grounds because of rocky bottoms; or in protected areas, such as coral reefs, where trawling may have significant adverse impact on the seabed. There are also species that are rarely caught in trawls and other gears such as longlines have to be considered for a more reliable estimate of a stock or species attributes.

DGMARE sympathise with this new approach of gathering biological information from commercial stocks, being aware of the difficulties arising from proposing changes in the traditional schedule in field studies without providing extra funds. Though, there are some initiatives coming from the scientific community which deserve especial attention.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

STECF is requested to assess the feasibility and fitness for purpose of this initiative.

STECF observations

If data to describe the abundance and distribution of species using habitats spanning the 300 to 2100 m isobaths in ICES sub-areas VIII and IX are required then a well-designed long-line survey would be an appropriate means of collecting this information. STECF notes that long-line surveys are already in routine use by the US National Marine Fisheries Service in deepwater areas of the Pacific and Atlantic Oceans. STECF also notes that that long-line surveys have lower impacts on seabed habitats than trawl surveys.

STECF did not have the expertise to fully evaluate the technical and statistical aspects of the survey design proposed in the background document (e.g. replication in space and time, hook sizes and spacing, type of bait), but notes that the benefits of data provided by any survey are contingent on the quality of survey design. STECF considers that a co-ordinating group, drawing on existing expertise in long-line surveys, would be needed to review and further develop and test the survey design presented in the proposal. STECF notes that ICES (2011), when responding to a request for advice on deepwater surveys from the EC, had advised that deep water surveys could be coordinated by their WGNEACS "Working Group for North-east Atlantic Continental Slope Survey".

The focal species for the proposed long-line survey are identified as the black scabbard fish (*Aphanopus carbo*) and deepwater sharks (particularly *Centrophorus squamosus* and *Centroscymnus coelolepis*). The proposal explains that "the adoption of a zero TAC for deep-water sharks prevented the assessment of their population status due to the lack of fishery independent data." STECF notes that the main objective of the survey, as identified in Section 2.1., is "to produce abundance estimates for black scabbardfish and deep-water sharks. The TAC for the latter group is currently zero, and hence its recovery and stock status can only be monitored using survey data." The group proposes hiring commercial long-line vessels to conduct the survey.

STECF considers that additional data on trends in the distribution and abundance of black scabbardfish and deepwater sharks in VIII and IX, such as those that would be collected during a well designed long-line survey, could make a significant contribution to assessing the status of these stocks. However, a time series of at least 5 surveys (these could be at intervals >1 year) will be required in order for the results to be useful for stock assessment purposes.

STECF did not assess whether resourcing the assessment of these stocks would be a higher or lower priority than resourcing the assessment of other stocks. Data from the proposed survey may also be useful for other purposes, such as MSFD reporting, but STECF only evaluated the survey in relation to the objectives stated in section 2.1. of the proposal.

STECF notes that long-line vessels operating in the proposed survey area previously caught deep-water sharks. The proposal, for example, describes a fishery that operated on the Basque country continental shelf at depths of 800-1750m, for which the main target species were deep water sharks. The current TAC for these shark species is zero.

In relation to the state of the stocks that may be monitored by the proposed survey, STECF notes that there are no fisheries reference points proposed for black scabbardfish in ICES subareas VIII and IX, but that the biomass, as measured by the standardized commercial cpue index, is currently at its highest level in the time-series (which is thought to represent the entire history of the fishery) and is thus likely to be above any candidate values for MSY Btrigger (STECF, 2013[1]).

For the leaf-scale gulper shark (*Centrophorus squamosus*) a TAC of zero has already been agreed and the qualitative evaluation is that biomass was below any candidate reference points. For Portuguese dogfish (*Centroscymnus coelolepis*), trends in relative abundance indicate that they have declined to levels below any candidate reference point. STECF has previously recommended (STECF, 2013[1]) that EU vessels should not be permitted to catch deepwater sharks until sustainable exploitation rates for deepwater sharks have been determined.

While there is taxonomic uncertainty regarding the species within the genus *Centrophorus*, all species within the genus are thought to be long-lived (>25 years) and ages of up to 70 years were estimated for *C. squamosus* (Clarke et al. 2002). All species in the genus are believed to have slow growth rates and very low fecundity and complete their life-cycle in deep-water environments, so will only sustain very low mortality rates (ICES Advice 2013, Book 11, 11.2.1) and consequently the recovery of the stock to acceptable size will also be slow. STECF has already commented that because this species is caught as a bycatch in demersal fisheries, the stock size would benefit from a reduction in the overall demersal fishing effort (STECF 2013[1]).

Given that the proposed survey would target deep-water sharks, and that the soak times proposed (6-10 hours) may lead to high mortality of individuals that are caught, STECF considers that information on the expected size of shark catches, the post-capture mortality rates and the relative impacts of these mortality rates on the stocks would be needed in order to assess the impacts of the survey on the stock size.

Regarding data collection to monitor stock status, STECF also reiterates its previous conclusion (for porbeagle, but which could also be applied to deep water sharks given their low productivity and slow recovery times) that it may be possible to monitor long term trends in abundance by analysing

1 Scientific, Technical and Economic Committee for Fisheries (STECF) – Review of scientific advice for 2014 - Consolidated Advice on Fish Stocks of Interest to the European Union (STECF-13-XX). 2013. Publications Office of the European Union, Luxembourg, EUR XXXX EN, JRC XXXX, XXXX pp.

by-catch data. For deepwater species, the effective analysis of by-catch data would require more consistent and reliable identification of deepwater shark species in by-catches. STECF considers that possible information collection systems, that would not increase mortality, include observer programmes in fisheries with by-catches of both species, technical monitoring e.g. CCTV monitoring on commercial fishing vessels and improved reporting, including self reporting, of total by-catches by commercial fishing vessels. Further, the assessment of alternate methods in the proposal could have included an assessment of landers/ baited cameras as a candidate method that would minimise mortality.

STECF observes that the survey proposal does not describe expected catches of deepwater sharks on the proposed long-line survey or any measures that would be taken to minimise mortality (for example by reducing soak times, choice of hook type, changing the speed of hauling). Studies of other deepwater elasmobranchs taken in long-line fisheries suggest that a proportion of individuals are expected to survive (e.g. Endicott and Agnew (2004) and some deepwater sharks have been successfully tagged after capture on long-lines (IEO, unpublished)). Information on the measures that would be taken and their expected effectiveness in reducing mortality would be needed to evaluate the effects of the survey on the recovery of zero TAC deepwater sharks. STECF observes that this information would usefully be presented alongside estimates of bycatch rates of these species in other fisheries and catch rates of these species prior to the setting of a zero TAC.

STECF conclusions

STECF concludes that the initiative is feasible provided that sufficient resources are made available to allow to survey to be undertaken. For the results of the survey to be useful for monitoring changes in distribution and abundance over time, resources will need to be committed to undertaking the survey for several years into the future. STECF suggests that a time series of at least 5 surveys will be required in order for the results to be useful for stock assessment purposes.

STECF concludes that the initiative is “fit for purpose”, in the sense that that a long-line survey would be an appropriate method for monitoring the status of some of the species present in areas spanning the 300 to 2100 m isobaths in areas VIII and IX and that the proposed survey has the potential to meet the stated objectives (section 2.1. of background document) of producing abundance estimates for black scabbardfish and deepwater sharks. STECF also notes that maximum benefits would be derived from the survey if planning drew on existing international expertise in conducting long-line surveys.

Given that current management measures include setting zero TACs for those deepwater sharks deemed to be in need of maximum protection in an attempt to effect stock recovery, STECF considers that a decision on whether to allow the proposed survey to go ahead should be informed by an assessment of the potential impact of the proposed survey on such species. STECF reiterates its previous conclusion that there are circumstances for sharks subject to zero TAC and with long recovery times where “achieving the recovery has higher priority than monitoring that recovery” (STECF, 12-03). STECF therefore considers that the proposal should be redrafted to provide evidence of the following:

(i) the inclusion of measures to minimise the mortality of deepwater sharks and,

(ii) an assessment of the extent to which any mortality of deepwater sharks resulting from this survey will affect their rates of recovery.

References

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6.8. Request for an evaluation of the effectiveness of Highly Selective Gears being used by English administered vessels

Background

The UK have undertaken trials of a large diamond mesh placed in the headline panel of fishing gears as part of a Fisheries Science Partnership trial in the Celtic Sea. The aim was to identify if any of the gears on trial provided for size selection of haddock and whiting.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

STECF is asked to review and evaluate the results of scientific trials completed in September 2013 on the use of diamond shaped meshes inserted into the headline of trawls used in the Celtic Sea, as submitted by the UK. The attention of STECF is drawn to the extent and location of these trials and STECF are asked in particular to consider:

1. The extent that each design can be expected to reduce the catches of small and/or juvenile haddock and whiting.
2. Whether any of the gear designs is effective at reducing catches of large haddock or what amendments would be needed to the designs to make them also effective at reducing catches of large haddock.
3. In addition STECF are asked to comment on the overall reduction in the catches (both landings and discards) of other commercial species likely to be achieved by this trawl. STECF are further asked to comment on the possible impact on haddock and whiting mortality arising from the use of this gear.

4. In cases of scientific uncertainty 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.

STECF observations

To consider the question, STECF used the project report 'Area VII Haddock Discard Eliminations using Technical Measures' prepared by Smith and Catchpole (2013).This work was carried out as part of the Fisheries Science Partnership (FSP) programme.

A series of fishing gear trials, undertaken off southwest England during August and September 2013, tested a number of trawl modifications aimed at improving the selective performance of demersal otter trawls to reduce unwanted catches of haddock in ICES area VII. The specific objective was to demonstrate the change in selectivity of varying the mesh size and position of a diamond mesh escape panel in the top of the trawl towards haddock and other commercial species under normal fishing conditions.

STECF notes that in recent years, the 'coverless or cut-away headline trawls' have been used effectively to allow haddock to escape capture in *Nephrops* fisheries but the gear was shown not to be size selective and resulted in escapement of almost the entire length range of haddock (NECESSITY FPAR 501605, 2007). STECF notes that he South West Otter Trawl discards Project (SWOT) trialled large diamond mesh in the top section of the trawls and the results encouraged other skippers in the region to experiment with large meshes. This generated an industry proposal that modifications to the top sheet of trawls should be tested to reduce the quantities of unwanted haddock.

In the project report by Smith and Catchpole (2013) the vessel's own commercial twin-rig trawl was used for the trials. Thirty-three tows were conducted during the trials and four experimental gear designs were tested (Figure 6.8.1).

Haddock dominated the catches of commercial species throughout the trials. The low catches of other commercial species, including megrim, lemon sole, whiting and anglerfish, meant that it was not possible to make robust conclusions on the effect of the escape panels towards these species.

All four experimental trawl designs caught fewer haddock in the length range equivalent to grade 5 (37 cm in length) relative to the standard trawl. One design demonstrated a statistically significant reduction in haddock catches, this design incorporated a 400 mm diamond mesh square section and 200 mm diamond mesh in part of the back net section (Trial 3, Figure 6.8.1). This yielded a reduction in haddock below 46 cm, equating to a reduction of 41% by number overall.

STECF notes that it is evident that the insertion of large diamond-mesh panels in the upper sections (square and back) of a demersal trawl reduces the overall catch of haddock (Table 6.8.1). However, due to the experimental design it was not clearly demonstrated whether the square or back section was effective at reducing the catches of haddock.

For example, by comparing Trial 1 against the other designs, there was an indication that increasing the mesh size of the back section is more effective at reducing the catch of haddock than modifying the square section. However, the effects of altering the overall panel size and mesh size of the panel on haddock catches in trials 2, 3 and 4 were inconclusive even though trial 2, which incorporated a larger mesh size would have been expected to have resulted in reduced haddock catches.

There were relatively few small haddock on the fishing grounds during the period the study had to be conducted, making it difficult to identify changes in selectivity for small and/or juvenile

haddock. Furthermore, STECF notes that the information in the report is insufficient to quantify the likely impact of the gear modifications tested on the mortality of haddock and whiting.

Table 6.8.1. Percentage change from the standard trawl (control) in numbers of haddock caught with the test trawls in each trial. Refer to Figure 6.8.1for the meaning of the Trials.

Catch	**Trial1** *(10hauls)*	**Trial2** *(11hauls)*	**Trial3** *(6 hauls)*	**Trial4** *(6hauls)*
All haddock	2% (5777)	-18% (3875)	-41% (4403)	-14% (4988)
Haddock ≤ 37cm	-31% (656)	-8% (411)	-28% (440)	-19% (607)
Haddock ≥ 37 cm	5% (5121)	-17% (3464)	-30% (3963)	-11% (4381)

STECF conclusions

STECF acknowledges the initiative by the UK administration in the southwest England for having undertaken a trial study on gear modifications designed to reduce catches of haddock and other by-catch species.

Due to the low catches of small and/or juvenile haddock and whiting observed during the experimental trials, at this stage it is not possible for STECF to assess the impact of the large diamond-meshes placed in the headline panel on juvenile haddock and whiting catches in the Celtic Sea. Furthermore, because the catches of species other than haddock were low, the results of the trial regarding the impacts of the modified gears on such species were inconclusive. Experimental data from trials undertaken in seasons with higher small haddock and whiting abundance than observed in the current trials will be required before any definitive conclusions on the potential ability of the gear to reduce juvenile haddock and whiting catches can be attempted.

From the report of Smith and Catchpole (2013) it is not possible to determine exactly which specific gear modifications led to the observed general a reduction in haddock catches. Further research and monitoring will be required if these aspects are to be clarified. Technical measures effective at reducing catches of unwanted haddock, such as those described here, may be of practical and economic benefit to the industry, especially when operating under the anticipated future landing obligations. However, STECF notes that it is not possible at this stage to determine if the reduction in haddock catches observed in the modified trawls were entirely due to the technical functioning of the gear.

Summary responses to each item in the Terms of reference are as follows:

1. Results of the trial indicate that the insertion of large diamond-mesh panels in the upper sections (square and back) of a demersal trawl might potentially reduce catches of small / juvenile haddock catches. However, due to the experimental design it was not demonstrated whether the square or back section was effective at reducing the catches of haddock. There were relatively few small and/or juvenile haddock on the fishing grounds during the period the study had to be conducted, making it difficult to identify changes in selectivity for small and/or juvenile haddock;

2. The results of the trials indicate that the insertion of large diamond-mesh panels in the upper sections reduces the catches of large haddock. Due to the design it is not possible to determine precisely, which specific gear modification was most effective at reducing catches of large haddock.
3. As the catches of species other than haddock were low, the results of the trial regarding the impacts of the modified gears on such species were inconclusive. The information in the report is insufficient to quantify the likely impact of the gear modifications tested on the mortality on haddock and whiting.
4. In order identify the relative effectiveness at improving selectivity for haddock, any future trials would best be undertaken using an experimental design that tests only one modification against the control gear in each trial i.e. varying either the mesh size or the position of the diamond-mesh escape rather than a combination of these.

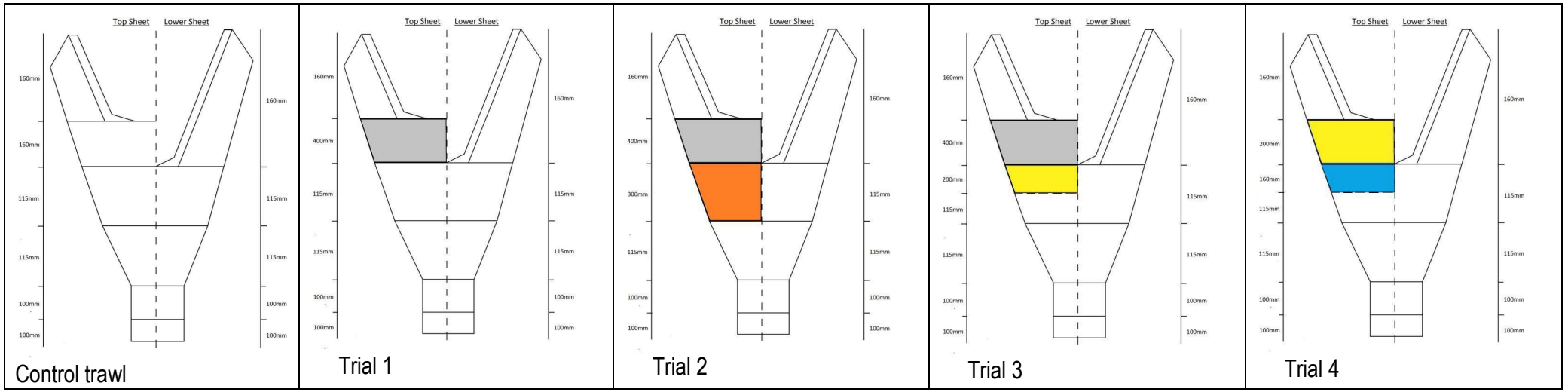


Figure 6.8.1. Net plans showing the different test configurations for the modified trawls. Large mesh panels inserted in the top sheet are highlighted in colours: grey (400 mm), orange (300 mm), yellow (200 mm) and blue (160 mm).

6.9. Request for an evaluation of the effectiveness of a technical gear measures in the Irish Sea

Background

The UK has undertaken a trial to reduce unwanted catches in the NW England nephrops Fishery (Eastern Irish Sea). These trials ran from 2010 but were modified to take account of the UK commitment (Council Statement (2011) to improve selectivity measures. The trial was amended to allow for an evaluation of the designs' impact on cod and other gadoids and to allow for a comparative evaluation against the SELTRA trawl.
In the first phase of trials 21 net designs were utilised which were reduced down to 3 gear types for the second phase. However not all are considered possible for commercial deployment and this request relates to the 200mm Square Mesh Panel(SMP).
The UK has provided a report on these trials and the supporting data collected.
Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

STECF is asked to evaluate the trials undertaken and on the basis of these trials to comment on
1. the extent that the design of the 200mm SMP can be expected to reduce the catching and discarding of whitefish from the Eastern Irish Sea Nephrops fishery. In particular STECF are asked to comment on the overall reduction in the catches (both landings and discards) of whitefish species likely to be achieved the 200mm SMP trawl.
2. STECF are further asked to comment on whether this gear has at least equivalent selectivity benefits to the SELTRA trawl in this fishery on the basis of the trials undertaken.
3. In cases of scientific uncertainty 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.

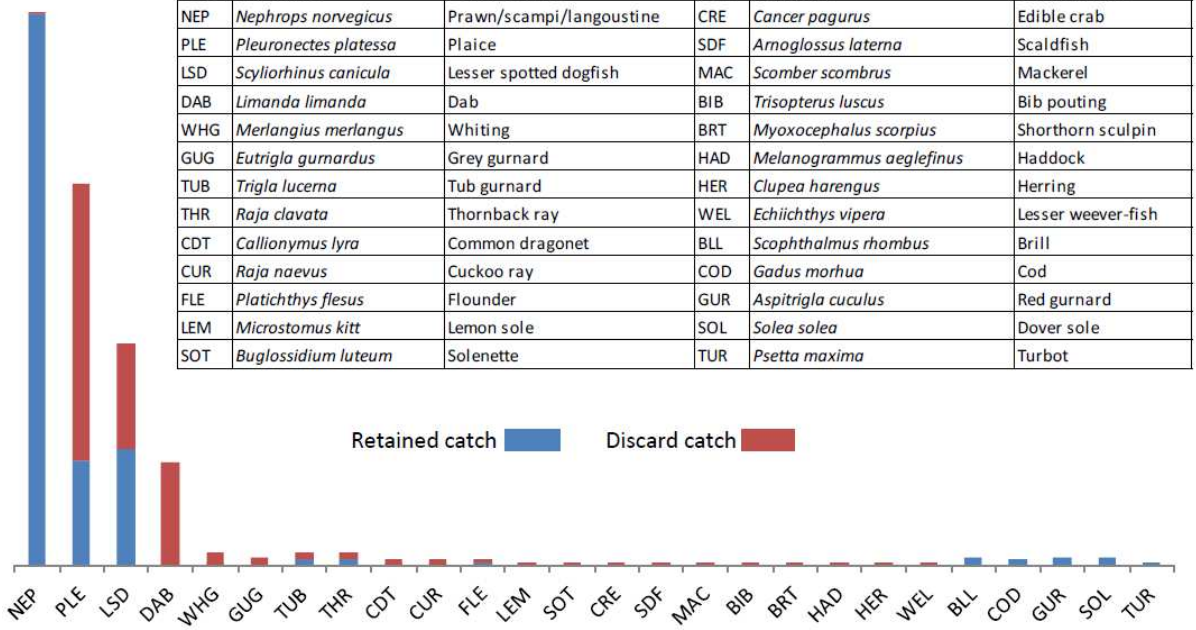
STECF observations and comments

Report

The report present the trials undertaken by the UK in order to reduce unwanted catches made in *Nephrops* fishery conducted in the Eastern Irish Sea.

In that fishery the main catches concern *Nephrops*, plaice, lesser spotted dogfish and dab. On average 53% of the total catch weight is discarded. Plaice is the major source of discards. For the main commercial species, 5% of Nephrops, 58% of plaice, half of lesser spotted dogfish andalmost all dabs are discarded. In addition, 91% of whiting is also discarded.

Code	*Latin name*	Common name	Code	*Latin name*	Common name
NEP	*Nephrops norvegicus*	Prawn/scampi/langoustine	CRE	*Cancer pagurus*	Edible crab
PLE	*Pleuronectes platessa*	Plaice	SDF	*Arnoglossus laterna*	Scaldfish
LSD	*Scyliorhinus canicula*	Lesser spotted dogfish	MAC	*Scomber scombrus*	Mackerel
DAB	*Limanda limanda*	Dab	BIB	*Trisopterus luscus*	Bib pouting
WHG	*Merlangius merlangus*	Whiting	BRT	*Myoxocephalus scorpius*	Shorthorn sculpin
GUG	*Eutrigla gurnardus*	Grey gurnard	HAD	*Melanogrammus aeglefinus*	Haddock
TUB	*Trigla lucerna*	Tub gurnard	HER	*Clupea harengus*	Herring
THR	*Raja clavata*	Thornback ray	WEL	*Echiichthys vipera*	Lesser weever-fish
CDT	*Callionymus lyra*	Common dragonet	BLL	*Scophthalmus rhombus*	Brill
CUR	*Raja naevus*	Cuckoo ray	COD	*Gadus morhua*	Cod
FLE	*Platichthys flesus*	Flounder	GUR	*Aspitrigla cuculus*	Red gurnard
LEM	*Microstomus kitt*	Lemon sole	SOL	*Solea solea*	Dover sole
SOT	*Buglossidium luteum*	Solenette	TUR	*Psetta maxima*	Turbot



Catch and discards in the NW English *Nephrops* trawlers fishery in 2012

During the trials 16 different gear configurations have been tested in the first phase of the project. Three of them have been selected to be studied in detail in the second phase of the trials: floating bridles to avoid herding effect, side-escape panels and a 6m long 200mm square mesh panel (SMP). Between 8 and 10 hauls were completed for each of the three gear configurations. Each was compared to the same standard trawl.

The report presents results for those three configurations. The request to STECF concerning only the SMP, the observations and comments from STECF have been prepared only on that configuration.

STECF notes that the description of the 6m long 200mm SMP and especially its location is not clearly described. However, from the design presented in the report, STECF assumes that the SMP was placed immediately in front of the extension piece. That point should be clearly described.

Despite the low catches of whiting observed in both gears, the SELTRA 200 trawl retained far fewer whiting than the standard trawl.

No results are presented for cod because the catches were very low and because of the well-known difference in the behavior of cod and whiting in the trawl, the results for whiting cannot be extrapolated to cod.

The main topic of the report being whitefish no analyses are presented on lesser spotted dogfish, half of which is discarded from catches by the standard gear. However, the report concludes that the catches of lesser spotted dogfish were reduced by 97% when using the SMP compared to the standard trawl although STECF is unable to assess whether that conclusion is valid.

The catch comparison analysis, SMP vs standard trawl, shows the low effectof the SMP on the catches of flatfish and *Nephrops*. Other trials were dedicated to the comparison between the selectivity of the SMP and the SELTRA trawl.

Summary responses to each of the items in the Terms of Reference are given below:

1. Reduction of whitefish catches when using SMP

The SMP gave statistically significant reductions in catches of dab less than 18cm and whiting but the results for plaice were not significant. STECF concludes that the SMP retains less dab and whiting than the standard trawl. The results obtained for cod and other whitefish species are inconclusive.

2. Selectivity comparison between SMP and SELTRA

The SMP retains statistically significant less plaice between 22 and 30 cm and statistically significant less dab and whiting than the SELTRA trawl. The SMP reduced catches of whiting by 91%.The results obtained for cod and other whitefish species are inconclusive.

On the basis of the trials undertaken, STECF concludes that the SMP trawl has at least equivalent selectivity benefits to the SELTRA trawl for dab, whiting and plaice between 22 and 30 cm.

3. Data to be improved: sampling and gear properties

Due to the low catches of cod observed during the experimental trials, at this stage it is not possible for STECF to conclude whether the SMP and the SELTRA gears will attain the desired reductions in cod catches in the Irish Sea. Experimental data from trials undertaken in seasons with higher abundance of cod and other gadoids than observed in the current trial are required before any definitive conclusions on the impact of those gears on whitefish.

STECF notes from the report that the best results with regard to the reduction of discards of plaice and dab were obtained using the floating bridle arrangement. Using such a rig, the discards of plaice and dab species were reduced by more than 50%. It may be informative if any future trials to test the SMP in combination with floating bridles or with no, or very short bridles.

6.10. Request to the STECF to evaluate a request for 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 (the Cod Plan) 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.

Further in a Council Statement in the 2011 December Fisheries Council the UK agreed to impose a number of selectivity measures including that: *' in the Nephrops fishery (TR2) the UK administrations will work with fishers to deploy measures that result in significant reductions in cod catches. For the Irish Sea the UK agrees as an objective that by 1 July 2012 the nephrops fleet will fish with gears which will enable them to secure an exemption from the effort regime as laid down in Article 11 of Regulation (EC) No 1342/2008 (the cod plan).'*

Subsequently the UK administration in Northern Ireland, Department of Agriculture and Rural Development (DARD) undertook a number of gear trials that were assessed in STECF PLEN 12-03. The results of the trials were not sufficiently conclusive to allow determination for the granting of an exemption under Article 11 of the Cod Plan. DARD have since undertaken commercial deployment of various gears accompanied with an observation at sea scheme to further determine

their efficiency in reducing cod catches and reducing discards. Information is presented on four gears, a SELTRA trawl, a 270mm Diamond SELTRA trawl, the use of a 300mm SMP and a Queen Scallop trawl.
Previously STECF (STECF PLEN 12-02) considered a request concerning a possible exclusion of vessels from the effort regime under the Cod Plan in respect of a Queen Scallop fishery operating in the Irish Sea. DARD have in their evaluation of the queen scallop trawl provided information on a similar fishery operated in adjacent waters and to the north of Ireland in ICES area VIa.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of References

Under the conditions laid down in Article 11(2) of the Cod Plan, STECF are asked to evaluate the information provided by DARD to determine for each of these gears;
1) To what extent does the data on catches and landings submitted by the UK 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 is requested to complete the table below summarising its findings in relation to the present request.

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

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

STECF response

STECF observations

Four selectivity devices/gears are presented as separate cases for reducing cod catches in the TR2 fleet for which Article 11 exemption is requested: (i) SELTRA 300; (ii) SELTRA 270; (iii) 300 SMP; (iv) Queen scallop otter trawl. For all four cases observer data are presented. In addition gear trial data are presented for SELTRA 270 and 300 SMP and technical descriptions are provided for SELTRA 300, SELTRA 270, and 300 SMP. STECF commends DARD for the completeness and appropriateness of their documentation and analyses (https://stecf.jrc.ec.europa.eu/web/stecf/plen1303).

STECF has commented in earlier gear selectivity reviews that if cod catches are low during the observation period, independent of the gear used, it is difficult to determine whether the low cod catches are due to the technical functioning of the gear (technical decoupling) or simply due to the low cod abundance (depletion decoupling). DARD has taken care to collect the gear trial data during a period of known high cod abundance. The observer data were collected year round and it was noted that during this period the percentage of cod catch of the total catch was on average >2% per trip (range 0-3.4%) for those trips where no selectivity devices were fitted over and above the requirements under existing technical regulations (i.e., standard TR2 gear). The probability of the cod catch being more than 1.5% of the total trip catch was 44%, indicating that cod were present on the grounds during the observed period.

SELTRA "300" Trawl (4m box section with 300 mm square mesh)
STECF PLEN 12-03 evaluated this variant of the SELTRA device based on information obtained during gear trials in 2011. STECF concluded that due to the low catches of cod during the experimental trials, it was not possible to conclude at that time whether the gear will attain the desired reduction in cod catches in the Irish Sea. STECF further recommended that further data will need to be collected in a season with higher cod abundance. Data and results presented are in support of the original case. At sea observers collected data during routine commercial operations on nine different vessels that had this device fitted. A total of 25 trips and 83 hauls were observed. The positions of hauls during which observer data were collected were all within the western Irish Sea *Nephrops* grounds.

The percentage cod catch for all the observed trips is less than 1.5 % (0.75%) of the total catch. For the majority of trips, no cod catches were observed. The bootstrap analysis suggested by STECF (STECF PLEN 11-03) to evaluate the probability that the mean catch of cod among trips exceeds the 1.5% threshold shows a very low probability of 2%.

SELTRA "270" Trawl (3m box section with 270 mm diamond mesh)
A. Gear trial. The trip was conducted from 23-27 February 2013 aboard a twin-rigger and 16 hauls were observed. The trial was conducted during the spawning period when there is a high abundance of cod on the *Nephrops* ground. This trip was a dedicated sampling trip to test the difference between the SELTRA 270 net and the standard net. Bulk catches were estimated for each net and two observers were aboard to get sufficient sampling coverage of both nets.

The total catch was reduced by 7% on average over the 16 hauls from the standard net to the diamond SELTRA 270 net. On average the SELTRA 270 trawl caught less cod, haddock, plaice and whiting compared to the standard net. The reductions were most prominent at smaller sizes for these species. The SELTRA 270 net caught on average 6.8 kg of cod per haul, which constitutes a 42% reduction from the average catch of cod in the standard net of 11.8 kg per haul (not statistically significant, p= 0.08). The proportion of cod in the catch in the SELTRA 270 net was on average 1.4% per haul, constituting a reduction by 37% compared to the average of 2.2% per haul in the standard net (not statistically significant, p= 0.07). Note the reduction of overall bulk catches,

potentially elevating the proportion of cod in the catch even if the real level of cod catches is reduced. This is another reason, in addition to the ones STECF pointed out in their evaluation of the cod plan (STECF-11-07), that it is not appropriate to use percentages as criterion for bycatch limits.

B. Observed trips. At sea observers collected data during routine commercial operations on eight different vessels that had this device fitted. A total of 9 trips and 104 hauls were observed. The positions of hauls during which the trial and observer data were collected were all within the western Irish Sea *Nephrops* grounds.

The percentage cod catch for all the observed trips is more than 1.5 % (1.86%) of the total catch. The 1.5% limit has been exceeded in four out of the nine observer trips. The bootstrap analysis shows a high probability of 78% that the mean catch of cod among trips exceeds the 1.5% threshold. The selectivity of the device corresponds to that observed in previous trials where the catches of small cod have been significantly reduced, but the device is less effective for excluding larger size cod.

300 mm Square Mesh Panel (SMP)

A. Gear trial. The trip was conducted from 2-5 April 2013 aboard a twin-rigger and 11 hauls were observed. The trial was conducted during the spawning period when there is a high abundance of cod on the *Nephrops* ground. This trip was a dedicated sampling trip to test the difference between 300 mm Square Mesh Panel and the standard net. Bulk catches were estimated for each net and two observers were aboard to get sufficient sampling coverage of both nets.

The total catch was reduced by 10% on average over the 11 hauls from the standard net to the 300 mm SMP net. The size specific selectivity pattern is almost the opposite of the SELTRA 270 in that the retention of cod is significantly reduced for larger fish by the 300 mm SMP, but not for the smaller fish. The 300 mm SMP net caught on average 4.6 kg of cod per haul, which constitutes a 74% reduction from the average catch of cod in the standard net of 18.0 kg per haul (statistically significant, $p= 0.01$). The proportion of cod in the catch in the SELTRA 270 net was on average 1.3% per haul, constituting a reduction by 73% compared to the average of 4.8% per haul in the standard net (statistically significant, $p= 0.02$).

B. Observed trips. At sea observers collected data during routine commercial operations on 15 different vessels that had this device fitted. A total of 54 trips and 212 hauls were observed. The positions of hauls during which the trial and observer data were collected were all within the western Irish Sea *Nephrops* grounds.

The percentage cod catch for all the observed trips is less than 1.5 % (0.51%) of the total catch. For the majority of trips no cod catches were observed, but there were a few observations of cod catches being more than 5% of the total catch. The bootstrap analysis shows a very low probability of 3% that the mean among trips of cod catches exceeds the 1.5% threshold.

The Queen scallop otter trawl fishery

Previously STECF (STECF PLEN 12-02) considered a request in respect of a Queen Scallop fishery operating in the Irish Sea. Based on the STECF evaluation, a group of vessels were granted exemption from the effort regime under Article 11 of the Cod Plan based on both spatial and gear decoupling. The case presented here is for vessels using the same gear as the above mentioned case, but operating outside the Irish Sea off the north of Ireland (Division VIa); this case is only based on gear decoupling.

The nets used in the Queen Scallop fishery are modified *Nephrops* nets with the low headline height being the distinguishing feature (commonly referred to as queenie nets). The other main modification made to the nets is the use of large rubber mats to give protection to the bag during towing, but this will have little or no effect on the selectivity of the gear.

A total of 36 hauls in five trips on two boats were observed, all within the main Queen Scallop area off the north coast of Ireland in an area known to have relatively high cod abundance and adjacent to a juvenile cod closed area. The sample size in terms of trips and vessels is small. The percentage cod catch for all the observed trips is less than 1.5 % (0.5%) of the total catch. The bootstrap analysis shows an extremely low probability (less than 0.1%) that the mean among trips of cod catches exceeds the 1.5% threshold.

STECF conclusions

STECF conclusions are given in Table 6.10.1

Table 6.10.1: Summary of STECF findings in relation to vessels groups requests for exclusion

Country	Description of vessel group	Data submitted	STECF advice in November 2013
UK (Northern Ireland)	Vessels using SELTRA "300" Trawl (4m box section with 300 mm square mesh)	Observer data: 83 hauls in 25 trips of 9 vessels were sampled for observer data on catch.	The data support the conclusion that during the reference period for which the data have been collected, the catches of cod by the vessel group deploying SELTRA 300 were on average less than or equal to 1.5% of the total catches of that vessel group.
UK (Northern Ireland)	Vessels using SELTRA "270" Trawl (3m box section with 270 mm diamond mesh)	Gear trial data: 16 hauls in one trip; Observer data: 104 hauls in 9 trips of 8 vessels were sampled for observer data on catch.	The data do NOT support the conclusion that during the reference period for which the data have been collected, the catches of cod by the vessel group deploying SELTRA 270 were on average less than or equal to 1.5% of the total catches of that vessel group.
UK (Northern Ireland)	Vessels using 300 mm Square Mesh Panel (SMP)	Gear trial data: 11 hauls in one trip. Observer data: 212 hauls in 54 trips of 15 vessels were	The data support the conclusion that during the reference period for which the data have been

		sampled for observer data on catch.	collected, the catches of cod by the vessel group deploying 300 mm Square Mesh Panel were on average less than or equal to 1.5% of the total catches of that vessel group.
UK (Northern Ireland)	The Queen scallop otter trawl fishery	Observer data: 36 hauls in 5 trips of 2 vessels were sampled for observer data on catch.	The data support the conclusion that during the reference period for which the data have been collected, the catches of cod by the vessel group deploying the Queen scallop otter trawl were on average less than or equal to 1.5% of the total catches of that vessel group.

STECF concludes

STECF concludes that the data support the conclusion that during the reference period for which the data have been collected, the catches of cod by the vessel group deploying SELTRA 300 were on average less than or equal to 1.5% of the total catches of that vessel group.

STECF concludes that the data do NOT support the conclusion that during the reference period for which the data have been collected, the catches of cod by the vessel group deploying SELTRA 270 were on average less than or equal to 1.5% of the total catches of that vessel group.

STECF concludes that the data support the conclusion that during the reference period for which the data have been collected, the catches of cod by the vessel group deploying 300 mm Square Mesh Panel were on average less than or equal to 1.5% of the total catches of that vessel group.

STECF concludes that the data support the conclusion that during the reference period for which the data have been collected, the catches of cod by the vessel group deploying the Queen scallop otter trawl were on average less than or equal to 1.5% of the total catches of that vessel group.

6.11. Turbot and Brill

Background

In accordance with the Article 3.1 of Regulation 847/1996 introducing additional conditions for year to year management of TACs and quota Member States may request an increase in the TAC. The Commission received on 22 a request from the Netherlands for in-year revision of the turbot and brill TAC in the North Sea for 2013 management period with + 10%. The request was accompanied by the relevant supporting information.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of References

STECF is requested to review the Netherlands request and advice whether requested in-year increase of TAC concerned is appropriate.

STECF is also requested to advice on possible implications on the TAC advice for 2014, if the in-year increase eventually is adopted.

STECF response

Background

STECF notes that the Netherlands have used the following arguments to justify the request for an in-year increase in the 2013 TAC for turbot and brill in the North Sea.

- The stocks of turbot and brill in the North Sea have increased in the last decade
- The recent TACs for turbot and brill have been restrictive leading to discards (even if the Dutch TAC in 2012 has been closed the 24th of December, thus causing only one week of possible discards)
- A 10% increase of the TAC is in line with the PA and MSY approach, based on predictions made using the North Sea turbot assessment model

STEFC notes that turbot and brill in the North Sea are managed by an EU combined TAC for EU areas of ICES Division IIa and Subarea IV. STECF notes that both advice of turbot and brill is based on ICES approach to data limited stocks and the assessments were considered only as indicative of trends. Additionally, for turbot ICES used the assessment to provide quantitative catch forecast based on F_{MSY}. STECF notes that the effects of an in-year increase in TAC must be considered separately for each stock.

With regards to turbot, STECF notes first that the short-term forecast presented by ICES assumes status quo landings in 2013 compared to 2012, which is estimated to correspond to FMSY in 2013 (0.34). Therefore, a 10% increase in landings would lead to exploitation levels above FMSY in

2013. Secondly, STECF considers also that the results of the exploratory alternative short-term forecasts that are presented are slightly misleading, in the sense that only the effects on biomass are presented (which are small), and not the effects on catches. STECF understands that should the catches be increased in 2013, the FMSY-based forecast would certainly lead to a catch advice for 2014 lower than the current value of 2978 t, and probably also lower than the 2012 catches at 2914t.

Thirdly, STECF notes that the current ICES advice for 2014 (based on FMSY target in 2014), at 2978 t, is only 2% higher than the landings in 2012 (2914 t). Notwithstanding the point two above, a 10% TAC increase from 2012 to 2013 would be followed by a subsequent 8% decrease from 2013 to 2014, which may not be a desirable outcome. Ultimately, STECF notes that even if the turbot stock has increased in the last decade, it is still at about half, or less than half of the level observed in the beginning of the 1980s (i.e. beginning of the ICES time series). STECF also notes that in adjacent areas like the Skagerrak-Kattegat, the turbot stock has declined more than 90% since the 1920´s.

With regards to brill, STECF notes that biomass and exploitation reference points are not estimated for that stock. This implies that the level of F in comparison to F_{MSY} is not known for brill in the North Sea. Therefore, STECF is not able to evaluate the effects of an increase of 10% of the combined TAC for turbot and brill with regards to F_{MSY} for brill. Brill biomass has increased during the last decade but over the longer time period, abundance has rather shown a fluctuating pattern without trend during the time series (1987-2012).

STECF remarks that the landings given in table 6.4.1.1 of the ICES advice for brill, also includes the landings from area IIIa and VIIde, and thus cannot be compared directly to the North Sea TAC. According to of the ICES advice 6.4.1.2, brill landings in the North Sea represented 67.2% of the combined area in 2012. This sums up to a combined 2012 landings of brill + turbot in area IV at 4429 tonnes, which is less than 96% of the 2012 TAC at 4642 t. The same calculation indicates that the TAC has never been fully taken except in 2007. This suggests that the current TAC levels are fairly well balanced with the catches, and that possibilities for full uptake of the TAC should be explored before that an increase of the TAC is considered. Assuming that the same proportion of brill is taken in the North Sea in 2014 as in 2012, then the combined TAC advice for the North Sea would be 2978 + (2727*0.672) = 4811 t for area IV in 2014, which is only 3.6% higher than the 2013 TAC.

STECF also notes that as long as the TAC is combined for turbot and brill, it is not possible to estimate the effect on an increase of the total TAC on the stock status of the single species. STECF considers that in the future turbot and brill should be managed by separate TAC.

STECF has also given additional considerations to the issue of discarding of brill and turbot because of quota limitations. With respect to survival of discarded fish a recent report of STECF concluded that results are variable and depend on e.g. location, depth, fishing gear, duration fishing time, catch composition, deck handling, season, sea surface temperature, air temperature etc. and vary greatly from study to study (STECF 2012). There are no reported studies on the survival rates of turbot and brill caught by the beam trawl, otter trawl or gillnet in the North Sea. As a consequence STECF considered it potentially misleading to make any extrapolations on actual discard survival rates of turbot and brill in the North Sea fisheries. However, there are specific studies made on the Black Sea turbot after being captured by gillnet, which point out that the likelihood of survival for turbot is likely to be high (an average of 70% of individuals survived) even if the turbot was left more than 20 days in the gillnet (Samsun and Kalayci, 2005).

STECF conclusions

On the basis of the information available in the ICES advice sheets, STECF concludes that in order to be consistent with MSY objectives the 2013 TAC for brill and turbot in subarea IV should not be increased.

References

Samsun, N., Kalaycı, F., 2005. Survival Rates of Black Sea Turbot (Scophthalmus maeoticus Pallas, 1811) Captured by Bottom Turbot Gillnets in Different Depths and Fishing Seasons Between 1999 and 2004. Turkish Journal of Fisheries and Aquatic Sciences 5:57-62.

6.12. Request for a STECF opinion on exclusion from requirements of the Technical Conservation Regulations (EC) No 850/1998.

Background

Article 34b of EC Regulation 850/1998, the Technical Measures Regulation, regulates the use of gill nets, entangling nets and trammel nets in ICES divisions IIIa, IVa, Vb, VIb, VIIb,c,j,k and sub areas VIII, IX,XII east of 27 degrees W. This article prohibits the use of such nets in waters deeper than 200m in the above ICES areas, with some derogations for specific gears in the depth range 200-600m.
Paragraph 11 of this article, allows the Commission after consulting with STECF to adopt an implementing act to exclude specific fisheries of a Member State from the application of Paragraphs 1 to 9 of this Article where information provided by the Member State shows that those fisheries result in a very low level of shark by-catches and of discards. The National Authorities of Spain have made a request to the Commission for exclusion, providing a study undertaken for a fleet metier identified as 'rasco', using a large sized gill net, with a low hanging ratio as the supporting evidence for this request. The exclusion relates to 4-6 boats from the Basque country using large mesh entangling nets.
Further it is appropriate to ensure that any exclusion takes into account the proposals for the sustainable exploitation of deep-sea stocks and that information on the catches of these stocks by this metier is examined.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Request to STECF

1 Under the conditions laid down in Article 34b paragraph 11 of Regulation (EC) No 850/1998 the STECF is requested to evaluate the information provided by the Spanish Authorities and to determine and advise if the information provided support an exemption from the provisions of Article 34b for this group of vessels on the basis of demonstration of very low of shark by-catches and discards.
2 In case of scientific uncertainty with regard to the above, identify what other information should be provided to aid determination of the applicability of this exclusion.
3 STECF is further asked to comment on the wider impact of this fishery on deep sea stocks, based on the catch information provided.

STECF Response

A detailed report on the 'rasco' fleet and its catches of deep water species in the southeast part of the Bay of Biscay was provided by the Spanish authorities together with detailed spreadsheets of catches and CPUEs. STECF notes that considerable effort was put into the collection of data on target and bycatch species using a combination of observer and self –sampling techniques. The material was well presented in the report and the results discussed. Some comparison was made with an earlier EU project DEEPNET.

The report provides fairly comprehensive coverage of the fishing trips made in 2012 by the 4 vessels using the rasco gear, with around half (17 trips) involving observer coverage and the remainder covered by self sampling. Information was provided on catches (landings and discards) by trip and for various categories of the catch. Target species were mainly anglerfish with some hake and bycatch included a number of specified shark species and other deep water species. Trips occurred throughout the early and latter parts of 2012 with a gap in the summer months.

In the Regulation, the term 'very low' is not defined so that for an extension of fishing beyond 600m depth it is not possible to base a judgement on the comparison of data provided with no legal definition of very low. STECF notes however, that, the existing derogation for the use of gillnets and trammel nets beyond 200m and down to 600 meters, targeting hake and anglerfish, is conditional on a number of technical and operational conditions being met. These relate specifically to the construction of the nets, the maximum amount of netting that can be deployed, the maximum soak time and a shark by-catch limit of 5% by weight. The bycatch limit of 5% may give some indication of what very low might mean.

STECF has mainly considered the request in the context of more general advice on deep water sharks and deep water species and with regard to its previous observations. Given the prevailing advice on the risks to many long lived, low fecundity shark and deep sea species, STECF believes that 'very low' necessarily implies low exploitation rates (fishing mortalities) on the populations rather than a low percentage bycatch calculation. STECF has previously advised on similar requests concerning deep water fixed net fisheries in which sharks and deep water species are a bycatch, for example:

STECF (2006) concluded, *"the hake and monkfish fisheries should be limited by a maximum of 600 m. This was seen as best compromise to be practical and to avoid the main part of the sharks' depth range. This depth limit means that the monkfish fishery cannot proceed in depths down to 800 m. It is recognised that some smaller shark species are mainly distributed in this range (600-800 m).*

STECF (2009) STECF notes that gulper shark (Centrophorus granulosus) is classified as critically endangered on the IUCN red species list. While reported catches of deepwater shark associated with the gill net and trammel net fisheries are low, it is not possible to identify the catch of gulper shark or to estimate the current exploitation rate on this species by these fisheries. STECF considers that it is probable that the low catch rates observed may be due to the severely depleted nature of the population rather than due to any spatial separation between the distribution of gulper shark and the depth range of the fishery.

The 'rasco' report presents material in terms of bycatch percentages, CPUEs and absolute numbers caught. Shark bycatch percentages were mostly below 10 % (12 out of 17 trips) but in 10 of the trips (the majority), percentages were above 5%. STECF notes that bycatch percentages may be heavily influenced by the magnitude of the catches of the target species and cannot be taken to

indicate low exploitation rate on the bycatch species. Similarly, the calculated CPUES for sharks (and other deepwater species), while low compared to those of the target demersal species, cannot be taken to indicate that the effect on the stocks of the shark and other deepwater species is small.

The vessels carrying observers caught around 450 sharks during the 17 trips amounting to 2.6 tonnes. Detailed information was not available from the 18 self-sampled trips but assuming similar catch rates, it is likely that the combined catch of the 4 boats in the study was close to 1000 sharks amounting to around 5 tonnes. Observed catches of the deepwater species amounted to about 1.25 tonnes, suggesting around 2.5 tonnes were caught overall.

The main species of shark caught were the knifetooth dogfish (*Scymnodon ringens*) (65% of all individuals caught), followed by the birdbeak dogfish (*Deania calcea)*, (23%) and the kitefin, shark (*Dalatias licha*) (4.7%). These smaller sharks are typically found in the 600-800m range. Information on the state of stocks of these sharks is scant.

It is necessary to have a clearer idea of the exploitation rates implied by the catches of these species but it is not possible to ascertain this from the information available so far. Data are provided for one year and it would be helpful to have some indication of what catch rates have been like in this region over a period of time. Information from an earlier period, before the imposition of restrictive TACs would be particularly useful. A more sustained period of structured sampling or surveying of the area using a standardised approach would also be informative.

An important consideration is whether the sharks and deep water species in this localised area (SE region of Bay of Biscay) are part of much wider overall populations of these species or whether there are separate populations. The impact of the catches observed would be rather different in the latter case and if the population was relatively small, then exploitation rate could be quite high.

STECF notes that in general the discard rates were low – overall around 5% of the catch was discarded. For a number of the shark species and other deepwater species, however, discard rates could be up to 100% owing to lack of markets or the state of the fish following capture in the nets. Hake, one of the target species, was also discarded more heavily owing to spoilage. This observation suggests there may be a case for examining different soak time strategies which may benefit the condition of target species catch and offer some mitigation to the capture of by-catch species. Furthermore, improvements in catch mitigation for shark and deepwater species using other methods could be investigated in this fishery.

The rasco report contains a comparative discussion with the earlier work conducted in deepwater to the west of Ireland and the UK under the EU project DEEPNET. STECF does not, however, feel that the comparison (which includes discussion of of the characteristics of the vessels and fishing operations) has any substantive relevance to the questions being asked here about the Bay of Biscay.

STECF conclusions

There is insufficient information to support an exemption from the provisions of Article 34b for this group of vessels on the basis of demonstration of very low shark by-catches and discards. The request is for a derogation to fish deeper than 600m. In the report there is clear evidence that the incidence of sharks caught during the study increases quite sharply in the depth range 600m - 900m. Shallower than 600m, the catch rates are lower suggesting that the current arrangement is reasonably effective in mitigating shark catches.

Prior to any further consideration of an exemption, STECF considers that the impact, in terms of effect on the populations, needs to be evaluated. The information provided is insufficient to

estimate stock size or exploitation rate at the present time although the data collection described in the report has made a valuable contribution. The understanding of populations of shark and deepwater species could potentially be improved with the development of structured, ongoing surveys and continued recording of any by-catch information in the existing fishery (see also section 6.7 of this report). If possible, efforts should also be made to determine whether the stocks are localised or part of a bigger more widely distributed population.

Much of the discussion above also applies to the deep-sea stocks. There is insufficient information to judge what the catches mean in terms of exploitation rate or to judge whether an exemption can be supported.

References

STECF (2006). Commission Staff Working Paper. Report of the Scientific, Technical and Economic Committee for Fisheries. Report of the STECF Working Group on Deep-sea Gillnet Fisheries 11-14 July, 2006

STECF (2009) Response to a request from the European Commission on the use of trammel nets in waters less than 600 m depth by way of derogation from Regulation (EC) No 43/2009. September 2009, Written Procedure

6.13. Request for an STECF opinion on assessment of the Member States annual reports whether the conditions for exclusion in accordance with Article 11(2) of Regulation (EC) No 1342/2008 remain fulfilled

Background

In accordance with Article 11(2) of Council Regulation 1342/2008 establishing a long term plan for cod stocks and the fisheries exploiting these stocks the Council may, acting on a proposal from the Commission and on the basis of information provided by the Member States and on the advice of STECF, exclude certain groups of vessels from the application of the effort regime.

The current exclusions for groups of vessels from Spain, Sweden, the United Kingdom, Poland and Ireland are described in Council Regulation (EC) No 754/2009, as amended. Member States must submit annually, appropriate information to the Commission and STECF to establish that the conditions for any exclusion granted remain fulfilled. Reports on Article 11 are due 31st March.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

Based on the information provided by the UK authorities in respect of the operation of a group of trawlers (gear category TR2) targeting *Aequipecten opercularis* (Queen Scallop) in the Irish Sea the STECF is requested to assess whether the group of vessels concerned have been complying with the conditions set out in the decision on exclusion. In carrying out its assessment, the STECF is requested to:

a) advise whether the data on catches and landings submitted by the Member State support the conclusion that during the preceding fishing season (from the date of the exclusion), the vessel group has (on average) caught less than or equal to 1,5% of cod from the total catches of the vessels concerned;

b) specify the reasons, if the information presented gives indications on the non-fulfilment of the conditions for exclusion.

In carrying out its assessment, the STECF should consider the rules on vessel group reporting established in Article 4 of Commission Regulation (EU) No 237/2010 laying down detailed rules for the application of Council Regulation (EC) No 1342/2008.

Table 6.13.1: Summary of STECF findings in relation to vessels groups requests for exclusion

Country	Description of vessel group	Data submitted	STECF advice in November 2013
			[to include a statement on a favourable or negative opinion on the exclusion in question]

STECF response

In its plenary report of April 2012 (Plenary-12-01), STECF advised that data presented did support the application by the UK for exclusion of a group of vessels from the Isle of Man from the Irish Sea Cod recovery plan effort regime during the 2012 Queen scallop fishing season.

Evidence was presented that there would be a temporary discards ban during that fishing season so it could be expected that all cod caught would be brought to shore and that details would be recorded of this bycatch. Discards at sea of cod should therefore be expected to be zero during 2012 by this group of vessels.

STECF observations

A report prepared by Bangor University for the Isle of Man government on sampling of catches of vessels fishing for queen scallops during June to September 2012, within 12nm of the Isle of Man, was provided by the UK Administration . Neither the numbers of vessels engaged in catching scallops nor the numbers that were sampled for the study are mentioned in the report.

Data supplied by the UK related to 14 observed trips made by 9 vessels during June to September 2012. The data set provided for the original application for exclusion of vessels fishing for queen scallops around the Isle of Man during June to October in 2012 cites a list of 21 vessels. The UK also supplied data relating to the whole group of vessels excluded from the effort regime.

It is not clear from data supplied whether the whole group of excluded vessels was subject to a temporary cod discard regulation, as indicated in the application for the exclusion.

Data presented to STECF illustrate a very low by-catch of cod in summer 2012 during 14 observed trips by 9 vessels engaged in catching queen scallops. Total by-catch of cod during the 14 observed trips was c. 17kg.

All cod caught would normally have been discarded, but for the observed trips, all catch was landed to enable detailed recording of intended catch and by-catch. For the observed trips, cod by-catch per vessel ranged from 0.0 to 0.13% of total catch, and the sum of cod catch for all 14 trips as a proportion of the sum of total catch was 0.037%.

Data submitted indicated that the 14 observed trips represent 2.3% of total effort expended catching queen scallops by the 20 vessels that were excluded from the effort regime during summer 2012.

STECF Conclusions

STECF concludes that the data on catches and landings submitted by the UK appear to support the conclusion that during the preceding (2012) fishing season (from the date of the exclusion), the catches of cod by the vessel group targeting queen scallops were on average, less than or equal to 1.5% of the total catches of that vessel group. The STECF findings and conclusions are summarised in Table 6.13.2.

Table 6.13.2: Summary of STECF findings in relation to vessels groups compliance with conditions for exclusion from effort regime restrictions of the Irish Sea cod recovery plan.

Country	Description of vessel group	Data submitted	STECF advice in November 2013
UK	Isle of Man scallop vessels targeting Queenie scallops in the vicinity of the Isle of Man, in the Irish Sea. Not clear how many vessels were involved.	Landings and cod by-catch estimates for 14 observed trips made by 9 vessels engaged in queen scallop fishing during 2012, together with annual landings of those 9 vessels.	STECF concludes that the data on catches and landings submitted by the UK appear to support the conclusion that during the preceding (2012) fishing season (from the date of the exclusion), the catches of cod by the vessel group targeting queen scallops were on average, less than or equal to 1.5% of the total catches of that vessel group.

6.14. Request for review of management plans for certain fisheries within the territorial waters of France and Spain

General background

Member States are expected to adopt management plans for fisheries conducted by trawl nets (demersal and pelagic), boats seines (including both towed and surrounding seines), shore seines, surrounding nets and dredges within their territorial waters.

The plans shall include conservation reference points such as targets against which the recovery to, or the maintenance of stocks within, safe biological limits for fisheries exploiting stocks at/or within safe biological limits is ensured (e.g. population size and/or long-term yields and/or fishing mortality rate and/or stability of catches). The plans shall ensure the sustainable exploitation of stocks and that impact of fishing activities on marine eco-systems is kept at sustainable levels.

The Management plans may incorporate any measure included in the following list to limit fishing mortality and the environmental impact of fishing activities: limiting catches, fixing the number and type of fishing vessels authorized to fish, limiting fishing effort, adopting technical measures (structure of fishing gears, fishing practices, areas/period of fishing restriction, minimum size, reduction of impact of fishing activities on marine ecosystems and non-target species), establishing incentives to promote more selective fishing, conduct pilot projects on alternative types of fishing management techniques.

Moreover, with a view to carry out some specific fisheries, exceptions to some rules may be granted as stipulated by Articles 4(1) second subparagraph, 4(5), 9(7) (not applicable to trawl-nets), 13(5), 13(9), 13(11), 15(3) respectively of the Mediterranean Regulation.

In order to benefit of such derogations the fisheries concerned, in addition of being managed within an adequate management plan (Article 19) , shall respect some conditions including, inter alia, to be highly selective, in order to ensure that catches of species mentioned in Annex III are minimal, to have a negligible effect on the marine environment and shall be carried out neither above coralligenous habitats and mäerl beds nor above sea grass beds of *Posidonia oceanica* or other marine phanerogames.

Member States were expected to provide up-to-date scientific and technical justifications for such derogations.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

General Terms of Reference

STECF is requested to review and validate the conclusions of the ad hoc working groups for the following management plans:

1. Dredges in Andalusia (Spain)
2. Purse seiners, beach seines and dredges (France)
3. Dredges in Valencia (Spain)
4. Boat seines in Catalonia (Spain)

Assessment of management plans: general comment

Designing and testing HCRs for data-limited species are limited due to the reduced knowledge base available. STECF considers that it's better to have a proactive approach than wait until a knowledge base to support a full evaluation is available. As such STECF carries out reviews of management plans, even though a full testing of factors likely to impact the achievement of the plan's objectives may not be available.

Nevertheless, it's important to avoid the "data-poor trap", which tends to keep data-poor stocks in the same situation once advice and management is put in place, and to encourage the Member States involved to allocate the necessary resources so that thorough assessments and evaluations of management plan can be done in the future, following best practice.

STECF has been regularly requested to assess (e.g. for the evaluation of management plans or derogations) the relative impact of different fleets on Mediterranean stocks. STECF consider that most of the stocks in the Mediterranean are exploited by a variety of different gears, with very different selection pattern and exploitation rates. STECF consider that it is not possible to address such request, unless multi-fleet stock assessment models that do not assume a steady state are developed for such stocks. This will require assessment models which are different than these currently used by STECF to assess Mediterranean stocks (with the exception of sole in GSA 17). STECF has already indicated (See section 5.XXX) that specific effort should be dedicated to develop such models as soon as possible.

STECF further notes that for stocks which are exploited by fleets from several Member States, it would be more appropriate to develop multi-national management plans rather than National management plans, as is currently the case.

6.14.1. Review of Spanish management plans for dredges in the autonomous region of Andalusia

This is the second time STECF revise the management plan for dredges in the autonomous region of Andalusia, following the review undertaken in November 2010 (STECF-PLEN-10-03[2]). Therefore, this new version should have taken into account previous comments.

Specific Terms of Reference

STECF is requested to review the scientific basis for the above mentioned management plan, evaluate their findings and make appropriate comments with respect to the measures proposed therein. Besides, STECF is requested to advice whether the plan contains adequate elements concerning:

- the biological characteristics and the state of exploited resources with reference in particular to long-term yields and low risk of stock collapse;

- the description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks (*Acanthocardia tuberculata, Callista chione, Chamelea*

2 Scientific, Technical and Economic Committee for Fisheries (STECF) – 35th Plenary Meeting Report (PLEN-10-03). 2010. Publications Office of the European Union, Luxembourg, EUR 24626 EN, JRC61940, 214 pp.

gallina, and Donax trunculus);

- the data on catches, effort and catches per unit of effort (CPUE), as well as the biological reference points ensuring the conservation of the concerned stocks;

- the minimum sizes and relative quantities of species mentioned on the Annex III;

- the potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. sea grass bed, coralligenous habitat and maërl bed);

- the social and economic impact of the measures proposed; and finally

- the scientific monitoring of the management plan.

STECF observations

Objectives of the MP

The Management Plan aims to establish complementary measures to control fisheries exploited by the mechanised dredge fleet on the Andalusian Mediterranean coast, together with a series of measures to control fishing effort in order to maintain the level of biomass of *Acanthocardia tuberculata, Callista chione, Chamelea gallina,* and *Donax trunculus* above the selected biological reference points, and thus maintain stocks within defined safe biological limits.

Measures included in the MP

- Annual catch limit (TAC) for all species (*Acanthocardia tuberculata, Callista chione, Chamelea gallina, and Donax trunculus*) so that if total annual catches exceed the established limits, the fishery for the species concerned shall be closed.
- Minimum average annual catch rate threshold for *A. tuberculata and C. gallina*.
- If the minimum average annual threshold values for *A. tuberculata and C. gallina* is not reached, and this situation is deemed to be the result of overfishing, the number of authorised fishing days shall be reduced from 5 to 4 days per week in the following year for the species in question.
- Limit in the number of days and hours of fishing.
- The maximum width of the dredges shall be 3 m.
- Prohibition of fishing on marine phanerogam meadows, above coralligenous habitats and mäerl beds.
- Minimum landing size for all species
- Scientific monitoring programme

General observations

The Spanish Management Plan (MP) documentation for mechanised dredges operating on the Mediterranean coast of Andalucia presents a variety of useful information and scientific data, which could be used to support the development of a valuable Management Plan for this fishery.

The current version of the MP is much improved compared to the previous version, although it still needs further refinement before it meets all of the provisions of Article 19 of the EU Regulation. In particular, it contains a general description of the fishery and major fishing harbours and landings sites, a good description of the most relevant species targeted by the mechanised dredges and their status assessed using fishery dependent data, and a summary of the most pertinent regulations, including the specification of the minimum landings size (MLS) for each of the exploited species included in the MP. Moreover, the plan includes a good description of the discards produced by the mechanised dredges and the potential impact on the benthic community as well as the socio-economic features of the fishery.

Therefore, the document contains sufficient information to develop a management plan but in relation to the provisions of Article 19 of the regulation, the plan is deficient in several aspects (listed under each of the elements outlined in the Terms of reference and in the Conclusion section below).

Observations in relation to each of the elements outlined in the Terms of Reference

"The biological characteristics and the state of exploited resources with reference in particular to long-term yields and low risk of stock collapse;

Biological characteristics, spatial distribution and state of the exploited resources are well described in the MP for the main target species (*Acanthocardia tuberculata, Callista chione, Chamelea gallina, and Donax trunculus*). For *D. trunculus* and *C. chione*, the evaluation of the state of the resource is based on analytical assessments (i.e. ASPIC production model based on catches and effort). The assessment identifies an MSY value for exploitation rate (i.e. fishing mortality, F) and stock biomass, and estimates the current status of the stock compared to these. Therefore, the status of the resource with reference in particular to long-term yields and low risk of stock collapse is given in the document.

On the other hand, for *A. tuberculata* and *C. gallina* ASPIC gave rather an poor fitting to the data. Therefore the 33rd percentile of the CPUE time series (i.e. 321 kg/vessel/day (2001-2011) and 26.61 kg/vessel/day (2001-2011) for *A. tuberculata* and *C. gallina* respectively) is proposed as the minimum precautionary reference value for the sustainable exploitation of the resource. This implies that for this species, the state of the resource with reference in particular to long- term yields and low risk of stock collapse is not formally given in the document but a proxy based on CPUE is given. This also means that the current stock situation is defined comparing current CPUE against the 33rd percentile of the CPUE time series. According to this, the stocks of *A. tuberculata* and *C. gallina* are currently above the CPUE threshold. It is important to note that the use of CPUE indicators is adequate only if the effort is appropriately standardized. Nevertheless, the document does not contain any explanation on how the effort was standardized, or if it was not standardised, why it was not necessary to standardize the effort for the mechanised dredges fisheries. These aspects are poorly considered in the MP and they would deserve a deep discussion when using CPUE trends to derive limit and target catches for the dredge fishery of the Andalucia region. In particular, although the size of dredge is fixed in the MP (i.e. maximum 3 meters), the document does not specify if hours fishing per day have increased over time and if these are allowed to increase in the future. Also, it is not clear from the Article 7 and 9 of the management plan, if each vessel is allowed to only use one dredge at the time.

It is also important to note that the time series of CPUE is rather short. In this situation a more appropriate index of the status of the stock would be obtained using the species biomass density

(i.e. kg/m^2) and compare it against a predefined baseline, which could be estimated from unfished areas or from data obtained in the past, assuming that they represent a more pristine status of the stock. In this case, a value comprised between the 30% and 40% of the density estimated from unfished areas or from data obtained in the past might be suitable as reference points to evaluate the stock status. Estimates of biomass density (e.g. kg/m^2) should be derived in the future to improve the assessment and management of the species. These estimates should be derived from fisheries independent surveys in order to complement the results obtained using data on catches and fishing effort. This was generally stated for *Acanthocardia tuberculata* (page 127 of the MP) but is valid for all other exploited species and should be part of the MP.

"The description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks (Acanthocardia tuberculata, Callista chione, Chamelea gallina, and Donax trunculus);

The fishing pressure is described in terms of catches and number of fishing days. The measures indicated in the MP to accomplish a sustainable exploitation of the main target stocks (*Acanthocardia tuberculata, Callista chione, Chamelea gallina, and Donax trunculus*) are a limit in the annual catches (i.e. TAC), which, for *D. trunculus* and *C. chione*, are based on MSY estimated by ASPIC (i.e. 49 t and 182 t, respectively) and for *Acanthocardia tuberculata* and *Chamelea gallina* are based on the 80th percentile of the time series of landings (i.e. 1528 t and 40 t, respectively). The MP also stipulates that fisheries shall be closed if annual catches exceed the established TAC limits for all species (Article 5.2) and additionally, for *A. tuberculata* and *C. gallina*, a reduction of the effort from 5 to 4 days per week shall be implemented if the CPUE falls below the minimum average annual CPUE threshold (Article 5.3). For *D. trunculus* and *C. chione*, minimum average annual CPUE thresholds are not defined. Moreover, Article 5 of the MP refers to conservation reference points but indeed for *D. trunculus* and *C. chione* these are only annual TAC, which cannot be considered as conservation reference points.

For *A. tuberculata* and *C. gallina*, Article 5.3 of the MP is also unclear how the Spanish authorities will be able to distinguish whether a reduction in CPUE is caused by overfishing or other causes deriving from commercial agreements and strategies, or by natural fluctuations in stock productivity. However, irrespective of whether the decline in CPUE is due to fishing or to other causes, such a decrease is an indication that the biomass of the species is declining, and thus HCRs are needed to further reduce F in order to minimize risks of stock collapse. Such HCRs are absent from the MP.

Moreover, the MP lacks any formal harvest control rules (HCRs) to be implemented if stocks fall below proposed biomass reference points or F exceeds proposed F-reference points. For *A. tuberculata* and *C. gallina*, an effort reduction from 5 to 4 days per week in case the CPUE falls below the threshold is stipulated. However, it is not demonstrated that such a reduction in effort will be sufficient to bring the CPUE above the threshold values. Also, the MP does not stipulate what will happen if after one year of the implementation of the reduction in effort from 5 to 4 days per week, the CPUE is still below the CPUE annual threshold.

"The data on catches, effort and catches per unit of effort (CPUE), as well as the biological reference points ensuring the conservation of the concerned stocks;

Data on catches (1985-2011), effort (1985-2011) and catches per unit of effort (CPUE; 2001-2011) are reported for all four species exploited by the mechanized dredges. Biological reference

points are estimated in relative terms (i.e. F/F_{msy} and B/B_{msy}) for *D. trunculus* and *C. chione*. However, for this two species the MP lacks formal HCRs, which should define what kind of management measures should be implemented in the future if the stock falls below B_{msy} or if F exceeds F_{msy}. The MP does not contain these elements but simply set the TAC for 2014 based on the most recent estimate of MSY. Also, for the MP to be precautionary, it should contain a CPUE limit value also for *D. trunculus* and *C. chione*, under which the fishery should be closed.

On the other hand, for *C. gallina* and *A. tuberculata*, ASPIC did not provide realistic estimates and thus the 33rd percentile of the CPUE time series were considered as a proxy of biological reference points and therefore established as limit reference value for the management of these species. For *C. gallina* and *A. tuberculata*, the MP does not contain comprehensive HCRs. Furthermore, no limit reference points are defined under which the fishery for *C. gallina* and *A. tuberculata* should be closed. Finally, assuming that historical catches are normally distributed and straddle the MSY value, the TAC for *C. gallina* and *A. tuberculata* should be set using the 50th percentile and not the 80th.

"The minimum sizes and relative quantities of species mentioned on the Annex III;"

The species contained in the MP are not listed in the Annex 3 of the Council Regulation (EC) No 1967/2006. However, the MP proposes minimum landings size (MLS) for all species exploited by mechanised dredges on Mediterranean fishing ground of the Andalusia Regional Government (i.e. Acanthocardia tuberculata, Callista chione, Chamelea gallina, and Donax trunculus). The MLS are set as L50% i.e. the length at which 50% of the individual are mature. Thus, if the objective is to allow individuals to spawn at least once over their lifetime, the proposed MLSs are considered appropriate for all species exploited by mechanised dredges on the Mediterranean fishing grounds of the Andalusia Regional Government (i.e. Acanthocardia tuberculata, Callista chione, Chamelea gallina, and Donax trunculus). This also considers that most of the individuals discarded have a high probability of surviving as they are generally thrown back in the same area where they have been caught.

"The potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. sea grass beds, coralligenous habitats and maërl beds);

The fishery is conducted on sandy bottoms, where sea grass beds are not present, and generally at depth between 0 and 15 meters and thus it has no impact on protected habitats (i.e. sea grass bed, coralligenous habitat and maërl bed), beside the fact that fishing on these habitat is prohibited in the MP. However, the fishery has large proportion of discards, both undersized individuals of target species and other non commercial species. The document contains a very exhaustive description of the impact of the fishing gear on the benthic community of sandy bottom. Most of the discarded organisms are undamaged and they are released very close to the area where they have been caught. Considering these features of the fishery and the fact that that survival rates of discarded individuals is likely to be high, the impact of the mechanised dredges on Mediterranean fishing ground of the Andalusia Regional Government is considered to be negligible. However, this section would have benefit from a more explicit description of the general type of bottom where the fishery is conducted. The reader can obtain the information that the fishery has in general a low impact for the reasons listed above (e.g. fishing on sandy bottoms and high survival rates of discard and prohibition of fishing on sensitive habitat) but it would have been beneficial for the clarity of the document if the MP stated clearly at the beginning of this section that sensitive, protected habitat of the Mediterranean are not impacted by this fishery for the

reasons given above.

"The social and economic impact of the measures proposed; and finally,

Currently, of the 479 registered vessels using small-scale gears in the Mediterranean, a total of 247 are listed as mechanised dredge boats in the Autonomous Community of Andalusia that are able to catch bivalve molluscs. These vessels are distributed unevenly among the 14 fishing ports on the Andalusian Mediterranean coast, more than 53% of the fleet studied is concentrated on the coast of the province of Malaga distributed among 5 fishing ports, and accounting for the bulk of bivalve mollusc catches along the Andalusian Mediterranean coast. The average gross registered tonnage (GT) of the mechanised dredge boats is 2.91 tonnes. The average engine power of these vessels is 35.55 HP. These are the lowest values of all fishing vessels operating along the Andalusian coast (trawlers and seiners). The MP contains a description of the socio-economical importance of the fishery for several of the municipalities along the Andalucía coasts. Especially for small municipalities, the MP states that the impact of the fishery on the local economy and its social importance is considered to be large. However, a formal analysis of the effect of the proposed measures (i.e. TAC and eventual effort reduction) on the socio-economy of the area is not explicitly presented.

"The scientific monitoring of the management plan."

The monitoring system of catches and effort seems to be adequately structured and described in the MP. However, the MP would benefit in the future on the development of fisheries-independent information based on mollusc density more than CPUE to define stock status and biomass limit reference points for the exploited resources.

STECF conclusions

The Spanish Management Plan (MP) for mechanised dredges operating on the Mediterranean coast of Andalucia is much improved compared to the previous version. In particular, it contains a good description of the fishery and major fishing harbours and landings sites, an excellent description of the biology of the most relevant species targeted by the mechanised dredges and their status assessed using fishery dependent data, and a summary of the most pertinent regulations, including the specification of minimum landings size (MLS) for each of the exploited species included in the MP. Moreover, the plan includes a good description of the discards produced by the mechanised dredges and its potential impact on the benthic community as well as a general description of some of the socio-economic features of the fishery.

Therefore, the document contains sufficient information to develop a management plan but in relation to the provisions of Article 19 of the regulation, the plan is deficient in the following aspects:

- The MP does not include appropriate limit reference points for all exploited species covered by the MP (i.e. limit reference points are not defined for *C. chione and D. trunculus*).

- The MP does not contain explicitly tested harvest control rules (HCRs) to define how TAC or effort should be set when the stocks are above or below the established limit reference points.

- For *A. tuberculata* and *C. gallina*, the MP prescribes an effort reduction from 5 to 4 days

per week if CPUE falls below the proposed threshold. However, it is not demonstrated that the reduction of the effort will be sufficient to bring the CPUE above the threshold values.

- For *A. tuberculata* and *C. gallina*, MP does not stipulate what will happen if after one year of implementation of a reduction in effort from 5 to 4 days per week, the current CPUE is still below the CPUE annual threshold.

- Article 16 of the MP refers to a reduction in fishing effort but it does not clearly report how much the effort is to be reduced.

- Clarification on the choice of the 80th percentile of the distribution of catches to derive a TAC is required and it would be more appropriate to set an upper limit to the TAC for *C. gallina* and *A. tuberculata* using the 50th percentile of the distribution of catches and not the 80th.

- The MP does not specify limit reference points (catch rate threshold) below which the fishery should be closed.

- The MP stipulate the maximum size of the dredge but it does not specify how many dredges can be used at the same time by each vessel and how many hours per day the vessel are allowed to fish.

- The MP does not contain an explicit time frame, which define how long the MP will be in place and when it will be revisited.

6.14.2. Management plan for commercial beach-seine fishing in the Mediterranean Sea by vessels flying the French flag

This is the third time STECF has reviewed management plans submitted by the French Administration following reviews undertaken in 2007[3] and 2008[4]. Therefore, this new version should have taken into account previous comments.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Specific Terms of Reference

STECF is requested to review the scientific basis for the management plans submitted by France and to evaluate their findings and the management measures proposed.

3 Scientific, Technical and Economic Committee for Fisheries (STECF) – 26th PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-07-03). 2007. 214 pp.

4 Scientific, Technical and Economic Committee for Fisheries (STECF) - OPINION BY WRITTEN PROCEDURE - Evaluation of the "Management Plans for certain fisheries in the Mediterranean Sea", submitted by the French Authorities. (eds. Casey j. & Doerner H). 2008. Office for Official Publications of the European Communities, Luxembourg, EUR 23672 EN, JRC49369, 78 pp.

STECF is requested to evaluate if the plan contains elements that account for the state of the exploited resources, and if the fishing pressure of the fisheries concerned is expected to exploit the stocks in line with their production potentials so that the plans may maintain or revert fisheries productivity to higher levels in line with MSY or proxy and in which time frame, or if any precautionary approach for the management of these fisheries is reasonably applied.

STECF response

STECF has previously evaluated a Management Plan for the Mediterranean proposed by the French Authorities (see STECF Plenary Report on November 2007[3], and STECF WP December 2008[4]), that included proposals on the beach and boat seines.

The following STECF review of the proposed management plan for French beach seine nets is based on a draft report prepared under ad hoc contract and submitted to the STECF in advance of its November 2013 plenary meeting.

The reviewed document has been structured in four main parts: i) Presentation of the MP; ii) Management objectives for the main target species; iii) Implementation of the plan; iv) Integration of the plan in the national regulations. The document has an extension of 24 pages.

For the French boat seines, some exemptions are requested:

- Derogation for the minimum mesh size applicable to the beach seines, in respect of article 9 paragraph 7 of Regulation (EC) no 1967/2006

- Request for derogation to the minimum operating distance applicable to the shore seines, in respect of article 13 paragraphs 5 and 9

- Derogation from the minimum catch size of the sardine to the beach seine in the Alpes-Maritimes Department, in accordance with article 15, paragraph 3 of the EC Regulation 1967/2006

Therefore, three derogations from the Mediterranean regulation are requested; for the mesh size, distance from the coast and minimum length.

There are some national and regional regulations in force for the beach seine fishery.

STECF general observations

Fishery description

The beach seine is a small-scale fishery that takes place close to the shore line. Is a traditional activity exerted both from small boats as well as from the shore line with the help of an ancillary boat. The traditional method of fishing uses a small-mesh seine net and fishing occurs at a short distance from the coast and shallow depths. The seine is dropped forming a circle around the shoal and then the ropes are slowly and balanced pulled recovering the net by hand.

There are two modalities of fishing or “metiers”:

a) “whitebait” fishing: This fishery is made from the shore line; a boat takes an end of the gear and deploys the net making a curve and returning to the shore. Then the net is hauled by hand from the beach. This operation is usually done onboard a boat, instead from shore,

surrounding the shoal and hauling the gear to the boat. The fishing gear is technically defined as permitted only to vessels below 12 m, with a net length of a maximum of 200 m, with a minimum mesh size (opening) of 2 mm. The objective is to catch juveniles of small pelagic species, mainly sardine (22%) and horse mackerels (17%). The catch composition shows the contribution of other bentic species such as striped red mullet (12%), hake (3%), sea breams and others fishes. The fishing period covers 11 weeks, from 1 February to 31 May. This fishery takes place in the Alpes Maritimes department exclusively (close to the Italian border) and is performed by 11 boats.

b) "non-whitebait" boat seine fishing: This fishery is made by small vessels (<18 m) at shallow depths. The boat surrounds the shoal meanwhile the net is dropped, being circled. The fishing gear is technically defined with a net length of a maximum of 450 m, with a maximum net high of 10 m and a minimum mesh size (opening) of 14 mm. The target species are small pelagic such as horse mackerels (8%) and sardine (5%), as well as others species such as Atherinidae and amberjacks (5%). The fishing period is permitted between 1 April to 30 November, for a maximum of 150 days, with maximum activity between June and September. A prohibition to use the motorised vessel to tow the net and the obligation to release alive undersize fish is in force. The fishing area is located in the régions Languedoc-Roussillon and Provence –Alpes- Côte d'Azur, being developed by a fleet composed by 26 small boats.

STECF response in relation to each of the elements outlined in the Terms of Reference

Biological characteristics and the state of the exploited resources

Elements contained in the plan
The biological characteristics of the main target species are briefly presented. A graphic of the catch composition by "metier" are presented from data coming from landings sampling in 2011: the "whitebait" fleet was sampled (5 samples from 5 different boats), and the "non- whitebait" (10 boats with 21 observations) as well. All the target species are not appropriately identified because some are grouped into categories. No information on size distributions is provided.

No information is provided on stock status of the main part of the target species; for the horse mackerels (*Trachurus trachurus*¸ *T. mediterraneus*) some comments about the MEDITS abundance indices trends in the Gulf of Lions (FAO-GSA 07) are provided. In the case of *T. trachurus*, as well as in *T. mediterraneus*, a slightly increasing trend is detected. For the East of Corse, no clear trend was observed. In the case of the sardine, some information is provided, based in an analytical assessment carried out in 2011 for the neighbouring FAO-GSA09 (SGMED-STECF 2012). The exploitation rates showed in some years values higher than the E = 0.4 reference point. In 2011, E is very close to 0.4. On the basis of these results, this stock could be considered as exploited nearly sustainably or slightly overexploited. Exploitation is made mainly by the Italian purse seiners; less than 1% of the sardine catches in GSA 09 are performed by the Italian trawl fleet and the French seiner fleet together.

STECF comments

The MP dos not provide size composition of catches. Despite this, in the case of the "whitebait" metier it is noted that, at least in sardine case and probably in the others species too, individuals caught appertain to the 0 age class. That means that the fishery is based on recruits, being recruitment dependent, with catches depending on the strength of the recruitments. For sardine in

GSA 09, analyses provide a fluctuating pattern in recruitment, with a decrease until 2010, followed by a new increase in 2011. On the other hand, SSB shows a decreasing trend, from about 25,000 tons in 2006 to about 20,000 tons in 2011. Landings fluctuate without any particular trend, fluctuating around 4,000 t/year, while MEDITS survey indices showed a decreasing trend. Others species that appear in catches, such as red mullet and hake, has been assessed in GSA 07 being considered as subject of overfishing. However, in the absence of proposed biomass management reference points for sardine and horse mackerel in the Gulf of Lions (FAO-GSA 07), STECF is unable to fully evaluate the status of the stock spawning biomass in relation to these.

STECF concludes that the MP does not contain information to adequately describe biological characteristics and the state of the exploited resources.

Fishing pressure and if concerned fisheries are duly described and expected to exploit the main target stocks in line with their production potentials. Advise whether the plan is expected to maintain or to revert fisheries productivity to higher levels in line with MSY or proxy and in which time frame

Elements contained in the plan
The fleet composition and characteristics are not fully described; the overall number of vessels remains unclear, because it is not stated if boats "whitebait" must be included in the "non-whitebait" category during the rest of the year. The previously proposed plan (STECF Plenary November 2007; STECF WP December 2008) reported that the fleet will be defined in a next step although this has yet to be provided.

The two boat seining fisheries are described in terms of fishing grounds, fishing gears, duration of the fishing season and fishing operation. But data on landings series, size compositions, effort, days-at-sea, prices, etc. are not presented in the proposal. Seasonal and/or monthly CPUE series are not presented.

STECF comments

The elements presented in the proposed MP, are insufficient to allow STECF to conclude whether the plan will maintain or revert fisheries productivity to higher levels and in line with MSY (see also point C below).

Pre-agreed harvesting control rules based either on catch limitation, fishing pressure or biomass levels

Elements contained in the plan
In the case of horse mackerels, a sampling survey on landings was developed between 2007 and 2012. A total of 10 observations over 4 boats, yield some data about total catch by trip and CPUE. The annual average CPUE for horse mackerel was 23 kg by trip and boat. In the case of sardine, the exploitation ratio (0.4) obtained in the assessment done for the neighboring FAO-GSA 09 was proposed. For the remaining species, Aterinidae, amberjacks, red mullet, hake, etc.., no reference points were provided. In the case of the "whitebait" *metier*, a catch limitation of 50 kg by boat and day is proposed.

Harvest rules to limit catches and effort are proposed in the plan for the 2014-216 years period, and should be that if the average seasonal CPUE fall below 23 kg day-1 vessel-1 for horse mackerel and/or exploitation ratio of sardine (0.4) is exceeded in 2014, the plan proposes a 10% reduction in the number of licences for 2015. In the event that the reference points are not reached in 2015, a further reduction of a 10% will be applied over the average number for the 2014-2015 years. On the

contrary, if reference points are met, a 10% increase in the number of licences will be allowed the first year, and another 10% increment of the average 2014-2015 will be applied for the subsequent year. The same measures shall be adopted for beach seine fishing for whitebait.

STECF comments

The beach seine fishery is a traditional small-scale activity conducted by a reduced number of small boats. Despite the lack of information on landings of the boat seine fleet, STECF considers that the volume of these landings are likely to be negligible compared to the combined landings of others fleets (purse seiners, bottom trawl), especially with respect to the sardine and the horse mackerel stocks. Accordingly the impact of the beach seine fishery on stock status is also likely to be negligible. Under such circumstances, STECF considers that the proposed reference points are acceptable as a basis for the management of the beach seine fishery.

Impact of fishing activities on marine environment (protected habitats and species)

Elements contained in the plan
According to Article 4 of the plan, the management measures reported include the prohibition to use beach seines on sea grass (*Posidonia oceanica*) beds, other protected habitats, and the obligation to release undersize fish alive. Beach or boat seines do not have otter boards, and so they do not penetrate the substrate at all. They are used on soft and relatively flat seabeds without rocks or other obstructions. The towlines, like the lower floatlines, are generally of lightweight design; their friction, which helps to drive fish towards the net bag, is scarcely abrasive, thanks to the relatively slow speed of traction resulting from the manual haulage of the seine net, and has little impact on the substrate and the attached fauna or flora.

An experimental geolocation project (Recopesca) which is currently being carried out has shown that beach seine fishing is not being practised over protected habitats. Limited information on fishing activity is presented in the MP relating to the Languedoc-Roussillon coast, showing the Posidonia beds, and other with the biocenosis of the Provence –Alpes- Côte d'Azur coasts.

No information is provided about any beach seine activities, if they occur, within coastal lagoons.

STECF comments

STECF considers that the information provided in the proposed plan is insufficient to determine whether the lead-line and/or the hauling ropes of boat seines do or do not touch the sea grass bed during the fishing operations. Furthermore, it is not clear from the information provided (only one boat trails was presented) whether or how often fishing operations take place over *Posidonia* beds or whether they overlap a significant fraction of the areas occupied by *Posidonia oceanica* or other marine phanerogames.

Considering the gear characteristics, the low speed of hand-hauling and the fact that fishermen try to operate in "clear" bottoms, the impact of this activity on the marine environment can be considered negligible. The complete implementation of the geolocation programme will reinforce the surveillance and fulfilment of the prohibition.

Mechanisms of monitoring and review of the plans

Elements contained in the plan

The Management Plan includes adequate mechanisms for implementing and monitoring that are briefly described in the text of the proposal. For the beach seine, data required for monitoring the fishery and the stocks will be mainly gathered in the framework of the DCF, but adapted to the MP. It includes the full implementation of a specific geolocation programme for the boats. An assessment of the socio-economic impact made by the implementation of the management plan is foreseen.

During the second half of 2014, a progress review followed by a re-examination of the management objectives and procedures, will be conducted. A revision of the management plan will be proposed to the Commission for the end of 2014.

STECF comments

In order to fully assess the impact of the requested derogations, it is important to ensure the collection of the following information for each of the beach seines types:

(a) Estimates of daily, weekly and monthly catch volumes separated into landings and discards by species (including non-target organisms), the corresponding size compositions from catches, and prices evolution as well.

(b) Quantitative information about monthly fishing effort deployed under the requested derogation in units of fishing time.

(c) An assessment of the socio-economic impacts of not granting the requests for derogations.

STECF also considers that the monitoring mechanism of the beach seines should ensure the adequate recording of fishing activities, if exist, in the coastal lagoons.

STECF conclusions

The beach seine is a small-scale fishery that takes place close to the shore line at shallow depths. It is a traditional activity exerted both from small boats as well as from the shore line with the help of an ancillary boat. The traditional method of fishing uses a small-mesh seine net and fishing occurs at a short distance from the coast, recovering the net by hand. Boats allowed to practice beach seine are in short number, 11 for the “whitebait” fishing, and 26 to the “non-whitebait” boat seine fishing.

STECF is unable to assess if the stocks targeted by the beach seines are being sustainably exploited. The exploitation status of the stocks should be estimated considering the amount and structure of the catches from all the fisheries where the species are involved. In the case of some of them (hake, red mullet) the stocks in the Gulf of Lions are subject to overfishing. In the case of sardine, based on the neighbouring GSA 09 results, can be considered as being subject to slight overfishing. In the absence of appropriate data, the likely impact of the beach seine fishery on the status of the stocks exploited remains unknown.

Given the available information it is not possible to determine the likely long-term effects on future recruitment and spawning stock biomass of the target species.

No data or studies about the economic importance of these fisheries are reported and no economic impacts of the management plans are included. Given the available information, STECF is also unable to conclude on the potential economic impact of the requested derogations to allow the use of the French beach seines.

6.14.3. Management plan for commercial dredge fishing in the Mediterranean Sea by vessels flying the French flag

This is the third time STECF has reviewed management plans transmitted by the French Administration following reviews undertaken in 2007[5] and 2008[6]. Therefore, this new version should have taken into account previous comments.

Specific Terms of Reference

STECF is requested to review the scientific basis for the management plans submitted by France and to evaluate their findings and the management measures proposed.
STECF is requested to evaluate if the plan contains elements that account for the state of the exploited resources, and if the fishing pressure of the fisheries concerned is expected to exploit the stocks in line with their production potentials so that the plans may maintain or revert fisheries productivity to higher levels in line with MSY or proxy and in which time frame, or if any precautionary approach for the management of these fisheries is reasonably applied.

STECF response

Objectives of the Management Plan

The plan contains multiannual objectives for the management of exploited fishery resources targeted by dredges. The aim of the first stage in the implementation of the management plan is to create the conditions and instruments that will serve to prevent an increase in the number of units engaged in dredge fisheries and to prevent any increase in their fishing effort and in their impact on the species and ecosystems they exploit. Consequently, the management objectives and measures are designed to prevent any rise in activity levels so as to allow stocks to improve or at least to remain stable at the levels observed over the past few years. In particular the objective of the plan is to maintain annual average catch per unit effort (CPUE) of the main target species at higher level than the reference points established by the MP.

Measures of the Management Plan

The management plan defines the following measures that aim to achieve the objectives of sustainable management of fishery resources which are exploited by dredges:

- creation of a system of European Fishing Licences, defining the number of authorizations for each category of dredges which may be in force simultaneously. The granting of the authorization shall be subject to the requirement of compile the catch declaration forms.

5 Scientific, Technical and Economic Committee for Fisheries (STECF) – 26th PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-07-03). 2007. 214 pp.

6 Scientific, Technical and Economic Committee for Fisheries (STECF) - OPINION BY WRITTEN PROCEDURE - Evaluation of the "Management Plans for certain fisheries in the Mediterranean Sea", submitted by the French Authorities. (eds. Casey j. & Doerner H). 2008. Office for Official Publications of the European Communities, Luxembourg, EUR 23672 EN, JRC49369, 78 pp.

- Prohibition of dredge fishing above protected habitats referred to Article 4 of Regulation (EC) 1967/2006.

- Definition of target species, as authorised in Annex II, Chapter I, of Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004, and composition of catches.

- Every vessel holding a European Fishing Licence for dredge fishing shall undertake to carry a geotag on board if so requested by the authorities of the state responsible for issuing European Fishing Licences.

- Changes in the number of European Fishing Licence or in fishing effort for the relevant activities will be carried out on the base of the achievement of management objectives.
- Definition of specific technical characteristics, fishing areas and periods for each typology of dredges.

- Definition of control measures relating to dredge fisheries.

- Implementation of a collection and monitoring system based on the allocation of European Fishing Licences, the sampling plan and the geolocation programme.

- Implementation of a system of scientific monitoring that will take into consideration the data processing of the catches, the assessment of management objectives, the analysis of geolocation data and the assessment of socio-economic impacts.

General observations

The Management Plan for commercial dredge fishing in the Mediterranean Sea by vessels flying the French flag presents a variety of useful information and scientific data about two types of dredges: shellfish and sea-snail dredges, known as 'beam dredges', which are used exclusively at sea, and multi-species dredges known as 'small shellfish dredges' or 'pond dredges', which are used in the lagoons and at sea in a coastal strip extending three nautical miles from the shoreline. Although the document represents an improvement if compared to the previous version, it needs further refinement before it complies with the provisions of Article 19 of the EU Regulation. In particular, it needs a more accurate description of the fishery and of the most relevant species targeted by the dredges and their status assessed using fishery dependent data. Moreover, the plan overlooks the description of the discards produced by the dredges and their potential impact on the benthic community as well as the socio-economic features of the fishery.

Observations in relation to the Terms of Reference

The MP duly defines the management objectives and measures to prevent any rise in activity levels so as to allow stocks to improve or at least to remain stable at the levels observed over the past few years. However the plan provides an incomplete description of the fisheries and presents some criticisms related to the establishment of the reference points that undermine the decision process in order to achieve the management objectives. In particular the gears employed as well as the activity of dredge fisheries are not fully described. The size of each dredge in term of breadth, the operating

speed, the depth of employment, the mean number of hauls carried out in each fishing trip are not presented. Moreover the catch composition in term of percentage is available only for beam dredges.

The evolution of the dredges fleets in term of incoming/outgoing vessels as well as the turnover rate is available for the years 2004-2008. However information about these fisheries before 2004 is lacking.

The MP defines Mediterranean mussel (*Mytilus galloprovincialis*) and purple sea urchin (*Paracentrotus lividus*) as target species for pond dredges and purple dye murex (*Bolinus brandaris*) as target species for beam dredges. These species are not subject to stock assessment, thus the initial reference state is derived from the catch per unit of effort (CPUE) set out with the aid of the results of sampling campaigns focusing on catches landed by selected vessels fishing with dredges during the period 2007-2012. For each target species reference points have been estimated as the average CPUE observed in the six years study in terms of weight (number in the case of *P. lividus*) by fishing trip.
It is important to notice that the use of CPUE indicators is adequate only if the effort is appropriately standardized and gear size and efficiency are not changing over time. However, the document does not contain any explanation on how the effort was standardized. Moreover, the availability of CPUE values by year would be more informative in order to observe the trends over time. In particular no evidence is provided about the distribution of the data utilized to calculate the reference points for each target species, thus if the data were skewed, the use of arithmetic mean is not appropriate to estimate reference points.

The reference points estimated for each target species would not reflect the status of the stock, especially because without the knowledge of a standard fishing time in each fishing trip is impossible to evaluate the real abundance at sea of the target species. Thus some management measures that will be enforced by the MP according to the reference points may not maintain fisheries productivity in line with MSY or proxy. A more accurate estimation of reference points is advisable, taking into consideration a standardization by hour or better by square kilometre of CPUE. Furthermore other information, for example related to the trend of mean size of target species, or the estimation of CPUE by depth and location would be useful in order improve the knowledge on population dynamic of the target species. Moreover, the reference points are estimated using a rather short (six years) time series. Thus, a more meaningful index to assess stock status would be derived from estimates of biomass densities and compare them against a baseline, estimated from unfished areas or from data obtained in the past, assuming that they represent a virgin status of the stock. Such an approach can provide reference points to evaluate the stock status and indicate management measures. Estimates of biomass density (kg/km^2) would be better derived from fishery-independent surveys.

With regard to environmental aspects, the documentation presented in the MP states that on the sandy and silt beds the impact of dredging is generally limited to the loss of large-sized individuals. Moreover it is affirmed that the impact also depends on the type of dredge that is used, the dimensions of the gear, its weight, the operating speed and the procedure adopted. In general, the use of untoothed dredges moving at low speed is far less damaging to the seabed than dredges with toothed beams and causes less destruction of molluscs. However, the document contains a very superficial description of the impact of the fishing gears on the benthic community of sandy bottom and the references provided are quite vague and incomplete. This section would have benefit from a better description of the fisheries, in particular the type of bottom where the fisheries are conducted and a report of the discarded portion of the catches and the relative survival rate of the species discarded.

Conclusions

In relation to the provisions of Article 19 of the Mediterranean regulation, the MP for commercial dredge fishing in the Mediterranean Sea by vessels flying the French flag is deficient in the following aspects:

- the MP provides only an incomplete description of the dredge fisheries which is required to interpret the CPUE values used for the management reference points proposed. Furthermore, the time period for determining the average CPUE for management purposes is short (2007-2012). No socio-economic features of the fisheries are presented;

- the estimation of CPUE-based reference points is questionable, because the effort is not appropriately standardized and there is no evidence that gear size and efficiency are stable over time, thus the management measures in article 7 of the plan may not be appropriate. Alternative criteria for the estimation of reference points are suggested above (Section Observations in relation to the ToRs)

- the specific regulatory measures for fishing with beam dredges in Article 8 do not specify how many gears can be used at the same time by each vessel;

- the MP does not provide a sufficient documentation about the environmental impact of dredge fisheries.

Given the information available it is not possible to assess the likely impacts of the measures proposed in the MP. Nevertheless, and in spite of the deficiencies noted above, the implementation of some of the proposed measures, such as the geolocation of fishing activities and the creation of a system of European Fishing Licences, might prove to be useful tools for the management of the dredge fisheries.

6.14.4. Management plan for commercial purse-seine fishing in the Mediterranean Sea by vessels flying the French flag

This is the third time STECF has reviewed management plans submitted by the French Administration following reviews undertaken in 2007[7] and 2008[8]. Therefore, this new version should have taken into account previous comments.

Specific Terms of Reference

7 Scientific, Technical and Economic Committee for Fisheries (STECF) – 26th PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-07-03). 2007. 214 pp.

8 Scientific, Technical and Economic Committee for Fisheries (STECF) - OPINION BY WRITTEN PROCEDURE - Evaluation of the "Management Plans for certain fisheries in the Mediterranean Sea", submitted by the French Authorities. (eds. Casey j. & Doerner H). 2008. Office for Official Publications of the European Communities, Luxembourg, EUR 23672 EN, JRC49369, 78 pp.

STECF is requested to review the scientific basis for the management plans submitted by France and to evaluate their findings and the management measures proposed.

STECF is requested to evaluate if the plan contains elements that account for the state of the exploited resources, and if the fishing pressure of the fisheries concerned is expected to exploit the stocks in line with their production potentials so that the plans may maintain or revert fisheries productivity to higher levels in line with MSY or proxy and in which time frame, or if any precautionary approach for the management of these fisheries is reasonably applied.

STECF response

Objectives of the Management Plan (MP)

The stated purpose of the management plan is to maintain sustainable commercial purse seine fishing in the Mediterranean by guaranteeing sustainable exploitation of stocks and of marine ecosystems, taking also into account relevant socio-economic issues and aiming to preserve the diversity of artisanal marine fishing activities in the Mediterranean.

The aim of the first stage in the implementation of the management plan is to create the conditions and instruments that will serve to prevent an increase in the number of units engaged in purse seine fishery and to prevent any increase in their fishing effort and in their impact on the species and ecosystems they exploit.

In order to review the plan, a steering committee has been constituted under the responsibility of the minister in charge of marine fisheries with input from representatives of the commercial fisheries sector.

During the second half of 2014, a progress review followed by a re-examination of the management objectives and procedures, will be conducted on the basis of the following material:

- a review of the collection of data related to the state of exploited fishery resources and to the environmental impact of activities monitored by geolocation,
- an assessment of progress towards the objectives for the management of exploited fishery resources and of the effectiveness of management instruments and the steering mechanism.

On the basis of this progress review, a revision of the management plan will be proposed to the Commission for the end of 2014.

The management objective for fishing with purse seines for pelagic species is to keep the exploitation rate of sardine and anchovy below 40% of the total biomass of individuals over one year of age, which is set as a limit reference point.

The management objective for fishing with purse seines for demersal species is to keep catch rates above specified CPUEs levels for the main target species, i.e., annual average of 96 kg per fishing trip for gilt-head sea bream (*Sparus aurata*) and 27 kg per fishing trip for sand steenbras (*Lithognathus mormyrus*).

Management measures

The following measures are included in the plan:

1. If the management objectives (reference points for the stocks) are not achieved by the end of 2014, the number of fishing licenses for purse seine fisheries shall be reduced by 10% in 2015.
2. If the management objectives are still not achieved by the end of 2015, the fishing effort expressed in fishing days and calculated in the period 2014-2015, shall be reduced in 2016 by 10%.
3. If the management objectives are achieved by the end of 2014, the number of fishing licences for purse seine fisheries shall be increased by 10%.
4. If the management objectives have been achieved again at the end of 2015, the fishing effort expressed in fishing days and calculated in the period 2014-2015, shall be increased in 2016 to 10%.

Additionally, the plan contains some additional regulatory measures:

1. A new system of European licenses will be established (to replace the regional licenses) and the total number of licenses for purse seine fishing will be 78. Purse-seine fishing will be practiced solely by vessels with an overall length of less than 24 m.
2. For vessels fishing for small pelagic species with purse seines, the minimum mesh size shall be 14 mm. For vessels fishing for demersal species, the minimum mesh size shall be 40 mm. The maximum overall length of the net shall be 600 m for vessels 12-24 m and 400 m for vessels <12 m.
3. With regards to distance from the coast and bottom depth, purse seining shall be practiced in accordance with Article 13 of Regulation (EC) No 1967/2006. Purse seines may be used where the sea depth exceeds 50 m and at a distance of at least 300 m from the shoreline. Purse-seine fishing is prohibited above protected habitats as referred to in Article 4 of Regulation (EC) 1967/2006, namely sea grass beds. A purse seine shall not be deployed at depths less than 70% of the overall drop of the purse seine itself as measured in Annex II of Council Regulation (EC) No 1967/2006.
4. Every vessel holding a European Fishing Licence for purse seining shall undertake to carry a geotag on board if so requested (the plan prescribes that a specific geolocation programme for vessels of less than 12 m will be implemented).

STECF observations

A. Description of fisheries

The Plan concerns boats <24m in size. Larger vessels are involved in the fishery of bluefin tuna and they are not addressed by the Plan.

Two vessel/gear categories are considered:

- vessels >12m and <24m which may or may not use light (‘lamparos’). Lamparo fishing targets small pelagic fish mainly from March to September.
- vessels <12m equipped with a smaller purse seine known as ‘allatchare’ (300m long, 50-70m deep).

Each of these segments may target pelagic or demersal species using different mesh sizes. Fishing for demersal species is carried out throughout the year but peaks in September-December.

As shown from an analysis restricted to the period 2004-2008, the size of the fleet engaged in purse seine fishing is very variable and can change rapidly from season to season or from year to year. In the period 2004-2008, the overall size of the purse seine fleet was 78 vessels.

There is very limited information presented in the plan concerning the catches of purse seines. Average LPUEs are only presented, based on 9 trips and 5 vessels in the period 2008-2009 for pelagic species, and 31 trips, 9 vessels in the period 2007-2008 for demersal species. These data show that sardine accounts for 92% of the catch of pelagic species, and gilthead seabream (*Sparus aurata*) and sand steenbras (*Lithognathus mormyrus*) account for 60% of the catch of demersal species (main target species).

B. Impacts of fishing activities

It is stated in the Plan that: "When seining operations targeting small pelagic species and demersal species take place in shallow waters, the purse line may be in contact with the seabed and may have a physical impact. There are no studies that quantify this impact …."

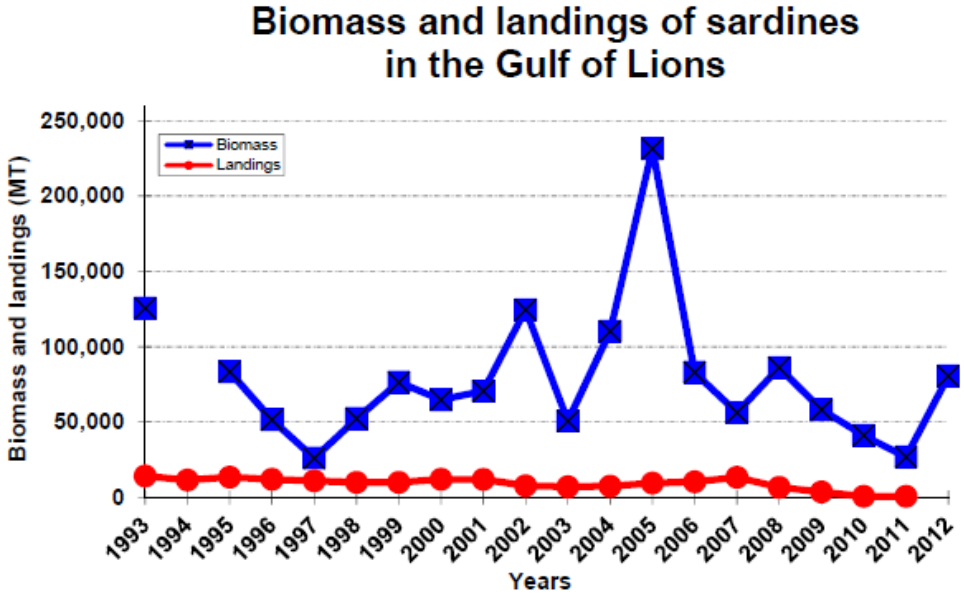
There is no information presented in the plan concerning discards (species and sizes).

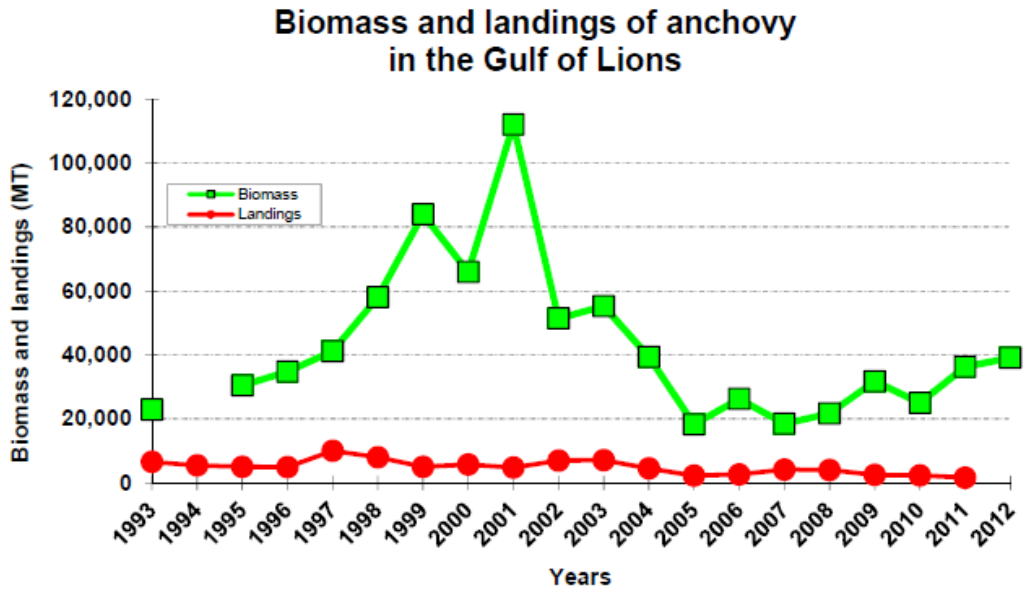
C. State of the exploited resources

The MP present no assessment of small pelagic fish stocks but refers to the recent assessments of sardine and anchovy in GSA 07 carried out by the Working Group on small pelagics of SAC-GFCM.

STECF reviewed the most recent GFCM assessments and presents briefly their findings:

- The number of vessels targeting small pelagics has been decreasing in recent years and the French fleet comprised 10 pelagic trawlers and 3 purse-seiners targeting sardines and anchovies in 2011. As a consequence, the total catches have also been decreasing. In 2011, less than 800 t and 2000 t of sardine and anchovy respectively were landed from the Gulf of Lions.
- The biomass of small pelagic species is monitored annually in GSA07 by means of acoustic surveys. Yearly time series of acoustic biomass and landings for sardine and anchovy in GSA 07, extracted from the GFCM report, are shown in the figures below:





- In 2012 the biomass of sardine was estimated 80,537 t and the biomass of anchovy 39,061 t. Both stocks are considered to be in a low biomass regime. Furthermore, proportions of age 1+ fish, growth rates and lengths-at-maturity have decreased in recent years. However, levels of catches are considered low compared to biomass of the stocks.

Regarding demersal species targeted by the French purse seine fleet, no assessments are presented in the MP.

STECF comments

STECF suggests that data from biological sampling of catches collected within the DCF (length, weight, age, maturity) be analyzed and used to produce analytical assessments of the stocks of anchovy and sardine in the NW Mediterranean. STECF also notes that the stocks of small pelagic species in GSA 07 (France) & GSA 06 (Spain) are most likely single stocks and therefore shared by France and Spain. In that sense, the two GSAs should be merged and stock assessments made jointly for the combined area.

Regarding demersal species, STECF advices that appropriate fisheries and biological data be collected and analyzed in order to perform assessments for the sparid species targeted by purse seines in the Gulf of Lions. Being sequential hermaphrodites, these species might be highly vulnerable to exploitation. All métiers catching these sparids should be monitored (including those practiced in coastal lagoons).

D. Reference points

Small pelagic species

For small pelagic species (sardine and anchovy), a reference point is defined in the plan based on the, so called “exploitation rate of individuals over the age of one year”. The threshold value for classification of an individual fish in the category ‘over one year of age’ is the average length of one year old fish calculated for the period from 2005 to 2011, namely 12 cm for anchovies and 13 cm for sardines.

A maximum exploitation rate of 40% of the biomass of individuals over the age of one year has been adopted as the limit reference point.

STECF comments

It is not clear in the plan, how the exploitation rate will be calculated. At one point, it is mentioned that the exploitation rate is the percentage of fishing on total mortality. Elsewhere, it is stated that the rate is the ratio of "exploitable volume to total biomass of the relevant stock".

STECF notes that the adopted reference point (presumably, catch-on-biomass ratio) does not guarantee the conservation of the spawning stocks in case of low population biomass. Further analysis is needed to define reference points consistent with MSY.

Demersal species

For the main demersal species exploited by the French purse seine fishery, namely gilthead seabream (*Sparus aurata*) and sand steenbras (*Lithognathus mormyrus*), the plan sets CPUE reference points (i.e., estimated annual average of kilograms per fishing trip). These CPUE thresholds (96 and 27 kg per fishing trip for *S. aurata* and *L. mormyrus* respectively) were defined based on data from a sampling survey (number of sampled trips: 111) of the landings of 19 vessels during the period from 2007 to 2012.

The objective of the MP is to keep the CPUE for each species above the CPUE reference level (by comparison of annual CPUE and average value of CPUE over the last 3 years with reference level). The CPUE thresholds will be regularly updated (and possibly extended to other species).

STECF comments

From the information provided in the plan, STECF is unable to appraise the method used to estimate "the annual average of kilograms per fishing trip" or its variability. Furthermore, the time series used (6 years) was short to appropriately define threshold reference points.

Furthermore, STECF considers that raw CPUEs of purse seines (actually LPUE were calculated in the plan) are unlikely to reflect stock abundance and are not a suitable basis for estimating reference points.

E. Managements measures

The Plan prescribes that if the management objectives (limit reference points) are not achieved for two successive years (2014-2015), the fishing effort expressed in fishing days and calculated in the period 2014-2015, shall be reduced in 2016 by 10%. Furthermore, if the management objectives have been achieved for two successive years (2014-2015), the fishing effort expressed in fishing days and calculated in the period 2014-2015, shall be increased in 2016 by 10%.

If the management objectives are achieved by the end of 2014, the number of fishing licences shall be increased and, subsequently, if the management objectives have been achieved again at the end of 2015, the fishing effort expressed in fishing days shall be increased.

STECF comments

STECF notes that, according to information presented in the plan, currently, there is no control on fishing days (closed periods). It is therefore unclear how the fishing effort will be increased or will be decreased.

STECF also advices that more appropriate reference points be defined (see above) before decisions for increasing the fishing effort will be taken.

STECF conclusions

The French purse seine fisheries in the Mediterranean are incompletely described in the plan. The time series of active fleet size, effort, catches, CPUEs, species and length compositions of landings are presented for only a short time series and discards must be provided for the longest available time series, including recent years.

No appropriate information is presented in the MP to permit STECF to assess if the use of each of the French purse seines has currently any effect on sea grass (*Posidonia oceanica*) beds or other sensitive habitats. Information concerning the dimensions and characteristics of the different French purse seines is very limited whereas no information is provided concerning fishing operations and fishing grounds/depths.

With regard to minimum distance from coast, bottom depth, drop of the purse seine and effects on sea grass beds, the plan prescribes that purse seining shall be practiced in accordance with Articles 4 and 13 of Regulation (EC) No 1967/2006. The plan also prescribes that a geolocation system will be implemented which will provide data serving to portray the distribution of fishing effort in terms of distances from the coast, water depths and habitats. However, the plan does not specify the way that such data will be used and in which time frame and, finally, the manner that compliance with Articles 4 and 13 of Regulation (EC) No 1967/2006 will be supervised.

Current assessments of small pelagic species in the Gulf of Lions (GSA 07) does not allow for an evaluation of the effect of fishing mortality on anchovy and sardine populations. These populations extend to the Catalan Sea (GSA 06) and should be assessed and managed at the international level.

The sparid stocks targeted by the French purse seine fishery are likely to be vulnerable to exploitation. Relevant biological and fisheries data are required to assess these stocks (including purse seines but also other coastal and lagoon fisheries catching these species).

The reference points adopted in the plan (catch/biomass ratios equal to 0.40 for small pelagics and specific LPUE thresholds for demersal sparids) are not considered appropriate as targets where the recovery to, or the maintenance of stocks within safe biological limits could be assured. Further data and analyses are needed to define appropriate reference points and harvest control rules for the exploited stocks.

6.14.5. Spanish management plans for boat seines in the autonomous region of Catalonia

This is the second time STECF has reviewed the management plan for boat seines in the autonomous region of Catalonia, following the review undertaken in 2010[9]. Therefore, this new version should have taken into account previous comments.

Specific Terms of Reference

STECF is requested to review the scientific basis for the above mentioned management plan, evaluate their findings and make appropriate comments with respect to the measures proposed therein. Besides, STECF is requested to advice whether the plan contains adequate elements concerning:
- the biological characteristics and the state of exploited resources with reference in particular to long-term yields and low risk of stock collapse;
- the description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks;
- the data on catches, effort and catches per unit of effort (CPUE), as well as the biological reference points ensuring the conservation of the concerned stocks;
- the minimum sizes and relative quantities of species mentioned on the Annex III;
- the potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. sea grass bed, coralligenous habitat and maërl bed);
- the social and economic impact of the measures proposed; and finally
- the scientific monitoring of the management plan.

STECF response

Background

A previous management plan for artisanal fishing with boat seines (Sonsera) in Catalonian waters was submitted in May 2010. During the Plenary meeting 11.03 STECF observed that information necessary for assessing the sustainability of this activity regarding the target species as well as on the impact on by-catch and marine environment was not sufficient.

With the information included in the Plan it was not possible to assess the impact of the fishery on these stocks nor to evaluate whether the proposed limits in fishing effort and landings (which were fixed exclusively for the two sandeel species, with no mention on catch limits for gobids) were enough to guarantee a sustainable use of these resources and an acceptable impact on the other resources in the area. STECF also concluded that more information about the way the gear operate, in particular demonstrating that operations are performed over 'clean', sandy-muddy grounds, where marine phanerogams (*Posidonia* beds) was necessary.

Objectives of the plan:
The general objective of the management plan is to regulate the artisanal fishing practice of *sonsera*. The first goal of the MP is to keep fishing mortality rates of the exploited stocks to a level compatible to maximum sustainable yields in the long-term.

The stocks targeted by the fishing practice sonsera are: sand eels (*Gymnammodytes cicerelus,G. semisquamatus)*, both locally called "sonso which are caught during the whole year except winter" and the gobies (*Aphia minuta, Crystalogobius linearis)*, locally called "llengüeta" exploited during

9 Scientific, Technical and Economic Committee for Fisheries (STECF) – 35th PLENARY MEETING REPORT(PLEN-10-03) (STECF-11-03). (eds. Casey & Doerner). 2010. Publications Office of the European Union, Luxembourg, EUR 24626 EN, JRC61940, 214 pp.

late autumn-winter. A maximum of 26 vessels are involved in the fishery. Legislation allows fishing to vessels that are no greater than 10 metres in total length and engine power lower than 75 kw. The fishing activity is proposed to be regulated by a co-management committee. The spatial scale on which the Plan applies regards only the Catalan coastline between the coast off Barcelona and the northern Gulf of Roses. The *sonsera* is the only fishing net suitable for exploiting the stated target species in the area.

As the target species are small-sized, the gear of sonsera needs of a very small codend mesh size (about 2 mm). All the sonsera target species inhabit on shallow waters and hence, fishing necessarily is carried out almost exclusively within the 3 nautical miles coastal stripe. To allow such fisheries to continue in the future, derogations from the Mediterranean regulation that prohibit trawling within nautical 3 miles of the coast and the use of codend mesh sizes lower the minimal allowed are requested.

The MP proposes that the proposed management measures will be modified, whenever necessary, through an adaptive process agreed by a co-management committee, based on scientific and technical reviews of the results obtained through the application of measures of control.

Proposed management measures

The elements of the plan regarding the management measures are as follows:

1) A TAC of 819 tons for 2014 is proposed in the MP for sandeels, composed by 98% of *G.cicerellus*. 2014 TACs of 1.8 t will be set for *Aphia minuta* and 3.8 t for *Crystallogobius linearis*.

2) In the successive years, the TACs should be fixed at the start of the season, based on the analysis of the results of the previous fishing season.

3) The total TACs agreed for the season will be divided into monthly quotas. These monthly quotas, equal for each vessel, will be not equally distributed along the season, being smaller at the beginning of the season when the individuals caught are younger, and higher at the end of the season.

4) Fishing effort in terms of number of vessels (number of vessels licensed to use sonsera), duration of the fishing season and daily fishing activity per vessel will be capped.

5) Existing closed season for the sonsera fishery for sandeel (mid-December to the end of February) will be maintained as largely coincides with the spawning period for *Gimnammodytes cicerelus* and likely reduces the impact of the fishery on spawners.

6) A co-management committee is created. Such committee will be responsible for monitoring, assessment and setting of quotas.

7) Yields will be monitored on a monthly basis analysing information of catch per boat per day.

8) Harvest control rules will be based on the following principles: (i) target reference point, the expected monthly CPUE, according to the daily catch quotas established by boat; (ii) warning signal when CPUE is less than 75% of the expected; (iii) limit reference point, when is lower than 50% of the expected CPUE. At the warning limit (75% share), the quota will be halved for the following month. Whenever the limit reference point of 50% CPUE is not reached neither this time, the fishery will be closed the succeeding month.

General observations

The MP provides relatively short time series data on catches, effort and catches per unit of effort. Data used for the preparation of the MP was based on Official statistics for the period 2000-2013 combined with the results of an *ad hoc* scientific study aimed at the collection of data on the species life history, daily catches and effort. The ad hoc study entailed the extraction of daily information on fishing operations, catch and by-catch species and time at sea. Fishery statistics from fishermen's logbooks for the period August 2012 to July 2013 were also analysed. Sampling on board during commercial fishing operations was also carried out. Collected data allowed a better biological knowledge of the involved species of the fishery.

The Plan presents a good description of the biological characteristics of the target stocks. Moreover, it includes a detailed description of the fishing gear and fishing techniques, including details on fishing grounds, fishing periods for each targeted stock, techniques for finding and identification of the schools, operations of setting and hauling of the net, sorting procedures of the catch on board.

The plan also includes assessments or analysis of indicators potentially useful for defining the state of some resources. Due to lacking of suitable information and time series shortage, performed assessments are not so robust. A more detailed analysis of the status of the stock was done only in the case of the sandeel *G. cicerelus*. Biological reference points, based on Yield-per-Recruit analyses, were defined only for such stock. No reproduction-based RPs were defined. For the other stocks, recent trends of landings were used as an indicator for management purposes. On this basis, the plan defines limits of capture that will be changed adapting their size based on availability every year and on new evidences useful for a definition of maximum sustainable yields. No analyses were presented regarding to previsions of long-term yields and risk of stock collapse under alternative exploitation options.

While in the case of sandeel fishery, these preliminary assessments suggest at least for *G.cicerelus* a fairly acceptable exploitation rate and sustainability for the activity, there is no any comparable assessment for the sonsera fishery targeting gobids.

In the MP also an evaluation of the impact of the sonsera on the marine environment is presented with a particular focus on protected habitats (i.e. sea grass bed, coralligenous habitat and maërl bed and on the fishery by-catch. The description of the fishing operations with sonseras using a boat seine demonstrates that they are used exclusively over sandy-muddy bottoms, and hence not affecting neither marine phanerogam meadows nor other sensitive habitats. An estimation of the social and economic impact of the measures proposed is also included in the plan together with a detailed monitoring programme.

Response in relation to each of the elements listed in the terms of Reference

Biological characteristics and the state of exploited resources with reference in particular to long-term yields and low risk of stock collapse;

The stocks exploited by both sandeels and small gobies fisheries are all short lived species. In the plan a big amount of biological information is included, especially for *G.cicerellus*, regarding individual growth in size and weight, estimates of natural mortality, maturity at age, spawning period and relationships between spawners and successive recruitment for the above mentioned stock. Also. in the case of the other stocks biological information is presented. Fisheries information is not complete and this made difficult the diagnosis of the exploitation status of the involved stocks. Only for *G.cicerelus* data available allowed the definition of an F-based reference point suitable for defining the stock status. For the other stocks, data available pr3ecluded the possibility of estimating RPs based on biomass or in fishing mortality. In no case were de3fined RPs that can be considered as limits for avoiding stock collapse.

No long term yield forecast simulations were performed.

Only cpue time series were analysed and its apparent stability was used as a rough signal of sustainability.

The description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks;

The description of the fishing fleet along the year includes number of vessels involved, daily, weekly and annual activity, changes that occurred along the time series and along the year. A maximum of 26 vessels are currently involved in the fishery. Legislation allows fishing with sonsera to vessels no greater than 10 metres in total length and with the engine power lower than 75 kw. The fishing activity regulated by this MPBS is limited to the Catalan coastline between the coast off Barcelona and the northern Gulf of Roses. The sonsera fishery targets sandeels for the major part of the year and only a very reduced number of vessels target mostly in winter time small gobids. Considering the reduced season, lower catch rates and lower number of involved vessels, the fishing pressure on such stocks can be considered modest. Landings of gobids are almost negligible if compared to those of sandeel. The MP fixes catch quotas considered to accomplish a sustainable exploitation of the target stocks of the fishery, based on historical landings which did not not show important declines along the available time series. This can be considered as an indicator, but sustainability is not supported by any robust scientific evidences. Only in the case of *G.cicerelus*, an analytical assessment is presented but showing limits due to the lack of more suitable information.

The data on catches, effort and catches per unit of effort (CPUE), as well as the biological reference points ensuring the conservation of the concerned stocks;

Data on catches, fishing effort and CPUE's are provided. Such data were analysed for the identification of possible trends, considered useful for assessing the sustainability of the fishing activity for any one of the specific stocks. No Reference points based on catches or catch rates were defined.

Estimates of fishing mortality and Reference Points were only derived for *G.cicerellus*. Length cohort analysis was performed using the available data on catch composition by size, which was limited to the size structure of the catch during the fishing season 2012-2013. Reference points $F_{0.1}$ and F_{max} were derived from a yield-per-recruit analysis using the VIT software. Such estimated allowed an assessment of the exploitation status of this stock. Current F appears slightly lower than F_{max}, but higher than $F_{0.1}$.

Depletion methods using CPUE and cumulated catch for the same stock were analysed and indicates a marked increase in stock biomass in recent years.

For all goby species, no formal assessments are presented in the Plan. There is no a clear trend in catch rates (CPUEs) of *Aphia minuta* over the relatively short period examined. The catch rates data for *C.linearis* suggest a decline which is not satisfactorily explained.

The minimum sizes and relative quantities of species mentioned in Annex III;

By-catch in the sandeel fishery represented on average less than 2% by weight in the sonsera fishery for sandeel which comprised several species, principally *Pagellus erythrinus*, *Xyrichtys novacula*, *Bothus podas*, *Trachinus draco* and *Synodus saurus*. Quite different appears the situation regarding the small gobies fishery. In this case, the by-catch ranged from 29% to more than 50% in weight, including several commercially important species as red mullet, red sea-bream , horse mackerel.

The study documents that by-catch in both fisheries is immediately thrown into the sea still alive due to the fast sorting operations on-board, with only a small fraction of the by-catch assumed to die. Most of the by-catch is in both fisheries composed by juveniles of several species. Even though the by-catch component in the gobies fishery is much more important, it is necessary to stress that this activity historically has been carried out by a very limited number of vessels (they were only 4 in the past season) and no sensible changes in its number are expected in the near future). Moreover, the fishing season is limited and mostly concentrated in winter time, which further reduce the negative impact of such fishery because massive recruitment of the more important commercial demersal stocks previously quoted concentrating close to the shore mainly occur in spring-summer.

The potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. sea grass bed, coralligenous habitat and maërl bed);

During the fishing operation, the sonsera net is not towed but when a school is found using echo-location, the net is deployed surrounding the shoal and the vessel is anchored in order to keep it in a stable position. The net is then hauled slowly and continuously. Even though some contact of the net with the bottom do occur, the gear mechanic action can be considered relatively reduced if compared to the action of towed nets. The collected geo-referenced data demonstrate that fishing vessels do not operate over *Posidonia* beds or over any other sensitive habitats. Regards the prohibition of fishing with "towed gears" at a distance of less than 3 miles from the coast or in waters less than 50 metres depth if a lesser distance is reached, such prohibition would render the fishery unfeasible considering the depth range distribution of the target species. The sonsera fisheries needs clean bottoms to operating effectively. Such conditions facilitate the on-board sorting operation and results in better quality product. Fishing on these critical habitats is in any case prohibited. It is worth noting that sonsera activities do not interfere with other small-scale fishery activities performed in a short distance from the coast. If sonsera fisheries are not allowed to continue, vessels traditionally using this gear will seek alternative resources to exploit, thereby creating additional competition with other artisanal fisheries and increasing fishing pressure on the stocks that such fisheries traditionally exploit.

The social and economic impact of the measures proposed;

In 2012, the catches with sonsera accounted for 2.4 % in weight and 1.4 % in income relative to the total catches of the Catalan fleet. The socio-economic analysis suggests that enforcement of the new Management Plan will result in important positive changes, will better regulate the fishery, ensuring good revenues and a regular supply to the market of very appreciated fish products. The acceptance of the plan is expected will keep a part of the artisanal fleets still involved in the profitable sonsera fisheries. The management measures proposed are expected will regulate fishing pressure at economically and biologically sustainable levels through the setting of annual quotas in line with population abundance, through the setting of daily catch quotas per vessel. It is expected that the increased responsibility assigned to both the sonsera vessels owners and the Fishermen's associations involved in the co-management committee proposed in the plan will allow the Management Commission to achieve its objectives.

The main socio-economic impact of a ban on the sonsera fishery whenever the plan will not be aproved are : destruction of jobs and a collateral impact on the small-scale artisanal fishing industry, activity with high difficulties in the current economic crisis of Spain and other countries of the EU. It can be noticed that 97% of revenues come from sandeel catches and just 3% from gobies.

The scientific monitoring of the management plan.

The MP includes several measures for controlling the observance of the management measures proposed as well as for assessing the performance of the fishery and status of the stocks.

Assessments will be conducted by controlling: biomass or population size, fishing mortality and the state of the fishery with respect to the maximum yield per recruit (proposed here as a proxy of the maximum sustainable yield). Based on the results obtained, the total quota will be fixed at the beginnings of the fishing season and allocated among months.

The enforced management measures will be monitored through controls of the sonsera activity under a fish inspection program that will be coordinated by the co-management committee.

Boat masters shall fill daily sheets, including information on the catches. Monthly samplings will be conducted, in different ports where the boat seining fleet operates.

Qualified fish inspectors will carry out the effective control of the activity at sea, during the landings and also during the sale at the auction market. Written reports shall be prepared regularly and sent to the permanent co-management committee for its evaluation.

STECF conclusions

STECF considers the quality of the new plan is much improved compared to the previous submission.

The by-catch fraction in the case of the sandeel fisheries, the most important activity using sonsera are negligible, but this is not the case for the part of the fleet targeting small gobids. In any case, the impact of such a fishery on target and bycatch resources is is likely to be limited, due to the reduced number of vessels and time dedicated to this fishery. STECF It is worth noting that fast sorting operations should guarantee a good probability of survival for discarded by-catch.

The information presented is however still not sufficient to assess the impact of the fisheries on all the stocks concerned. Provide that the annual TACs are set at an appropriate level, the proposed adaptive management is expected to increase the likelihood that stock sustainability will be achieved.

6.14.6. Spanish management plans for mollusc bivalves fishing by mechanised dredges in the autonomous region of Valencia

Agreed draft section

This is the second time STECF revise the management plan for dredges in the autonomous region of Valencia, after the analysis performed in 2011. Therefore, this new version should have taken into account previous comments.

Specific Terms of Reference

STECF is requested to review the scientific basis for the above mentioned management plan, evaluate their findings and make appropriate comments with respect to the measures proposed therein. Besides, STECF is requested to advice whether the plan contains adequate elements concerning:

- the biological characteristics and the state of exploited resources with reference in particular to long-term yields and low risk of stock collapse;

- the description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks (*Chamelea gallina*, and *Donax spp*.);

- the data on catches, effort and catches per unit of effort (CPUE), as well as the biological reference points ensuring the conservation of the concerned stocks;

- the minimum sizes and relative quantities of species mentioned on the Annex III;

- the potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. sea grass bed, coralligenous habitat and maërl bed);
- the social and economic impact of the measures proposed; and finally

- the scientific monitoring of the management plan.

Introduction

In 2011, Spain submitted for the first time, a management plan for bivalve mollusc fishing using mechanised dredges in the autonomous region of Valencia. However, some of the basic elements required to constitute a management plan according to article 19 of Council Regulation 1967/2006 were absent. A revised management plan has now been submitted and forms the subject of this review.

STECF observations

Objectives of the MP

The immediate underlying objective of the proposed management plan is to increase the biomass of tellins (*Donax spp.*) and striped venus clams (*Chamelea gallina*) and by 2015, to restore the stocks to the levels observed between 2005 and 2008 when they appeared to be stable. In the longer term, the intention is to achieve and maintain a sustainable optimum exploitation rate.

Measures included in the MP

- Limits on fishing effort and catches to achieve an increase in CPUE of the stocks toward the proposed CPUE targets
- Maximum permitted dimension of dredges
- Minimum sizes and release at sea of undersized specimens
- Maximum daily catch and landings limits (i.e. TAC)
- Limits for daily fishing time
- Closed areas to protect the spawning stocks
- Scientific monitoring

Overview of the Management Plan: general comments

The management plan covers a fleet of 184 artisanal fishing vessels throughout the Autonomous Community of Valencia. The plan includes a description of the fisheries in terms of characteristics of fishing vessels and gear, species biology, by catches and impact on the ecosystem, trends in fishing effort and catches and other information useful to assess the likely impact of the proposed management measures.

Data on the biology of the two stocks and their population structure and development over time are rather sparse and are insufficient to form the basis of analytical stock assessments or to reliably estimate fishing mortality or biomass reference points. In addition, there are no fishery-independent survey data presented in the plan to derive estimates of stock density and biomass.

Catch and effort data, available for 1992, 1995 and the period 2005-2012, showed an almost linear reduction in effort, annual landings and CPUE which may indicate a reduced productivity of both stocks. The downward trend in CPUE is particularly marked for the striped venus clam and over recent years, CPUE has declined rapidly to an historical low level in 2012.

The plan is foreseen to apply until 31 December 2018. The fishermen's associations shall be involved in the plan will record effort and catches. The plan also includes a provision to set up a monitoring committee.

The MP proposes to manage the dredge fishery for bivalves in the Valencia region by setting limits to fishing effort and catches to achieve increases in catch rates (CPUE) to levels that were observed over the period 2005-2008 when the stocks appeared stable. Effort limits that are considered to be adequate to achieve such catch rates will be set. Catch rates are therefore used as a proxy for stock biomass although the basis of this assumption (i.e. stable fishery catchability through time) is not elaborated upon in the MP.

Comments in relation to each of the elements in the Terms of Reference

Biological characteristics and the state of exploited resources with reference in particular to long term yields and low risk of stock collapse

The habitat of the two target species of the fishery, *C. gallina* and *D. trunculus*, is described along with information on the spawning season and size at maturity. However it is unclear if the data on spawning came from studies carried out in the region and furthermore, there is no reference to the period over which the studies were carried out. No data on growth or mortality are presented and there is no information on size or age composition of the population (ICES, 2012[10])

The description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks

The fleets and gear exploiting the two stocks of bivalves are described and information about the trend in fishing effort, measured in fishing days, of the dredge fleet is also provided. The majority (90%) of the fleet is based at the ports of Gandía and Cullera and few vessels are exclusively engaged in dredging for bivalves all year round.
The MP does not include quantitative information on catch and effort of the hand dredges (rastrillos). The number of licensed fishermen using hand dredges and the catches landed by such fishermen are not provided.
According to the data presented in the management plan, fishing effort has rapidly declined in the period 2005-2012 following the same trend observed for annual catches and CPUE. Such reduction trend started in 1990s and catches reached an all-time low in 2012. Presently, bivalve

10 ICES 2012. ICES Implementation of Advice for data - limited stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM 68, 42 pp

fishing is considered only as a marginal activity in terms of catch volume and fishing effort of the artisanal fleet in the Valencia region.

The MP proposes to manage the fishery by setting limits on fishing effort and catches considered adequate to achieve increases in CPUE of the two stocks in 2013 and in subsequent years. These limits are calculated using an empirical approach based on the analysis of the trends in CPUE and effort of the dredge fishery of the Gandia port. The approach was aimed at identifying the level of effort (fishing days) that is intended to result in an increase in he CPUE of the fleet in 2013. This level of effort, defined as "allowable fishing limits" (f_{palim}), was then used to calculate an annual catch quota for 2013n which was obtained by multiplying the f_{palim} by the average CPUE observed in 2010-2012.

The MP prescribes that the annual catch quota for 2013 will be modified in subsequent years, depending on the trend in CPUE. If CPUE increases or decreases, the annual catch quota will be modified accordingly. No further quantitative method is proposed to calculate changes in annual catch quota is described in the plan.

Furthermore, no measures to prevent a stock collapse in the event that CPUE declines rapidly are proposed and there are no proposed limit reference points or provision to close the fishery.

Further comments on the proposed management measures for each stock are given below.

Striped venus clam

The proposed effort limit for 2013 is 1092 fishing days corresponding to an estimated catche limit of 22,6 t based on the average CPUE observed in 2010-2012. The proposed effort limit appears inconsistent with the objective of increasing CPUE in 2013 as the reported effort in 2011 deployed by the fleet from the main port (Gandia) to catch striped venus clams was only 82 days and the fleet essentially ceased exploitation in 2012. Despite the large reduction in effort, catches and catch rates rapidly declined in 2011-2012 indicating that the stock has essentially collapsed. In such a situation to any increases in effort and/or catches would appear to be inadvisable if the objective is to increase the stock biomass.

Tellins

A similar approach to that applied for striped venus clam was used for tellins. The effort limit proposed is of 2513 fishing days for 2013, corresponding to an estimated catch limit of about 42 t. It is however not clear how this effort figure could led to an increases in CPUE considering that in 2012 the number of fishing days was only 803 in the main port (Gandia). Fishing effort of the Gandia fleet decreased almost linearly since 2005 ($R2=0.77$, $p<0.01$) and the expected figure of fishing days in
2013 is only 787 well below the limit of 1514 days indicated for this port.

The proposed catch limit of 42 tons for 2013 is therefore inconsistent and it has also a high risk to further deplete the stock. As observed for C. gallina the temporal trend in CPUE and effort indicate a reduction of the stock at sea and an impaired productivity which should be taken into account in defining catch and effort limits.

Other management measures

Other accompanying measures included in the MP concerns maximum allowed dimension of dredges, restriction in the use of gear during a fishing day (i.e. fishing hours), minimum sizes and

release at sea of undersized specimens, maximum allowed daily catch and landings limits. Furthermore, the MP set the limits for daily fishing time and establishes closed zones to protect the spawning stocks. Article 8 sets the limit on the number of shellfish gatherers working on foot. Article 10 deals with surveillance and control of the established measures.

Data on catches, effort and catches per unit of effort (CPUE).

Catch data are available for the two main ports, Gandia and Cullera, and for the years 1992, 1995 and 2005-2012. These data show a collapse of striped venus clam catches from about 670 tons in
1992 (377.5 t in Gandia and 302.1 t in Cullera) to 47 Kg in 2012. Tellins catch also declined sharply from about 150 – 199 tons in 1992-95 to 16.6 tons in 2012.
CPUEs, calculated as kilogram landed daily by vessel (Kg/vessel * day^{-1}), showed a reduction through time for both stocks with the lowest values observed in 2012.
Decline in CPUE was particularly sharp for the striped venus, which decreased from 46.88 to 2.68 kg/ vessel * day^{-1} in 2005- 2012. Also CPUE of tellins showed a reduction from 39.23 to 15.33 kg/ vessel * day^{-1} since 2005. This downward trend was observed since 1992 for both stocks, with a more rapid decline over the most recent 3-4 years.
As reported on section 2.5 of document II, in the first half of the 1990s, the average CPUEs of venus clams and tellins by the dredge fisheries in the area was about 65 kg per day (6 hours fishing). In recent years effort has increased to 9 hours per day without achieving the same amount of catch. The estimated CPUE would need therefore to be standardized to take into account the observed increase in fishing time during time. In any case the current decline pattern in CPUE is a conservative figure of the real temporal trend.

As stated in document II - pg. 39: "*Although the available data on the activity are insufficient to establish precise values for the stock biomass and fishing mortality, they do clearly show that, for both species, the current stock is being rapidly reduced and there is a tendency to overfish although, at least until 2009, it still responded positively when fishing pressure was relaxed precisely as the result of the scarcity of the resource*".

Biological reference points ensuring the conservation of the concerned stocks

The available data on catches, CPUE and effort were used to run an ASPIC production model but the results were not acceptable as a basis for estimating MSY reference points. The MP therefore proposes target conservation reference points based on the average CPUE values observed in the period 2005-2008 for the two stocks. CPUE in 2005-08 were stable and are considered consistent with the achievement of sustainable long term yield, but this is not supported by the data presented in the MP, which indicates that catches were much higher prior to the 2005-2008 reference period. There is also a need to supplement the CPUE target with a limit on catches (TAC).
The rationale behind the use of CPUE as proxy for stock biomass is the proportionality between these two parameters. This assumption however applies until the catchability remains unchanged through time. There are however documented examples of fisheries where the catchability has increased or decreased as effect of changes in species density and / or fisheries selectivity. These aspects are poorly considered in the MP and they would deserve a deep discussion before using CPUE trends to derive management measures.

The minimum sizes and relative quantities of species mentioned on the Annex III

The Annex 3 of Council Regulation (EC) n. 1967/2006 establishes minimum landing size (MLS) only for the striped venus clam . For this species the current MLS adopted by the

Valencia autonomous community is 21 mm, whereas the Council Regulation (EC) n. 1967/2006 establish to 25 mm the minimum sizes established for venus shells. The MP establishes an increase in the MLS to 25 mm to comply with the Council Regulation (EC) n. 1967/2006.
The MP establishes also that the catch of the two target species must be sieved on board of the boats, using a sieve or perforated metal plate with circular holes of a prescribed diameter. Specimens which are not retained by the sieve cannot be sold and must be immediately returned to the sea as the vast majority of discarded individuals can easily survive if released in their habitat.
The established holes measure (21 mm diameter) to sieve striped venus clam catch seems however insufficient to reduce the landing of undersized specimens below 25 mm shell size.
The MLS for striped venus clam (25 mm) is well above the size at maturity. In the case of tellins, even though a MLS is not defined, the obligation to sieve the catch should result in small immature individuals being returned to the sea alive. The MLS measures contained in the MP seem therefore compatible with an exploitation pattern which minimizes the impact on the immature stock and allowing individuals to spawn at least once.

The potential impact of the fishing gear on the marine environment with particular interests on protected habitats

The fishery is carried out on coastal sandy shore from 0.5 to 10 m. In this bathimetric ranges there is no occurrence of sea grass meadows or other protected habitats. The main species discarded by the fisheries are described. The fishing area is furthermore an area under the strong influence of hydrodynamic forces where the impact of mechanical action of the dredges on the benthic communities can be considered less important than the natural stress.

Hypotheses concerning the decline of the bivalve fishery in the region being linked to the environmental changes that occurred over the last 20 years are also reported in the plan. The main cause of decline of the bivalve stocks is attributed to the construction of treatment plants for waste waters and submarine outfalls in all coastal and inland settlements, gradually reducing the organic load reaching the coastline to the current minimal levels. This has achieved high water quality for bathing and other tourism-related uses, but might have triggered a reduction in the trophic resources available for littoral bivalve molluscs, which feed by filtering on the phytoplankton itself and the organic matter suspended in the water. A reduced carrying capacity of the coastal area of Valencia for filter feeders organisms, such as mollusc bivalves, is confirmed by the decreasing trend in phytoplankton biomass observed in the area across the last 15 years (see Document II, pg. 29).

Social and economic impacts of the measures proposed

The MP does not include an analysis of the foreseen socio-economic impacts of the proposed measures.

Scientific monitoring of the management plan

The monitoring of the effects on the two target stocks of the measures applied are poorly detailed in the MP. Daily landings and effort data are proposed to be used to calculate the annual catch rate, which will be adopted as main indicator of how the fishery evolves in response to the management measures implemented. It is also reported that monitoring of this data will be continuous during the year to enable the fishery to be closed when the indicated catch limits are achieved.
The MP does not contain information about the future collection of biological data from the catches (length structures, sex and maturity data) that would be important to better understand the impact of fishing on the target stocks. This is also contradictory considering that in the MP it

is stated that more accurate biological reference points will be calculated in the next years to better define the optimal exploitation levels.
In addition the MP does not mention which types of data will be collected in future years to evaluate the social and economic impact of the adopted measures on the fishery.

STECF conclusions

The Management Plan (MP) for the conservation and sustainable exploitation of bivalve molluscs along the coastline of Valencia contains a set on relevant information on the dredge fishery exploiting the stocks of striped venus clam (*Chamelea gallina*) and tellins (*Donax spp*.). In particular, the MP contains a description of the fishery for the aspects related to the target species, fishing fleets and gear, main ports, fishing areas and fishing seasons. In addition, the MP includes relevant information on the socio-economic features of the fishery and its recent trend in catch and effort. A quantitative description of the fishery by-catch as well as an overview of the impact of dredge fishing on the coastal ecosystem is also provided. Therefore, the document contains sufficient information to develop a management plan but in relation to the provisions of Article 19 of the regulation, the plan is deficient in the following aspects:

- The MP does not contain any scientific evidences or statistical analyses that can support the reliability of the proposed catch limits to achieve the established conservation targets.
- The MP did not consider that, even with some fluctuations, the two stocks showed a continuous and almost negative linear trend as indicated by the strong decline in CPUE. Such stock declining has occurred despite a consistent reduction of the fishing effort, suggesting an impaired productivity of the bivalve stocks in the region.
- The empirical approach used to calculate the catch limits appears therefore inadequate in the light of the precautionary approach and prone to expose the two stocks to high risks of depletion and even stock collapse. The MP should adopt a more precautionary approach to set effort and catch limits, evaluating also the possibility to implement a recovery plan in particular for the striped venus clam which fishery has collapsed in 2011-2012.
- The MP lacks of quantitative harvest control rules (HCR) to define how annual catch or effort should be set.
- No limit reference points are defined for any species under which the fishery should be closed.
- The MP does not contain an explicit analysis of the impact of the proposed management measures on the socio-economy of the dredge fisheries of the region.

Despite the fact that the plan is incomplete and some criticisms are evidenced, STECF notes that the implementation of certain measures, if correctly identified, such as the use of TAC, the limit of the effort and closed areas, might have a positive effect on the stock status.

6.15. Request for an Assessment of cod catches in Baltic Sea subdivisions 27 & 28

Background

Article 29 of Council Regulation (EC) No 1098/2007 of 18 September 2007 establishing a multiannual plan for the cod stocks in the Baltic Sea and the fisheries exploiting those stocks requires the Commission to decide annually on basis of advice from STECF about the application of the fishing effort management limits defined in Article 8 of the same regulation to Subdivisions 27, 28.1 and 28.2.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of Reference

The Commission requests STECF to advise if catches of cod in the period 1 October 2012 to 30 September 2013 in Subdivisions 27 and 28.2 were lower than 3% of the total catches of cod in Subdivisions 25 to 28 and if the catches of cod in Subdivision 28.1 were higher than 1.5 % of the total catches of cod in Subdivisions 25 to 28.

STECF response

STECF received catch data from the Commission for all Member States fishing in the Baltic except Finland (Table 6.15.1). It is not stated clearly whether the reported data relate to landings only or to total catch of cod (including estimates of discards). However, STECF understands that the reported data relate to landings and not to catches of cod.

Table 6.15.1 Cod catches from subdivisions 25-28 of the Baltic Sea from 1 October 2012 to 30 September 2013 as reported by Member States

Country	Subdivision				
	25-28	27+28.2	28.1	27+28.2	28.1
	(kg)	(kg)	[kg]	%	%
Denmark	6590544	0	0	0.000	0.000
Estonia	306145	472	654	0.154	0.214
Finland*	nd	nd	nd	nd	nd
Germany	599432	0	0	0.000	0.000
Latvia	3110365.7	214622.7	3800	6.900	0.122
Lithuania	2155869	19030	0	0.883	0.000
Poland	12636755.66	2240	0	0.018	0.000
Sweden	6478273.2	18405.2	0	0.284	0.000
TOTAL	**31877384.56**	**254769.9**	**4454**	**0.799**	**0.014**

The data in Table 6.15.1 indicate that between 1 October 2012 and 30 September 2013, reported landings of cod from Subdivisions 27 and 28.2 accounted for approximately 0.8% of the total reported landings of cod from Subdivisions 25-28. Similarly, the reported landings of cod from Subdivision 28.1 represented approximately 0.01 % of the total reported landings of cod from Subdivisions 25-28. STECF notes that according to ICES WKEID (2010), discards of cod in the Baltic represents on average, approximately 10% of the total catches of cod.

STECF conclusions

STECF concludes that over the period 1 October 2012 to 30 September 2013 reported landings of cod from Subdivisions 27 and 28.2 were lower than 3% of the total landings reported from Subdivisions 25 to 28. Similarly, reported landings of cod from Subdivision 28.1 were lower than 1.5 % of the total landings in Subdivisions 25 to 28. Assuming an average discard rate of about 10% of the catches for Eastern Baltic cod, STECF concludes that overall, the reported catches of

cod were lower than the thresholds defined in Article 29 of Council Regulation (EC)No 1098/2007 of 18 September 2007.

Finland did not submit a report on catches of cod from the Baltic for the period 1 October 2012 to 30 September 2013.

6.16. Request for clarification on appropriate fishing effort level in the North Sea

Background

In accordance with the Council Regulation (EC) 1342/2008 the Council shall decide on the maximum allowable fishing effort for each effort group by Member State. The rules for setting fishing effort allocations are provided in Article 12 of the plan. Each year required adjustment in effort as required by the plan was provided by ICES and reviewed STECF in the stock advice for the cod in the North Sea. In the advice for 2014 required adjustment of fishing effort is not provided.

Terms of Reference

The Commission requests STECF to advise on appropriate adjustment of the fishing effort in accordance with the rules set out in the cod plan for 2014.

STECF Response

Article 12.2 of the Council Regulation (EC) 1342/2008 stipulates that the maximum allowable fishing effort shall be calculated by means of a baseline established as follows:

(a) for the first year of application of this Regulation the baseline shall be established for each effort group as the average effort in kW-days spent during the years 2004-2006 or 2005-2007, according to the preference of the Member State concerned, based on the advice of STECF;

(b) for the subsequent years of application of this Regulation the baseline shall be equal to the maximum allowable fishing effort of the previous year.

STECF considers that the calculation of the maximum allowable fishing effort for 2014 shall be based on the effort allocated for 2013.

Article 12.4 of the Council Regulation (EC) 1342/2008 stipulates that for aggregated effort groups where the percentage cumulative catch calculated according to paragraph 3(b) is equal to or exceeds 20 %, annual adjustments shall apply to the effort groups concerned. The maximum allowable fishing effort of the groups concerned shall be calculated as follows:

a) where Articles 7 or 8 applies, by applying to the baseline the same percentage adjustment as that set out in those Articles for fishing mortality.

STECF notes that the 2014 advice for cod in subarea IV (North Sea) and division VIId (Eastern Channel) and IIIa West (Skaggerak) implies a reduction in fishing mortality of 46% from the estimated 2013 fishing mortality (F= 0.39) to the advised fishing mortality for 2014 (F= 0.21). STECF therefore advises, considering the above quoted Article 12.2 (b) and 12.4 (a), that the

maximum allowable fishing effort for 2014 should be set equal to 54 % of the maximum allowable fishing effort in 2013 of the effort groups concerned.

STECF also agrees with the conclusions of the ICES evaluation of a Joint EU–Norway request on TAC setting options for cod in the North Sea and Skagerrak (ICES Advice 2013, Book 6, section 6.3.5.5), which implies a reduction in fishing mortality and catch advice in 2014.

6.17. Request for an evaluation of the effectiveness of Highly Selective Gears based on a net grid being used by English administered vessels

Background

STECF has previously considered the application of a Net Grid, a modified inclined separator panel in PLEN 12-02 (section 7.1). At this time STECF wase unable to evaluate fully the effect of the modification and identified the additional data required and the need for more extensive testing of the gear in varying fishing situations.

Background documentation can be found on:
https://stecf.jrc.ec.europa.eu/web/stecf/plen1303

Terms of reference

The UK has now submitted the outcome of further trials, undertaken as part of a Fisheries Industry Partnership, on variants of a NetGrid *Nephrops* trawl. STECF are requested to consider,

1 The extent that each design can be expected to reduce the catches of adult and juvenile cod. In addition STECF ise asked to comment on the overall reduction in the catches (both landings and discards) of other commercial species likely to be achieved by this trawl. STECF are further asked to comment on the possible impact on cod mortality arising from the use of this gear.

2. To what extent does the data and information provided in relation to the technical characteristics of each of the designs support the conclusion that catches of cod by such gears will be less than or equal to 5% (five) of the overall total catches. STECF are asked where possible to quantify the possible reduction that may be achieved in the Fishing Mortality.

3. In cases of scientific uncertainty 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.

STECF response

Two different variants of the NetGrid have been developed. The information provided relates to the first design and STECF notes that further data on the efficacy of the second variant (short version) is currently being collected; therefore the following STECF comments only relate to the first design. STECF (PLEN 12-02) previously evaluated this gear type to assess whether it could be considered as an exempted gear (article 11.2 EC Regulation 1342/2008). SETCF (PLEN 12-02) concluded that there was insufficient cod catch data so make a statistically robust judgement. In addition, STECF (12-02) concluded that "*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." STECF notes that in respect to the current application that these data deficiencies have been largely addressed and the information base provided is sufficient to evaluate the request. STECF notes that the basis of the request is not to seek exemption under article 11.2 of the cod plan but rather to assess whether the gear modification is capable of maintaining cod catches below 5%.

1. While the cod catches observed during the trials are relatively low, there is sufficient information to conclude that the test gear results in statistically significant reductions in cod catch when compared to the standard gear. Reductions in cod catches (and other species) are relatively consistent across hauls. The results presented show that cod catches are significantly reduced by 72% by weight and 79% by number (p=0.0001). Full implementation of this gear will result in a reduction in fishing mortality associated with the English TR2 fleet provided there is sufficient uptake. In terms of contributing to a reduction of total fishing mortality on cod, the impact of the test gear will be marginal given that the overall cod catch attributed to the ENG TR2 fleet in 2012 is estimated to be 155 t, amounting to only 0.4% of the overall North Sea cod catch. STECF further notes that the gear design also results in large scale reductions by-catches of other species, including dab (-75%); plaice (-89%); whiting (-81%) and haddock (-76%) with minimal loss of *Nephrops*. STECF notes that successfully implementation of this technical modification will result in substantive reductions in by-catches associated with this fishery.

2. The report presented shows that the level of cod caught during the trials were on average (mean 2.8%, median 2.2%) for the test gear and on average (mean 2.3%, median 0.8%) in the control or standard. A bootstrap analysis based on the results presented shows that the probability of cod catches exceeding 5% in the test gear is 2%. It is also interesting to note that the probability of cod exceeding 5% in the control gear is <1%. Interestingly, despite the high reductions in cod catches in the test gear, the mean percentage contribution cod makes to the overall catch are broadly similar in both the test and experimental gear. The fact that the test gear also releases a large volume of other species, means that the overall bulk catch in the test gear (mean 190 kg) is considerably less than the bulk catch in the control gear (mean 408 kg).

3. STECF notes that the experimental design and sampling strategy (low sub-sampling levels etc) are sound and robust. However, the above observations are only pertinent to one of the gear modifications presented (gear variant 1) as data relating to the second gear modification were not available. The trials were conducted during October 2013 and the observations drawn above are based on only 14 experimental hauls. If catchability changes with season or other environmental drivers, then the assumptions of cod catches being maintained below the 5% threshold may change. Ongoing monitoring of the fleets using this gear will be required in order provide further demonstration that the objectives of maintaining cod catches below 5% are maintained.

6.18. Request for advice on scientific evidence required for the exclusions from the landing obligation certain fisheries based on high survivability

Background

In accordance with political agreement on the CFP reform the landing obligation for number of fisheries for small pelagic, industrial species, highly migratory species and salmon in the Baltic Sea will enter into force as of 1 January 2015. There is scope within the the landing obligation for

exemptions from the landing obligation for species for which scientific evidence demonstrates high survival rates, taking into account the characteristics of the gear, of the fishing practices and of the ecosystem. These exemptions for survivability can be included within temporary discard plans or as part of multiannual plans.

At the July 2013 STECF plenary, the Commission requested STECF to review available information on survival of discards and identify fisheries (gear, area, season etc.) in the Baltic Sea where discarded fish would have the highest probability of survival and where possible give estimated probabilities of survival. Based on the regionalised approach the BALTFISH identified candidate fisheries for exemption based on survivability. Proposed exemptions are:

- Salmon and sea trout fisheries with trap-nets and pound-nets (and possibly gillnets)
- Fisheries using passive gears such as trap-nets, creels/pots, fyke-nets and pound nets

STECF concluded that it was not possible to provide a reliable list specifying the survival rate of discards by species and by fishing gear. However, subsequently at an STECF EWG meeting (EWG 13-16) held in September the issue of survivability in the context of the landing obligation was discussed in detail. This included the definition of high survivability and also the methodologies that should be used for conducting survival experiments.

Terms of reference

In light of the findings of EWG 13-16 and given BALTFISH have only a very limited time to finalise a discard plan for the Baltic, STECF is requested

- To advise on what scientific evidence is needed to justify the specific exemptions proposed by the BALTFISH based on high survivability and in particular the appropriateness of methodologies identified by EWG 13-16 (e.g. vitality assessments) to obtain such evidence.

STECF response

STECF interprets the ToR as:

- To advise on protocols and methodologies that should be followed to ensure that the results of survival studies are robust and could be used to justify the specific exemptions proposed by the BALTFISH based on high survivability. In particular the appropriateness of methodologies identified by EWG 13-16 (e.g. vitality assessments) to obtain such evidence should be considered.

BALTFISH has prepared a draft discard plan for the Baltic Sea in which salmon and sea trout fisheries with trap-nets and pound-nets (and possibly gillnets) and fisheries using passive gears such as trap-nets, creels/pots, fyke-nets and pound nets are suggested to be exempted from the obligation to land all catches. STECF is not aware that any scientific evidence of high survivability of discarded species caught by the above gears in the Baltic.

During PLEN 13-02 STECF was requested to review available information on survival of discards and identify fisheries (gear, area, season etc.) in the Baltic Sea where discarded fish would have the highest probability of survival and where possible give estimated probabilities of survival. Due to the many factors that can affect the survival rates of discards (for example: exposure on deck,

seasonality, sea surface and air temperature, body size, age of fish, depth caught, catch composition, haul duration, breeding and health status of fish, etc.). STECF considered it to be misleading to make any extrapolations on discard survival rates beyond the scope of the individual studies themselves. STECF therefore concluded that it was not possible to provide a reliable list specifying the survival rate of discards by species and by fishing gear.

During the STECF EWG 13-16 meeting held in Varese in September 2013 survivability issues were discussed in detail. As part of the outcome of this meeting the working group provided guidance for best practices to undertake studies on survivability in which three different experimental approaches was put forward as methods to estimate discard mortality:

i. **Vitality assessment**: where "vitality" of the subject to be discarded is scored relative to any array of indicators (e.g. activity, reflex responses and/or injuries) that have been correlated with the likelihood of survival;

ii. **Captive observation:** where the discarded subject is kept in captivity to determine where it lives or dies;

iii. **Tagging and biotelemetry:** where the subject to be discarded is tagged and either its behaviour/physiological status is monitored to determine its likelihood of survival or survival estimates are derived from the number of returned tags.

The above methods have advantages and disadvantages which are identified in EWG 13-16 and are appropriate for differing temporal scales – (i) immediate (straight after handling) –(ii) short term (days to weeks) - captive observations -and; (ii) long-term (> 1 month).

In addition, the EWG report provides guidance on estimation methods, data analysis etc. (see STECF EWG 13-16).

STECF considers that the outcomes of STECF EWG 13-16 provides good guidance on protocols and methods for conducting survivability studies in general and hence also in the case of the fisheries proposed for exemption. However, to provide advice on the design of the survivability experiments requires a regional in-depth evaluation, which should be conducted by survivability experts with experience of the fisheries and species concerned. Furthermore, providing species/fishery specific guidelines cannot be achieved within the time scale of PLEN 13-03 therefore STECF is of the opinion that relevant experts should be contracted to produce such evaluations and advice.

STECF notes that an ICES Expert Group has been set up to advise on the design of survivability experiments. It is not known whether the outcomes from this working group will be area-specific. The reporting timescale of this expert group is unknown, but it is unlikely that the outcomes will be available before the introduction of the landings obligation in the Baltic Sea. Nevertheless, the findings from this working group should be followed closely.

The Commission has indicated that the discard plan for the Baltic Sea needs to be submitted to the Commission for approval in June 2014 at the latest, in order to be implemented on the 1st of January 2015. If no robust scientific evidence in support of the exemption of the gears can be produced by June 2014 STECF note that the provisions of Article 15 of the CFP Basic Regulation (08-10-2013), prescribes that no exemptions can be included at the onset of the plan. However, STECF considers

that the BALTFISH discard plan could benefit from including provisions for allowing exemptions at a later stage if such evidence becomes available.

7. STECF RECOMMENDATIONS FROM STECF-PLEN-13-03

No recommendations arose during discussions at the 44th plenary meeting of the STECF.

8. CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS

[1] - Information on STECF members and invited experts' affiliations is displayed for information only. In some instances the details given below for STECF members may differ from that provided in Commission COMMISSION DECISION of 27 October 2010 on the appointment of members of the STECF (2010/C 292/04) as some members' employment details may have changed or have been subject to organisational changes in their main place of employment. In any case, as outlined in Article 13 of the Commission Decision (2005/629/EU and 2010/74/EU) on STECF, Members of the STECF, invited experts, and JRC experts shall act independently of Member States or stakeholders. In the context of the STECF work, the committee members and other experts do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members and invited experts make declarations of commitment (yearly for STECF members) to act independently in the public interest of the European Union. STECF members and experts also declare at each meeting of the STECF and of its Expert Working Groups any specific interest which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: https://stecf.jrc.ec.europa.eu/adm-declarations and http://stecf.jrc.ec.europa.eu/web/stecf/about-stecf/cv .

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Abstract

The Scientific, Technical and Economic Committee for Fisheries hold its 44th plenary on 4-8 November 2013 in Brussels (Belgium). 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 were *inter alia* assessments of the economic performance of the EU aquaculture and fish processing sectors, fishing effort regime evaluations, and review of stock advice.

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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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