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42nd PLENARY MEETING REPORT
OF THE SCIENTIFIC, TECHNICAL
AND ECONOMIC COMMITTEE FOR
FISHERIES (PLEN-13-01)

PLENARY MEETING,
8-12 April 2013, Brussels

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PLENARY MEETING

8-12 APRIL 2013, BRUSSELS

1. INTRODUCTION

The STECF plenary took place at the MAI - INTERNATIONAL ASSOCIATION CENTRE, rue Washington, Brussels (Belgium), from 8 to 12 April 2013. The Chairman of the STECF, Dr John Casey, opened the plenary session at 9:15h. 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 12 April.

2. LIST OF PARTICIPANTS

The meeting was attended by 27 members of the STECF, one external experts, and four JRC personnel. 11 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:

Massimiliano Cardinale
Hazel Curtis
Tore Gustavsson
Simon Jennings
Sakari Kuikka
Antonello Sala

3. INFORMATION TO THE PLENARY

3.1. STECF plenary – information from the secretariat

The secretariat informed the Committee that John Simmonds resigned from the STECF.

3.2. STECF plenary – information from DG MARE

DG MARE informed the Committee that Christos Theophilou has been assigned as overall focal point for STECF within DG MARE until September 2013.

3.3. STECF plenary – STECF guidelines for chairs

In an attempt to ensure that all EWG Reports are finalised and delivered in accordance with STECF guidelines (within 10 working days after the EWG meeting), and to ensure that excessive demands are not placed on EWG participants after the meeting, the following text will be added to the STECF guidelines for EWG Chairs.

EWGs associated with DCF data calls

Data calls to Member States associated with STECF EWGs are issued by the Commission. JRC serves those data calls feeding into the work of the STECF EWGs. Each data call has an official deadline for data submission by MS and according to DCF legislation, prime responsibility for quality of data rests with the MS. After the deadline for submission of data under data calls and before the start of the relevant EWGs, JRC carries out further quality checks of submitted data and if necessary raises any issues with the relevant MS thereby providing an option for correction and resubmission. During an EWG meeting or between 2 EWGs dealing with the same topic (e.g. AER Fleet 2013) further corrections and/or re-uploads may be necessary.

Chairs and EWGs are therefore requested to take note of the following:

- to work with only with those data available at the time of the EWG. EWGs should take into account the quality of such data and comment accordingly.
- changes/updates to data submitted by MS should only be made after consultation with the relevant DCF national correspondent
- to document any changes/updates undertaken subsequent to the data submission by MS
- to not accept or take into account any data (re-)submission **after** the EWG took place (note: 10 working days deadline for report)

3.4. STECF plenary – information from JRC

Ernesto Jardim presented an overview of the a4a initiative coordinated by the JRC. The a4a (“assessment for all”) initiative is a project aimed at providing a comprehensive and versatile tool to assess large numbers of stocks with standardized methodologies (<https://fishreg.jrc.ec.europa.eu/web/a4a>).

The a4a initiative aims to:

1. develop an stock assessment method targeting stocks that have a reduced knowledge base on biology and a moderately long time series on exploitation and abundance;
2. trigger the discussion about the problem of assessing large numbers of stocks;
3. promote capacity building for stock assessment.

Under the scope of the European Data Collection Programme (DCR, DCF, DCMAP) several hundreds of stocks are being monitored. For example, 250+ stocks are being sampled for biological parameters (growth & reproduction) in waters where European fleets operate. Data are increasingly piling up and by 2020 for most of them we will have a time series of 10 years, or longer. However, current fisheries data analysis methods are not designed for such a large number of stocks and as such will not be suitable for providing timely advice to fisheries managers. Not being able to assess these additional stocks is also a bottleneck for advancing ecosystem services modelling and complex ecological modelling, which are both necessary to foster ocean management, as foreseen in the Integrated Maritime Policy, the Marine Strategy Framework Directive, and other initiatives.

The a4a initiative is coordinated by JRC, and involves scientists from South Africa, USA, Canada, Australia, New Zealand and Europe.

The initiative is organised around 3 main pillars: (i) the development of a stock assessment framework that can be applied rapidly to a wide range of situations, (ii) the development of a forecasting algorithm based on Management Strategies Evaluation (MSE) to include uncertainty related to natural processes, fisherman behaviour and management, and (iii) promote the engagement of more scientists into the advisory process making the modelling more intuitive and organizing training sessions.

The stock assessment model is now finalized and being tested with real and simulated datasets, it will be presented to the World Conference on Stock Assessment Methods for Sustainable Fisheries, in Boston, 2013.

The MSE algorithm is being developed as a sophisticated forecasting algorithm that takes into account structural uncertainty about stock dynamics (growth, recruitment, maturity) and on exploitation by commercial fleets (selectivity), embedding the framework of decision making. It's expected to be finalized during the 3rd quarter of 2013.

The training of scientists on the a4a methods is being introduced in the JRC R/FLR training programme. In September of 2013 a stakeholder meeting will be organized to disseminate the a4a initiative and the methodologies developed. All methodologies are developed in R/FLR and are or will be released with an open source license and available freely for download.

The a4a initiative was presented in several forums, like the FAO "Fisheries Working Group on exploitation status and ecosystem productivity" held in Washington DC, June 5-7 2012, the GFCM subgroup on stock assessment held in Rome, 18-20 February 2013, etc. In September 2012 a paper on the impact of not taking into

account the effect of sub-populations in stock management, was presented to the ICES Annual Science Conference in Bergen.

A group of scientists were invited to visit JRC and comment, revise and discuss the a4a findings with the JRC group. Up to now the visitors were Prof. Henrik Gislason (DTU□AQUA, Denmark), Dr. Richard Hillary (CSIRO, Australia), Dr. Raul Pallezo (AZTI, Spain), Prof. Steve Cadrin (UMASS, USA) and Prof. Sakari Kuikka (, Finland). The reports including the feedback given are available on the initiative's website (<https://fishreg.jrc.ec.europa.eu/web/a4a>).

4. STECF INITIATIVES

4.1. Investigations into the properties of the sustainable harvest indicator

Background

Relating to the STECF review of Member States' annual reports on the balance between fishing capacity and fishing opportunities, STECF has identified a need to gain a more complete understanding of the behaviour of the “sustainable harvest indicator” as proposed in 2010¹ in order to determine its utility for assessing the balance between fishing capacity and fishing opportunities.

STECF observations

STECF notes that for several years, guidelines have been in place to facilitate Member States to report on the balance between capacity and fishing opportunities. In those guidelines, technical, biological, economic and social indicators are described to address the balance issue. Three biological indicators are included in the guidelines:

B1: ratio of $F_{\text{estimated}}$ to F_{target} ,

B2: ratio of current catch weight to stock biomass

B3: catch per unit of effort (CPUE).

In the case of multispecies fisheries, the above indicators are averages weighted by volume of landings.

STECF notes that the sustainable harvest indicator was developed in the context of the STECF-EWG on EAFM¹ and is derived from the above B1 indicator. For each fleet segment, it is expressed as the average ratio of current F over F_{MSY} (for exploited species s), weighted by value of landings, as follows:

¹ Scientific, Technical and Economic Committee for Fisheries (STECF) - Report of the SGMOS-10-03 Working Group - Development of the Ecosystem Approach to Fisheries Management (EAFM) in European seas. (eds. Gascuel D., Döring R. & Druon J.-N.). 2010. Publications Office of the European Union, Luxembourg, EUR 24633 EN, JRC 61951, 141 pp.

$F^* = \sum (W_s \cdot F_s / F_{MSYs}) / \sum W_s$, where W_s is the value of landing for species s by the considered fleet segment.

The sustainable harvest indicator was presented in a suite of indices as a means to assess whether a fleet segment is economically dependent on stocks that are in a good or bad shape, compared to F_{MSY} . Moreover, the EWG recommended that a specific EWG be convened under the auspices of STECF to address the utility of a suite of candidate indices whose aim was to evaluate the ecosystem impact at the fleet segment level). However, the proposed EWG has not yet been convened.

STECF notes that it was requested during the spring plenary in 2012² (PLEN 12-01) to evaluate the possibility for including calculation of the sustainable harvest indicator in the terms of reference for the EWG12-11 on the evaluation of Member State reports assessing the balance between capacity and fishing opportunities. STECF concluded this could not be done during plenary and that the EWG12-11 should be asked to evaluate the utility of including the sustainable harvest indicators in addition to those indicators already specified in the guidelines for the assessment of balance.

The EWG was not requested to evaluate the utility of the sustainable harvest indicator, but was requested to evaluate the balance question by comparing the sustainable harvest indicator with the other balance indicators specified in the guidelines. During its 2012 autumn meeting³ (PLEN 12-03), STECF commented on the results from this analysis and recommended to the Commission that further work should be carried out to evaluate, explore and assess the usefulness of the sustainable harvest indicator and its implications for issues of overcapacity.

STECF conclusions

STECF recalls its conclusion from the summer plenary 2012⁴ that measuring the balance between fishing capacity and fishing opportunities is a complicated task and that no single indicator can be used in isolation, to confirm balance or imbalance. In the annual national reports delivered by Member States to the Commission, four categories of indicators are therefore required to arrive at a comprehensive assessment of balance. The categories are biological, technical, economic and social indicators, and MS are requested to do all the calculations and provide the qualitative assessment of the situation in fishery.

STECF concludes that the framework developed facilitates a thorough and transparent evaluation of the question of balance. Because the different aspects (biological,

2 Scientific, Technical and Economic Committee for Fisheries (STECF) – 39th Plenary Meeting Report (PLEN-12-01). 2012. Publications Office of the European Union, Luxembourg, EUR 25303 EN, JRC 70759, 109 pp.

3 Scientific, Technical and Economic Committee for Fisheries (STECF) – 41st Plenary Meeting Report (PLEN-12-03). 2012. Publications Office of the European Union, Luxembourg, EUR 25579 EN, JRC 76701, 112 pp.

4 Scientific, Technical and Economic Committee for Fisheries (STECF) – 40th Plenary Meeting Report (PLEN-12-02). 2012. Publications Office of the European Union, Luxembourg, EUR 25411 EN, JRC 73093, 124 pp.

technical, economic and social) of the balance question are treated separately, the results point out problems on these different dimensions.

STECF concludes that the added value of the sustainable harvest indicator to the indicators already in use is not clear at the moment. It would be useful to investigate the sensitivity of the indicator value to changes in the underlying developments and draw conclusions on the actual responsiveness and usefulness of this indicator. An evaluation of the value of this indicator will only be informative if it is based on concrete case study data.

More generally, according to the conclusions of the EWG on EAFM⁵, STECF notes that assessing economic performances and ecological impacts of the major fleet segment could be useful in the perspective of building scientific advice in support to fleet-based management and a step forwards the implementation of an operational EAFM. Nevertheless, more work is still required before an agreed method could be routinely used to confidently assess the fleets' economic and ecological performances.

STECF recommendations

STECF recommends that the EWG 13-11 on the evaluation of Member States' reports assessing the balance between capacity and fishing opportunities be requested to evaluate the added value of the sustainable harvest indicator based on a comparative analysis of trends in this indicator and the other biological indicators.

The proposed ToRs for such a request are as follows:

- Conduct a sensitivity analysis to individual elements within the indicator calculation and discuss their implications in relation to balance for both the sustainable harvest indicator and the biological indicator(s) for balance included in the guidelines. This analysis should illustrate what can really be determined from changes in the indicators.
- Assess the outcomes of the indicators for a number of fleets, to assess when the balance of fleet capacity and agreed opportunity can change without the indicator changing and, the opposite, provide examples of when the indicator can change without the balance of fleet capacity and agreed opportunity changing.
- Based on the above, assess the added value of the sustainable harvest indicator relative to the biological indicators included in the guidelines and adjust the guidelines accordingly.

5 Scientific, Technical and Economic Committee for Fisheries (STECF) - Development of the Ecosystem Approach to Fisheries Management (EAFM) in European seas (STECF-12-12). (eds. Gascuel D., Döring R., Kenny A. & Druon J.-N.). 2012. Publications Office of the European Union, Luxembourg, EUR 25415 EN, JRC 73147, 174 pp.

In order to manage the workload during the EWG 13-11, STECF proposes that the various indicators are calculated beforehand under an ad hoc contract for various case studies covering different fleets and fisheries.

More generally STECF considers that it would be useful to expand the ToRs to address the broader question of the methods and indicators (ecological, biological, economic and social) to be developed and used, including ecological and economic indicators, in order to assess fleet performances. Such a EWG should include scientists involved in both the EWG dealing with balance between fishing capacity and fishing opportunities and the EWG on the EAFM. The additional terms of reference of such an EWG should be as follows, using a limited set (1 to 3) of ecosystems as case studies :

- collate the economic indicators available from the most recent STECF EAFM report (EWG 11-13), for the most important fleet segments operating within each ecosystem and advise how they could or should be used to assess the economic performance at the fleet segment level.
- for the fleet segments identified, calculate the suite of ecological indicators proposed by the EWG 11-13 (extending if possible, the relevant time series), discuss the appropriateness and the usefulness of these indicators and if feasible, advise on the best way to improve the methods.
- test various methods (suggested by the EWG 11-13 on EAFM or any others if appropriate) to build trade-offs between indicators.

4.2. Presentation of the new EU Market Observatory

Background

In 2008, the EC adopted a communication regarding possible measures to help the fishing sector to adapt to increasing fuel prices (COM(2008) 453 final). As one of the tools, the EC proposed a system to analyse the value chain and prices, market audit/assessments and the establishment of a price monitoring system. The 'EU market observatory for Fisheries and Aquaculture products (EUMOFA)' represents a new tool to address these issues and is currently in the final stages of development. A presentation outlining the content and potential utility of the EUMOFA was given to the STECF by Xavier Guillou and Ludovic Schultz from DG MARE (Unit B2).

STECF had requested the presentation of the new EUMOFA to inform its discussions regarding the future of the economic data collection on the EU fish processing sector in the new DC-MAP. In particular, STECF wished to investigate whether the database can provide information on the supply chain of raw material for the processing sector and in doing so establish a link between the fishing sector and the processing sector. At the moment it is unclear how dependent the processing industry is on EU landings or how developments in the industry influence decisions on the sustainable use of marine living resources in the fishing sector (e.g. requests for certification of fisheries

under the MSC system from the retail sector to be able to further sell fish to certain retailers).

During the presentation of the EUMOFA the EC gave an overview on the status of the system, what information it contains and what aims the system shall fulfil: Increase market transparency and efficiency, analyse EU markets dynamics and support business decisions and policy-making.

STECF observations

STECF notes that the delivery of data from MS is voluntarily and that all information available in EUMOFA is also accessible from other sources. The advantage of the system is that the collected data is harmonized and published in one place. The website and database is available in four main languages which should increase the dissemination of the data compared to the original data available in MS.

STECF observes that the system includes short-term information as well as information about the medium and long-term trends (monthly, quarterly and yearly summaries of data). The aim of the EC is that this will lead to an easier analysis of market drivers and price trends, the possibility to detect e.g. mislabelling of products or detect fish which comes from IUU fisheries.

STECF concludes that EUMOFA has the potential to improve the current situation for market transparency, support business decisions and might facilitate market policies. The following comments regarding the data quality and availability are only addressing the usefulness for scientific purposes.

At the present stage of development, data available from the EUMOFA are not homogeneous with regard to the level of aggregation, especially at the geographical scale. The level of aggregation depends on how data are collected by Member States.

Initial observations suggest that at present, the EUMOFA is not able to provide precise information on how the processing sector depends on the catching sector although it was not possible to evaluate this fully during the presentation.

STECF notes that no data checks are currently in place. The quality of the data in the EUMOFA is dependent on data checks undertaken by Member States. This raises the question about the reliability of the data, both for general use as well as for scientific purposes. There also seems to be a danger that the data analysis tools provided to interrogate the data base may give misleading results.

STECF proposal

STECF suggests that to investigate the utility of the EUMOFA for scientific purposes, at a future meeting, a small group try to use the EUMOFA to answer a specific research question formulated before the meeting. A possible test case could be the evaluation of a long-term management plan, where information on price

developments, volumes landed from a certain fishery etc. are considered to be a necessary part of the evaluation.

STECF suggests that at the meeting of the EWG 13-15 on the fish processing industry the participants look at the EUMOFA database and discuss its usefulness for answering the question on the sources of raw material for the processing sector.

5. ASSESSMENT OF STECF EWG REPORTS

5.1. STECF EWG 12-19: Mediterranean Assessments

Request to the STECF

STECF is requested to review the report of the EWG 12-19 held from 10 – 14 December 2012 in Ancona, Italy, to 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 2 (STECF EWG 12-19) was reviewed by the STECF during the plenary meeting held from 8 to 12 April 2013 in Brussels, Belgium. The following observations, conclusions and recommendations represent the outcomes of that review.

STECF observations

The meeting was the planned second STECF expert meetings for undertaking stock assessments of small pelagic and demersal species in the Mediterranean. The meeting was held in Ancona, Italy from 10 to 14 December 2012. The meeting chair person was Massimiliano Cardinale and the EWG was attended by 22 experts in total, including 4 STECF members plus 3 JRC experts.

Historic fisheries and scientific survey data were obtained from the official Mediterranean DCF data call made on April 12th 2012. Greece, Italy, Spain and Slovenia did not provide any MEDITS data for 2012.

The EWG 12-19 performed stock assessment of 16 demersal stocks and 4 small pelagic stocks. The assessment of sole in GSA17 carried out during the last GFCM meeting held in Split, Croatia, 5-9 November 2012 was presented. With the exception of sardine in GSA 16, all the stocks assessed were classified as being subject to overfishing.

The WG examined the work performed by JRC on data quality of MEDITS surveys for which several inconsistencies had emerged during previous meetings and some

small amendments in the data call format based on JRC's recommendations were proposed.

Particular attention was paid to a request for preparation of a ranking list of stocks based on a multi-criteria approach, which included exploitation status, data availability, ecosystem role, etc by GSA as well as for identifying a timeline for assessments over the period 2013-2015. A proposal to pay a major attention on the stocks ranked on the top as well as to limit the number of stocks (a maximum of 30) to be assessed in each EWG was agreed in order to allow sufficient time for discussion and to address the quality of the assessments.

The issue of suitable methods for assessing Cephalopod stocks and the sampling strategy consistent with their life history traits under the DCF was briefly discussed and attempts to undertake assessments using biomass dynamic models were carried out.

A summary of the assessments from EWG 12-19 and all preceding assessments EWGs is plotted in Figures 5.1.1. and 5.1.2. Both Figures are constructed according to GSA (each panel) and include all the stocks with agreed F_{curr} and F_{MSY} estimates that have been assessed since 2009. The ratio F_{curr}/F_{MSY} has been calculated and status is classified as overexploited if $\log(F_{curr}/F_{MSY}) > 0$ and as sustainable if $\log(F_{curr}/F_{MSY}) \leq 0$. Year refers to the year in which the assessment was performed. F_{curr} is the most recent estimate of F and generally relates to the assessment year -1.

Figure 5.1.1. Overview of Mediterranean stock assessments from EWG 12-19 and all preceding assessments EWGs since 2009 for GSA 1 to 15-6. Each panel is a GSA and $\log(F_{curr}/F_{MSY}) > 0$ indicates that a stock is overexploited.

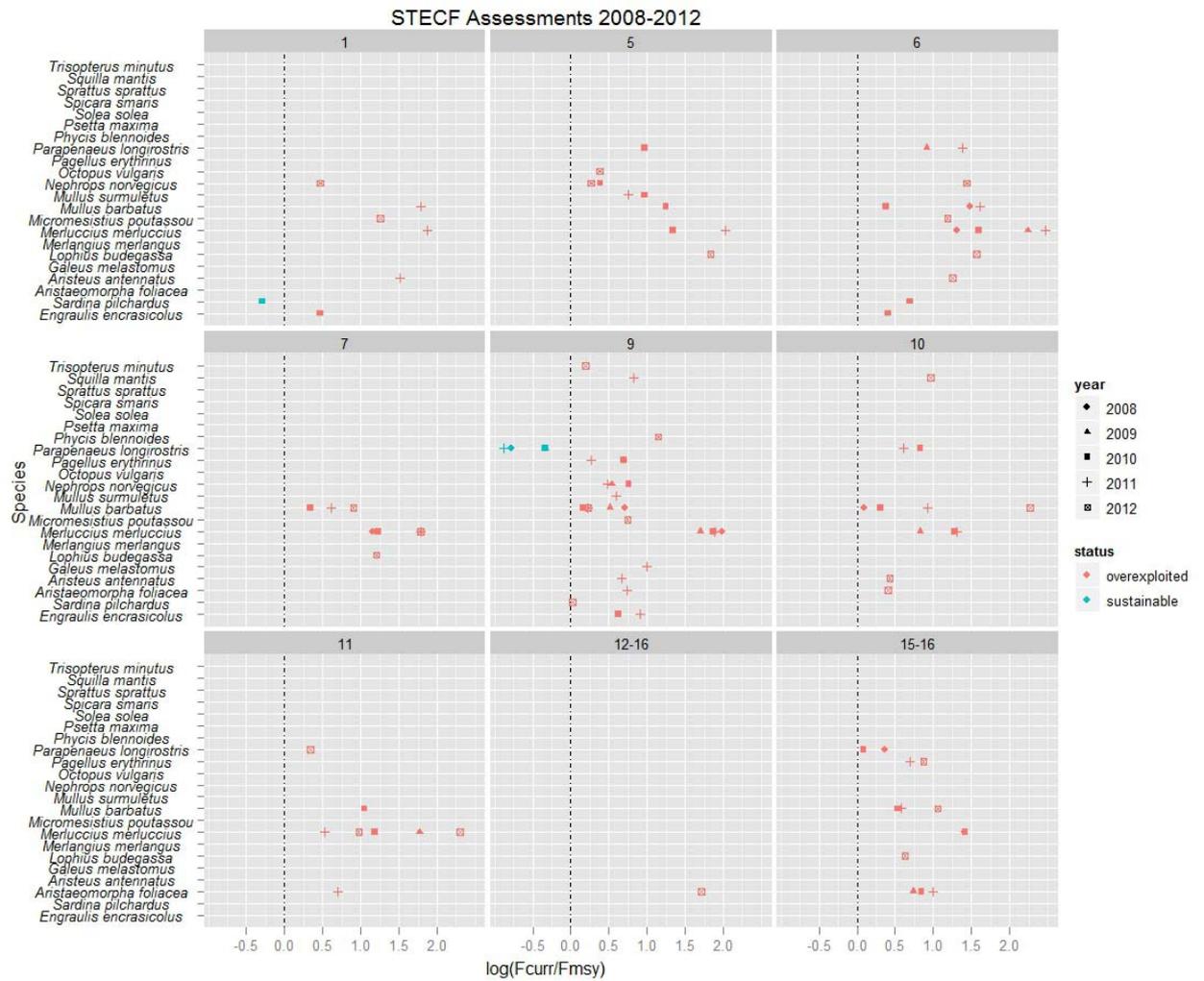
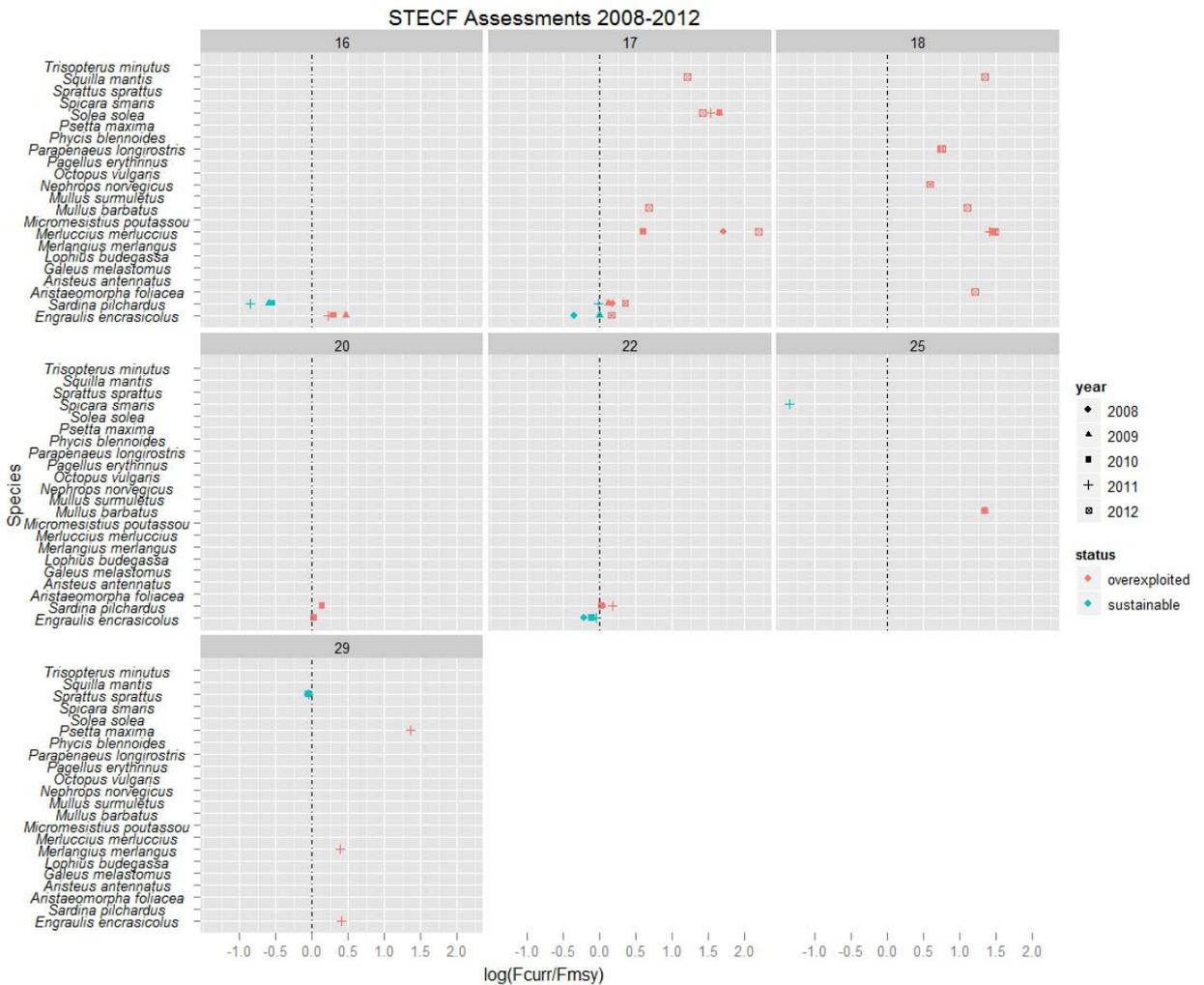


Figure 5.1.2. Overview of Mediterranean stock assessments from EWG 12-19 and all preceding assessments EWGs since 2009 for GSA 16 to 29 (Black Sea). Each panel is a GSA and $\log(F/F_{msy}) > 0$ indicates that a stock is overexploited.



The EWG 12-19 also estimated short-term catch and stock size forecasts for 21 stocks. Medium-term forecasts were undertaken for those stocks for which a meaningful stock recruitment relationship supported such an analysis.

Additionally, the issue of the choice of biomass reference points for some small pelagic stocks was addressed. JRC experts delivered analyses for anchovy and sardine in GSA 17, based on the methodology in Simmonds et al. (2011). The methodology uses stochastic forecasts to estimate reference points by identifying the levels of fishing mortality that have a high probability of delivering the maximum yield while avoiding SSB to fall under B_{lim} . The resulting reference points are different from those proposed by the GFCM, which were derived using a different approach and a shorter time series. STECF suggests that the methodology of Simmonds et al. (2011) continue to be used to estimate biomass reference points for Mediterranean stocks whenever possible depending on the data availability.

STECF conclusions

According to the results of the assessments presented in the report the STECF EWG 12-19, based on these new assessments, concludes that the:

- **two** stocks in GSA 1, Norway lobster (*Nephrops norvegicus*) and Blue Whiting (*Micromestius poutassou*), are subject to overfishing.
- **one** stock in GSA 5, Black-bellied anglerfish (*Lophius budegassa*) is subject to overfishing.
- **one** stock in GSA 6, Norway lobster (*Nephrops norvegicus*) is subject to overfishing.
- **two** stocks in GSA 9, Red mullet (*Mullus barbatus*) and Great forkbeard (*Phycis blennoides*) are subject to overfishing.
- **two** stocks in GSA 10, Blue and red shrimp (*Aristeus antennatus*) and Giant red shrimp (*Aristaeomorpha foliacea*) are subject to overfishing.
- **two** stocks of Hake (*Merluccius merluccius*) and Red Mullet (*Mullus barbatus*) in GSA 11 are subject to overfishing.
- **one** stock of Giant red shrimp (*Aristaeomorpha foliacea*) in GSAs 12-16 is subject to overfishing.
- **one** stocks of Sardine (*Sardina pilchardus*) is exploited sustainably and **one** stock of Anchovy (*Engraulis encrasicolus*) is subject to overfishing in GSA 16.
- **five** stocks, Red mullet (*Mullus barbatus*) and Hake (*Merluccius merluccius*), Sole (*Solea solea*), Sardine (*Sardina pilchardus*) and Anchovy (*Engraulis encrasicolus*) in GSA 17 are subject to overfishing.
- **two** stocks of Red mullet (*Mullus barbatus*) and Giant red shrimp (*Aristaeomorpha foliacea*) in GSA 18 are subject to overfishing.
- **two** stocks of Red mullet (*Mullus barbatus*) and Hake (*Merluccius merluccius*) in GSA 19 are subject to overfishing

STECF advice

Given that 95% of the demersal and small pelagic stocks in the Mediterranean assessed by STECF in 2012 were classified as being subject to overfishing, STECF advises that in order to avoid further losses in stock productivity and landings in the long-term, fishing mortality needs to be reduced to the proposed F_{MSY} reference points.

Supplementary request to the STECF

A late request from DG MARE, not included in the agreed TORs, was received during the plenary meeting. STECF was requested to:

- provide its opinion on the suitability of the methodology described in Simmonds et al (2011) to estimate biological reference points for small pelagics in the Mediterranean GSA17 (Adriatic sea)

- explain the differences between the STECF EWG 12-19 and the GFCM estimates of biomass (B_{pa} and B_{lim}) reference points anchovy and sardine in GSA17.
- give its opinion on the reliability of the above estimates.

STECF response

The method of Simmonds et al (2011) applied by the STECF EWG 12-19 is a new implementation of the model and more work is needed before it can be released for general use. STECF considers that the current implementation has been correctly specified for the estimation of reference points for sardine and anchovy from GSA 17.

STECF notes that the ICA assessments undertaken by the EWG 12-19 and GFCM are based on different time-series of data. However the results of both assessments are consistent over the recent overlapping time-period (2000-2011). Therefore, the difference in the estimates of B_{lim} and B_{pa} are largely attributable to the time-series of data used. The STECF EWG 12-19 assessment is based on data from 1975-2011 and exhibits much more contrast between high and low abundance and fishing mortality and are therefore more suitable for estimation of reference points than the shorter series used for the GFCM assessment. The GFCM data series covers only a limited recent period (2000-2011) which in the case of sardine coincides with a low phase of the stock. When the analyses are run over the short GFCM series (scenario 4 in STECF EWG 12-19 Report) both methods yield similar low values for B_{lim} and B_{pa} .

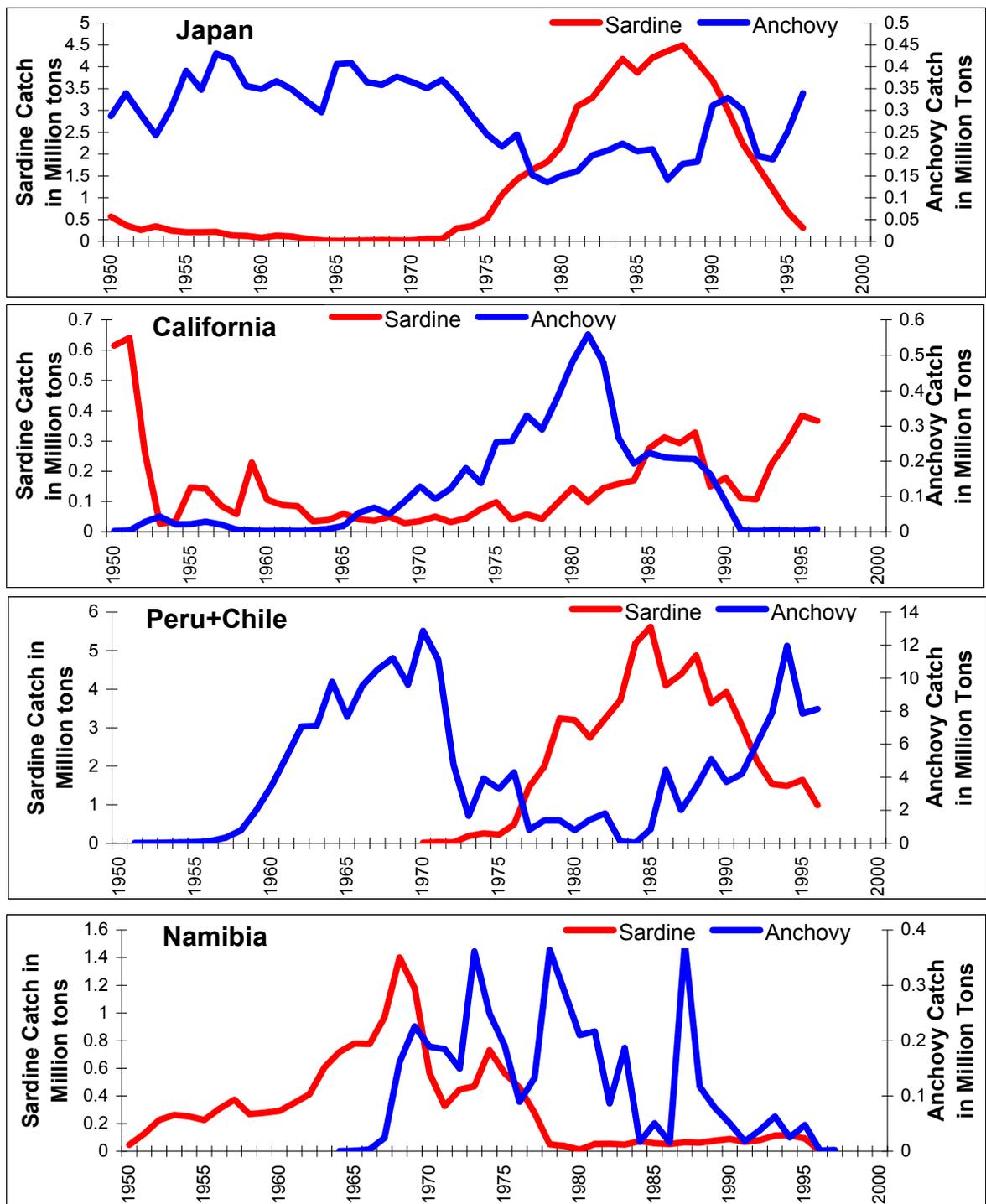
STECF considers that there is a high risk that the Biomass- based reference points derived from the short time series 2000-2011 used in recent GFCM assessments and characterised by low biomass, are underestimates. It is advisable to use the available longer data series (1975-2011) because it contains informative data regarding the contrast in the evolution of biomass over time and it will likely ensure a more reliable estimate of Biomass- based reference points.

Stock trajectories of sardine, anchovy and other small pelagic stocks around the world show long-term fluctuations and great contrasts between high and low abundances (e.g. Barange et al. 2009). These fluctuations are often interpreted in terms of regime shifts (e.g. Bakun, 2005) which are attributed to combined action of environment and fishing, as well as feedbacks between them (Daskalov, 2012). It is possible that the stock of sardine in GSA 17 has undergone such a regime shift during the 1990s, as its trajectory is very similar to other sardine stocks around the world (Figure 5.1. 3). This phenomenon needs of a further exploration in comparison to other small pelagic stocks around Europe (Baltic, Black Sea) where similar environmental drivers are in force.

It has been reported that a regime shift occurred in the Adriatic towards the end of the 1980s (Conversi et al., 2010) and this may have had an influence on the populations of small pelagics in the area. STECF is unable to determine the extent that such a regime shift may have had on the sardine and anchovy stocks in the Adriatic.

Some examples of dramatic changes in reported landings over time for small pelagics that have occurred in other sea areas are shown in Fig. 5.1.3.

Fig. 5.1.3. Some examples of dramatic changes in reported landings over time for small pelagics (landings data source: FAO statistics).



References

- Bakun, A. (2005) Regime shifts. In: *The Sea*. 13. The Global Coastal Ocean, Multiscale Interdisciplinary Processes (ed A. R. Robinson and K. Brink). Harvard University Press, Cambridge, MA, pp. 971–1026.
- Barange, M., Bernal, M., Cercole, M.C., Cubillos, L.A., Daskalov, G.M., de Moor, C.L., De Oliveira, J.A.A., Dickey-Collas, M., Gaughan, D.J., Hill, K., Jacobson, L.D., Köster, F.W., Massé, J., Ñiquen, M., Nishida, H., Oozeki, Y., Palomera, I., Saccardo, S.A., Santojanni, A., Serra, R., Somarakis, S., Stratoudakis, Y., Uriarte, A., van der Lingen, C.D. and A. Yatsu, 2009. Current trends in the assessment and management of stocks. In *Climate Change and Small Pelagic Fish*, Chapter 9, pp 191-255. D. Checkley, J. Alheit, Y. Oozeki and C. Roy (Eds). Cambridge University Press. xii+ 372 pp. ISBN:9780521884822
- Conversi, A., Fonda Umani, S., Peluso, T., Molinero, J. C., Santojanni, A., and Edwards, E. 2010. The Mediterranean Sea regime shift at the end of the 1980s, and intriguing parallelisms with other European basins. *PLoS One*, 5: e10633. doi:10.1371/journal.pone.0010633.
- Daskalov GM, 2012. Ecosystem shifts in the Black Sea. In *Regime shifts in marine ecosystems*. Directorate General for Internal Policies. European Parliament Policy Department, B. STRUCTURAL AND COHESION POLICIES: FISHERIES: pp.83-122. (<http://www.europarl.europa.eu/committees/en/studies.html>).
- Simmons J., Campbell A., Skagen D., Roel B., Kelly C. 2011. Development of a stock–recruit model for simulating stock dynamics for uncertain situations: the example of Northeast Atlantic mackerel (*Scomber scombrus*). *ICES J. Mar. Sci.*, 68, 5: 848–859. doi:10.1093/icesjms/fsr014

5.2. STECF EWG 13-01: Technical Measures

Background

An integral part of nearly all fisheries management frameworks has been the regulation of technical aspects of fishing operations, through so-called technical measures. These define where, when and how a fishing enterprise exploits commercial fish resources and interacts with the wider marine ecosystem.

Technical measures have been used extensively in EU fisheries since the adoption of the Common Fisheries Policy (CFP) in 1983. Despite the ‘growth’ in technical measures, there is a commonly held belief that technical measures as implemented in the EU have failed to deliver the desired level of protection for juveniles and reductions in unwanted by-catch.

Recognising this, as part of the on-going reform of the CFP, the Commission has signalled its intention to develop a new approach to regulate technical measures based on simplification, adaptation of decision making to the Lisbon Treaty, increased regionalisation, greater stakeholder involvement and more industry responsibility. This approach will strengthen conservation and resource management through better selectivity and better protection of the environment. It is centred on the development of an overarching technical measures framework with specific regionalised measures included under multiannual plans.

The purpose of this EWG is to explore the potential of technical measures as a management tool in the context of a reformed CFP, taking account of the frequently reported problems with the current technical measures contained in EU law. The EWG were tasked to explore the overarching principals of technical measures in the context of the current CFP and its ongoing reform. It is not the intention to provide a detailed roadmap of which technical measures should be deployed in the future; this will require further work which can only be undertaken once further clarity on the content of the final CFP agreed.

Terms of Reference of the EWG

The discussion held at EWG 12-14 is an important first step in understanding the current deficiencies in technical measures and how to address these deficiencies in developing a new approach to technical measures based on a results based approach with appropriate impact metrics (impact referring to, e.g., F on fished stocks and damage to other ecosystem elements such as seafloor, seabirds). To assist the Commission further it is recommend that the EWG reconvene in quarter 1, 2013 with the following terms of reference:

- a) Identify tactical objectives that potentially could be achieved using technical measures in the context of results-based management.
- b) Identify appropriate metrics to quantify the progress towards the tactical objectives identified in a).
- c) Discuss and identify how impact metrics can be monitored and controlled and how the effectiveness of an impact based approach can be evaluated. This should consider required levels of compliance and difficulties associated in achieving these levels.
- d) Explore the need for minimum standards (baseline regulations), focusing on specifications of technical measures, considering there will be a requirement for a transitional phase from the current input based approach towards a full impact based system as well policy objectives not suited to a strict output based approach e.g. MFSD, NATURA 2000.

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group meeting (EWG 13-01), evaluate the findings and make any appropriate comments and recommendations.

STECF observations and conclusions

The regulation of technical aspects of fishing operations, through so-called technical measures regulations, defines where, when and how a fishing enterprise exploits and interacts with marine resources and the wider marine ecosystem. Technical regulations can be loosely grouped into those that regulate the design characteristics of the gears that are deployed such as the regulation of mesh size; those that regulate the operation of the gear such as setting maximum limits on how long or what type of gear can be deployed; those that set spatial and temporal controls such as closed/limited entry areas and seasonal closures; and those that define minimum sizes of fish and specify catch composition. Technical measures largely aimed to reduce catches of juveniles of commercial and non-commercial species, to improve species selectivity, to avoid catches of protected species, to reduce discards and minimize the impacts on the environment.

The main objective of the working group was to address the use of technical measures in the context of results-based management (RBM). In that context, it is important to note that in the report “technical measures” means technical tools such as gear characteristics, restricted areas, size of fish and “technical regulations” refers to technical measures prescribed in EU regulations.

In addition to the possible results-based management of the toolbox of technical measures, the EWG reviewed the tactical objectives of technical measures. The report highlights that technical measures will have an impact on the exploitation pattern which in turn may affect the estimated F_{MSY} and associated fishing opportunities. STECF considers that the linkage between selectivity and catch should be part of the advice on fishing opportunities. This would have the benefit of giving a transparent association between improving selectivity and improved fishing opportunities thereby creating a possible incentive to improve selectivity. Thus far such linkages have been absent from catch forecasts and technical measures have tended to be treated externally to the setting of fishing opportunities.

STECF considers that the EWG 13-01 has appropriately addressed the TOR and STECF endorses the report of the expert group. STECF furthermore considers that the report of the EWG 13-01 forms a good basis for the Commission to proceed with the development for a proposal for a new regulation on technical measures.

Predicting Fishing opportunities; consequences of changes in technical measures

STECF considers that in the context of the transition period to the FMSY management objective, the link between selectivity and management thresholds should be systematically investigated. Estimating FMSY and fishing opportunities according to various management options related to technical measures would substantially improve the advice, providing new insights into fisheries management. STECF also notes that in cases where changing the selectivity or introducing new technical measure will in the long-term, lead to changes in catch or stock biomass, the transition periods should be investigated, with particular attention being given to analysing the potential economic consequences of such changes in the short-term and

possible changes in fishers' behaviour (shift in areas, target species, etc.). The direct and indirect ecosystem impacts of changing exploitation patterns should also be considered.

5.3. STECF EWG 13-02: DC-MAP 1 meeting

Request to the STECF

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

Review the report of the EWG plus advice on planning of next steps (drafting of the external reference documents; involvement of end-users; preparation of guidelines on EMFF OPs and AWP; issues resulting from the 1st meeting.

The STECF should also review and approve the outcomes of the EWG 13-02 DC-MAP 1 meeting concerning: update of Annual Report Guidelines, review of the amended Lithuanian National programme for 2013 and review of the Croatian National Programme for 2013.

STECF observations

STECF notes that the working group addressed the extensive list of terms of reference based on *which* data needs to be collected and *how* this data should be collected. The main points for consideration raised by the participants consisted of the issues of flexibility of the DC-MAP, the process for including or excluding variables to be collected, the roles of end users, effects on data collection after the introduction of the discard ban, data quality and the transition period between the DCF and the DC-MAP. Other issues addressed were the duplication of data collection from other EU regulations, the allocation of economic data to the regional level as well as issues relating to storage of data in regional and supra-regional (pan-European) databases. Terms of reference not mentioned above will, if required, be picked up at the follow-up meeting (STECF-EWG 13-05, 10-14 June 2013).

The Commission has announced that it is likely that the current DCF will be prolonged for a three-year period (2014-2016). Within this period, the DC-MAP will come into force. However, the funding for data collection within the EMFF will be available from the start of 2014. Furthermore, STECF observes that the EMFF proposal contains funding options for coordination between MS in addition to the core DC-MAP budget line which may increase the efficiency of invested funds for data collection.

Previous STECF EWGs have considered the need to move away from the overly prescriptive data collection obligations in the DCF to a system allowing for flexibility. To ensure the required flexibility, the Commission has proposed to have certain elements setting out details for data collection in a separate document, the Master

Reference Register (MRR), which can be amended relatively easily by delegated acts. STECF notes that the MRR may be an efficient tool to ensure the flexibility and suggests that the register should include all data requirements and associated documentation while the DC-MAP should contain the legal framework.

Most of the variables of the current DCF are relevant and are likely to be included in the MRR. Therefore, STECF considers that the starting point for evaluating which variables that should remain in the MRR should be those included in the current DCF. Other candidate variables for the DC MAP not currently included in the DCF should also be subject to the same evaluation process.

STECF notes that there should be a clear and objective decision-making process for changes to be made to the MRR to ensure there is a proven need for the changes. To this end, STECF proposes a seven-step process for evaluating the proposed changes in data collection in terms of the 1) need and relevance, 2) impacts, 3) feasibility, 4) methods, 5) costs, 6) data quality and 7) data use.

In order to differentiate the role end users can play STECF proposes the following classification of end users:

- Type 1: Main end users for whom the DCF/DC-MAP was designed, including the Commission, any bodies such as ICES and STECF designated by the Commission to provide them with recurrent advice directly supporting CFP decision making, and other fishery management bodies such as RFMOs, GFCM and EU governments using DC-MAP data to implement their fishery management policies.
- Type 2: Other bodies such as Advisory Councils or subcontractors from whom the Commission may request advice or analysis based on DC-MAP data
- Type 3: All other bodies such as NGOs, Fishermen's organisations and Universities with an interest in using DC-MAP data for their own purposes.

STECF notes that a formal consultation system for addressing the requests from type 1 end-users has been proposed by the EWG 13-02 and considers that if implemented, this proposal will facilitate effective end-user engagement. STECF does not consider it necessary to set up a formal system to address possible requests from type 2 and 3 end users and suggests that such requests are dealt with on an ad-hoc basis by the Commission. The end-user consultation process should not be fixed on a yearly basis but rather depending on the requests from type 1 end users. However, it could be useful to set up regular check-points (e.g. every 3 years) for an overall evaluation of included variables.

STECF has previously recommended the establishment of joint databases as an important tool to enhance coordination and transparency. Regional databases of biological and transversal data are in the process of being implemented in some regions. It is important that this momentum is kept to support and enable the regional approach in data collection. Economic data is, with the exception of the Mediterranean region, collected at a supra-regional level and not at regional level. Economic data will therefore not be included in the regional databases for regions outside the Mediterranean.

STECF noted that the collection of economic data on the regional level and metier level will continue to be problematic for fleets that split their effort between regions and/or metiers. Such data will continue to be collected at the Supra-regional level only. Disaggregation to lower levels will need to be undertaken using statistical modelling. The issue of allocating economic data to the regional or métier level has been discussed in the report Bio economic Modelling Applied to Fisheries with R/FLR/FLBEIA (JRC Scientific and Policy Reports, JRC 79217) and during the Workshop on European economic database and on disaggregation of economic data as related to the DCF (Malta, 8 – 12 October, 2012). However, a methodology for the allocation has so far not been agreed. In an attempt to develop and agree appropriate methodology, STECF suggests that the method proposed above be examined by the PGECON meeting in May 2013 for its general application.

STECF notes that it is too premature to advise on how the anticipated discard ban in the proposal for a Common Fisheries Policy (COM(2011) 425 final) will affect the monitoring of catches. Likely, the needs for data will not change, but possibly the methods for collecting the data will change under the new CFP. STECF observes that the change from the collection of discard data for scientific purposes to being a legal requirement could influence the discarding practices. Unless there is an efficient monitoring system covering all vessels there is a risk that discarding will depend on whether the discard is monitored or not.

The collection of transversal data is partly included in other EU regulations, in particular in the control regulation (EC) 1224/2009 and its implementation regulation 404/2011. STECF observes that as a general principle, duplication of data collection requirements should be avoided and different schemes be harmonised as far as possible on the EU level or as a minimum on the regional level.

STECF notes that if the quality of the data collected under other regulations does not meet the requirements of the DC-MAP, the data concerned could be included in the DC-MAP. Before such a step is taken, it should be investigated if it is possible to improve the quality in the primary data source. If that is not possible, STECF suggests that the Commission and Member States consider if it is feasible to use the DC-MAP as primary data source to avoid duplication of collection requirements.

In addressing the issue of data quality, the STECF suggests with reference to reports of previous STECF and EWG meetings that:

1. The DC-MAP and MRR should not include any prescriptive pre-defined precision targets
2. MS should design sampling schemes in accordance with best practice guidelines which include quality objectives.
3. MS should provide quality indicators in their National annual reports according to international standards (e.g. Eurostat) and as specified in the guidelines for annual reports.

It is not clear how and by whom the evaluations of the national operational programmes and annual work plans of the EMFF will be carried out. Under the DCF the national annual reports are evaluated annually. STECF suggests that the

Commission considers whether annual evaluations are required and whether a more efficient and less administrative audit system could be developed.

STECF conclusion

The outcomes from the EWG 13-02 provide valuable input to the drafting of the DC-MAP and MRR.

Future planning

After the EWG 13-02, the Commission started an end-user consultation regarding the data needs in the MRR. The Commission is encouraged to finalise the consultation process soon so that a draft of the DC-MAP and MRR can be provided in due time before the follow-up meeting (STECF-EWG 13-05, 10-14 June 2013). The ToRs of the meeting should primarily be based around this draft together with the outcomes from the PGECON that will meet in May.

Update of Annual Report Guidelines, review of the amended Lithuanian National programme for 2013 and review of the Croatian National Programme for 2013

STECF endorses the findings of the EWG 13-02 DC-MAP 1 meeting concerning the update of Annual Report Guidelines, the review of the amended Lithuanian National Programme for 2013 and the review of the Croatian National Programme for 2013.

5.4. STECF EWG 12-13: Economic performance of the aquaculture sector

Request to STECF

STECF is requested to review and adopt the final aquaculture report of the STECF EWG 12-13 held in Ispra, 24-28 September 2012, evaluate the findings and make any appropriate comments and recommendations.

Background

The purpose of the EWG 12-13 was to produce the 2012 Economic Report on the Economic Performance of the EU Aquaculture sector.

The preliminary findings of STECF EWG 12-13 were presented to the November 2012 plenary meeting of the STECF (PLEN 12-03). At that time the EWG 12-13 report was incomplete largely because the STECF EWG 12-13 was held only 2 weeks previously. The EWG 12-13 report has now been finalised and the text below reflects the STECF review of the report.

Overview

The Expert Working Group 12-13 convened in September 2012 in Ispra (Italy), to produce a report on the Economic Performance of the European Union Aquaculture sector in 2012. The report represents the combined efforts of 18 external experts and 7 experts of JRC that participated in the EWG meeting, and an additional by 3 other experts who participated via email.

This is the second report of this type to show the performance of the aquaculture sector and provides 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 2010, and was collected under the Data Collection Framework (DCF).

The DCF regulation only requires the collection of data on aquaculture of marine species while the collection of freshwater aquaculture is voluntary. Therefore, the DCF data collection is only applied to the 22 EU's coastal Member States. Belgium, Latvia and Lithuania provided no data because most of their aquaculture production is freshwater based. Germany, Poland and Slovenia submitted marine water aquaculture data, but not on the freshwater aquaculture. The Netherlands only provided data for 2008 and 2009, Greece did not provide any data in this data call, and Italian data reported refer to a sample of the total Italian aquaculture production, and consequently these data could not be used in this exercise.

The report includes an EU overview chapter, containing a section on the interactions between fisheries and aquaculture (from an economic and environmental point of view) followed by an analysis of the structure of the sector and its subsectors (shellfish, marine and freshwater). Then the report provides the 27 national chapters (chapter related to landlocked countries have been drafted based on FAO data). Finally, it includes a glossary, a list of references used and the Appendices (including the review of the TORs for the DCF workshop on aquaculture and the Evaluation of the European Aquaculture Performance Indicators (EAPI).

STECF observations

STECF notes that globally the role of aquaculture as contributor to socio-economic development, food supply and food security is constantly increasing and is predicted to increase further. Worldwide aquaculture production is increasing significantly: FAO estimates that by year 2030, 65% of all seafood consumption will come from aquaculture. However, the EU (27) aquaculture production, according to the report and based on FAO data, represents only 1.6 % of the world aquaculture production in volume and 3.3 % in value. Furthermore, the EU (27) contribution to world aquaculture production has been decreasing significantly over time.

STECF also notes that, according to the report, the EU aquaculture production has been more or less stable from the late 1990s onwards. The share of aquaculture as a proportion of the total EU seafood production increased from less than 10% in the late 1980's, but has remained relatively stable at 15-16 % of the EU seafood production

since the mid 2000s. The relative increase was mainly due to the decrease in marine capture fisheries.

STECF also observes that while on a global level freshwater and marine aquaculture production volumes are quite similar, in Europe marine aquaculture predominates, both in volume and value. EU aquaculture production is mainly concentrated in 5 countries: France, Greece, Italy, Spain and the United Kingdom.

STECF notes that according to the report, data for 2010 show an improvement in the economic performance of the EU aquaculture sector from the beginning of the economic crisis (2008-2009). However, the future evolution of the EU aquaculture is rather uncertain. The aquaculture sector has to face fierce foreign competition that brings market prices down, high labour and capital costs and administrative burdens that slow down investments in the sector, hindering the full potential of the EU aquaculture sector.

STECF notes that data quality remains a problem for the compilation of the report. In the preparation of the meeting, coverage and quality checks were performed by JRC before the meeting, and if issues were found, MS were contacted and asked to check and validate the data, and resubmit when necessary. Most MS corrected and resubmitted the data, some providing further explanations on the data issues. Despite these preparatory activities further data issues were detected during the meeting which required further uploading activity during, as well as, after the meeting.

STECF observes that, according to the data coverage and quality chapter of the report, although there was some improvement in the quality of the data submitted compared to the previous call, there are still many issues with several parameters that Member States and others are working to improve.

In cases of missing or unreliable data arising from the DCF data call on the production volume and value, the analyses in the report have been based on data from FAO. STECF notes that while this approach is appropriate given the circumstances, it would be preferable to base such analyses on DCF data only since, FAO data are based on all aquaculture production destined for human consumption, while DCF data are based on all aquaculture production (for human-consumption and other) from companies whose main activity is aquaculture.

STECF notes that the economic data analysed represents about 70% of the production of the whole EU aquaculture sector. The main reasons for not achieving 100% coverage, as compared to FAO data, are that DCF data collection does not apply to EU landlocked countries, freshwater aquaculture is not compulsory in the DCF, Greece and Belgium did not submit any data for this data call, Netherlands did not submit data for 2010, and Italian data has not been used in the report because it refers to the sample units and not to the population.

STECF observes that the report of the STECF EWG 12-13 provides a review of the European Aquaculture Performance Indicators (EAPI), developed by JRC in support of DG MARE, aimed at identifying the relative starting positions and different circumstances in the Member States.

STECF observes that the EAPI study provides Member States with a) an instrument to draft the multiannual national strategic program – which will be established as it can be foreseen today by the new CFP; and b) assistance to progressively monitor the achievement of the goals foreseen in their national strategic program.

STECF conclusions

STECF concludes that the EWG-12-13 adequately addressed all of its Terms of References. The EWG 12-13 report represents an enhancement of the report on the performance of the Aquaculture sector in 2011 and contains more detailed analyses.

STECF concludes that the use of different data sources (FAO and/or EUROSTAT) for completeness of information in cases where data were not submitted and for validation purposes has proven to be useful especially considering that the 2012 data call for aquaculture data was only the second of such calls.

Nevertheless, STECF notes that these different data sources are not always compatible, due to different reference population or to different disaggregation level but concludes that the possibility to harmonise data coming from the above sources would be desirable as would permit cross-check validation of data and, hence, provide a more comprehensive picture of aquaculture in the EU.

To this aim, STECF considers that it is important that the forthcoming meetings of the EWG 13-16 meeting on advising on the DC MAP and the PGECON, take into account the comments made in the report of the EWG 12-13 on the ToRs of the DCF aquaculture workshop held in November 2012. In particular the EWG 13-16 should take note of the following comments taken from the report of that meeting:

- evaluate the possibility to harmonise segmentation between DCF data collection and EUROSTAT request of data under Reg. No 762/2008 of 9 July 2008;
- take into account some EWG 12-13 comments on the revision of the list of economic variables to be collected under DCF as:
 - a) include “livestock in weight and value of stocks”- stock at the end of the period - in order to know the stock variations;
 - b) include subsidies for investments, considering they are very important for aquaculture enterprises and also their importance to track and evaluate the EFF - currently it is only asked for direct subsidies;
 - c) consider to collect production data in terms of number of individuals, apart from currently reporting their weight and value. This makes sense for some segments, especially hatcheries and nurseries, since weight can change significantly in a short period.

STECF concludes that the EAPI indicators prepared by the JRC provide an appropriate complement to the economic performance analysis carried out by STECF.

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

6.1. Request for an Evaluation of the proposed management plan of herring in VIaS, VIIbc

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 agreed to introduce amendments to the proposed 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.

Terms of reference

Further to the STECF advice of November 2011 in response to a number of questions from the European Commission in relation to the stock concerned, and further to the preliminary evaluation done in its autumn plenary of 2012, the STECF is requested to:

1. Assess the proposed management plan, as revised, for compatibility with the Precautionary Approach and its ability to achieve MSY by 2015.
2. Specifically assess the desirability and expected efficiency of the measures foreseen in point 6 of the plan in ensuring the management of the stock that will ensure its rebuilding.

STECF is requested to perform the full evaluation in line with its recommendations as contained on page 73 of its November 2012 Plenary report (PLEN 12-03)⁶.

STECF response

1. Assess the proposed management plan, as revised, for compatibility with the Precautionary Approach and its ability to achieve MSY by 2015.

At its November 2012 Plenary meeting (PLEN-12-03), STECF was asked to undertake an assessment of the Management plan for Herring in VIaS and VIIb,c, proposed by the Pelagic RAC. In its report of that meeting STECF commented that there were a number of issues relating to the specification of the plan that needed to be addressed by the RAC before a full assessment of the plan could be undertaken. In the meantime, it has not been possible to fully address all of the issues identified. As a

⁶ Scientific, Technical and Economic Committee for Fisheries (STECF) – 41st Plenary Meeting Report (PLEN-12-03). 2012. Publications Office of the European Union, Luxembourg, EUR 25579 EN, JRC 76701, 112 pp.

result STECF is still unable to undertake a comprehensive assessment and consequently is unable to respond to the Terms of Reference of the current request.

STECF notes that preliminary investigations have been undertaken by JRC⁷, at the request of the STECF bureau. STECF considers that this work forms a useful input to the full assessment.

STECF understands that the Marine Institute (Ireland) intends to carry out the task of a full assessment to evaluate the performance of the proposed HCR against the Precautionary Approach and MSY before the November 2013 STECF plenary. In performing the assessment all recommendations of the STECF autumn 2012 report should be taken into consideration. STECF furthermore suggests that this work be undertaken in close collaboration with the pelagic RAC.

2. The desirability and expected efficiency of the measures foreseen in point 6 of the plan in ensuring the management of the stock that will ensure its rebuilding.

Paragraph 6 of the proposed Management plan for Herring in VIaS and VII b,c sets out to ensure that the TAC is not overshoot by transboundary catches along the division with the neighbouring stock area. This is effected by means of an exclusion zone between 56° N and 57°30' N.

STECF will address this TOR at its November 2013 meeting when the results of the full assessment of the management plan are available.

6.2. Request for an assessment of management arrangements on the Porcupine Bank

Background

The *Nephrops* fishery in the Porcupine Bank (Functional unit 16) is managed as a sub TAC of Area VII. This is a deep water stock, and was previously considered data limited. In November ICES issued revised advice, which based on late summer surveys improved the knowledge of this stock and indicated an improvement in the status of this stock.

Prior to 2013 this functional unit has been subject of a seasonal closure (between 1st May and 31st July) since 2010 covering some 75% of the stock area. A sub TAC was set as part of the overall Area VII TAC providing a restriction on maximum catches within the functional unit.

NWWRAC Proposal on *Nephrops* Management.

In setting a TAC for 2013 for this stock the Member States and industry both identified a desire to amend the management period and remove the Sub TAC. The EAPO and the NWWRAC both put forward possible management rules that would, on the basis of continued surveys amend the closure and application of the sub TAC.

⁷ See background docs: <http://stecf.jrc.ec.europa.eu/web/stecf/plen1301>

As a result the Council agreed to reduce the closed period from 3 months to 1 month (1-31st May) but to maintain for 2013 a sub TAC as a precaution against possible over fishing.

Terms of reference

STEFCF is requested to review the current management arrangements and to make recommendations for the future management of this stock. In particular STEFCF is requested to

1. Evaluate the impact of the closed season on the fishery and the operation of the sub area TAC. In their evaluation STEFCF are asked to consider the impact on the sustainability of the stock that may result from the removal of the sub area TAC and the adopted change in the closed season. STEFCF are asked to also assess the possible impact on stocks other than *Nephrops*.
2. STEFCF are also asked to comment on the full removal of all management measures.
3. Identify any other possible management options that should be considered to ensure that this functional unit is not over exploited.
4. Identify relevant data gaps for points 1-3 above provide advice on which data would be needed to strengthen any assessment.

STEFCF response

1. The impact of the closed season on the fishery and the operation of the sub area TAC.

Prior to 2011 all *Nephrops* stocks in sub-area VII were managed under a common TAC. A seasonal closed area, originally proposed by the NWWRAC, has been in place between 1 May and 31 July since 2010. A specific sub TAC (“of which” clause) was introduced in 2011 specifically for the Porcupine Bank (Functional unit 16).

The latest ICES advice for FU16 (November 2012) is based on the ICES MSY approach as applied to a new UWTV survey (Lordan et al., 2012). The FMSY harvest rate results in a sub-TAC of 1800t for 2013. This was the first time ICES was in a position to give catch advice based on an analytical assessment for this stock.

STEFCF considers that to achieve management objectives in this functional unit, TAC and other appropriate management measures should be maintained at the functional unit level. Scientific indicators on stock development confirm that this stock is vulnerable to overexploitation and prone to potential recruitment failures (recruitment in *Nephrops* populations in deep water may be more sporadic than for shelf stocks which have strong larval retention mechanisms). Landings show a long-term declining trend for FU16. The sub-area VII TAC has not been limiting landings from FU16 in the past (Figure 6.2.1). This implies that historical TAC management has not been enough to protect this functional unit (FU 16) from overexploitation and/or recruitments failures.

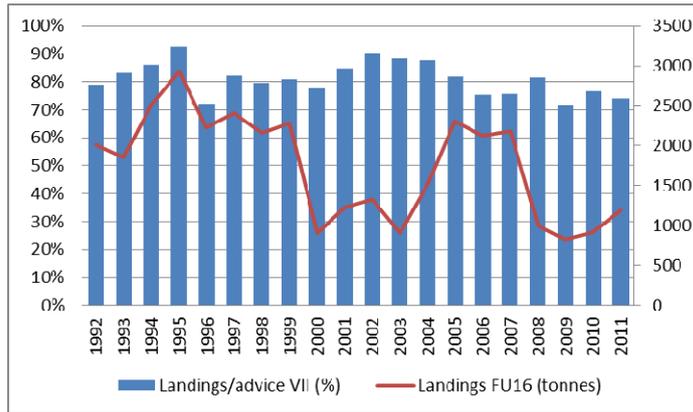


Figure 6.2.1: Landings/ICES advice for *Nephrops* in sub-area VII .Source: ICES 2012.

STECF notes that there may be unintended consequences associated with TAC management for *Nephrops* in FU 16. Discarding of *Nephrops* in the fishery has been negligible up to 2011 (ICES, 2012). STECF notes that for Porcupine *Nephrops* there is a very large first sale price differential for different size grades of *Nephrops* from (€2-3/kg for small *Nephrops* grades to > €30/kg for large *Nephrops* grades). In general, if landings limits become restrictive and are actively enforced then there are potential incentives for increased highgrading and area misreporting. STECF notes that preliminary information from the fishery indicates that the Catch limitations set for FU 16 in 2012 are likely to have been restrictive. Nevertheless, STECF is not aware of any scientific observations suggesting increased discarding or area misreporting.

Closed area

In the past, the *Nephrops* fishery on the Porcupine Bank has been both seasonal and opportunistic, with increased targeting during periods of high *Nephrops* emergence and good weather. The highest activity occurs between May-July (Figure 6.2.2 and Figure 6.2.3). This is mainly caused by increased activity levels of *Nephrops* outside their burrows during the early summer. This behavior is linked to their annual biological cycle of hatching, feeding, moulting, mating, feeding, maturing, spawning etc. Better weather during those months also improves fishing opportunities and efficiency.

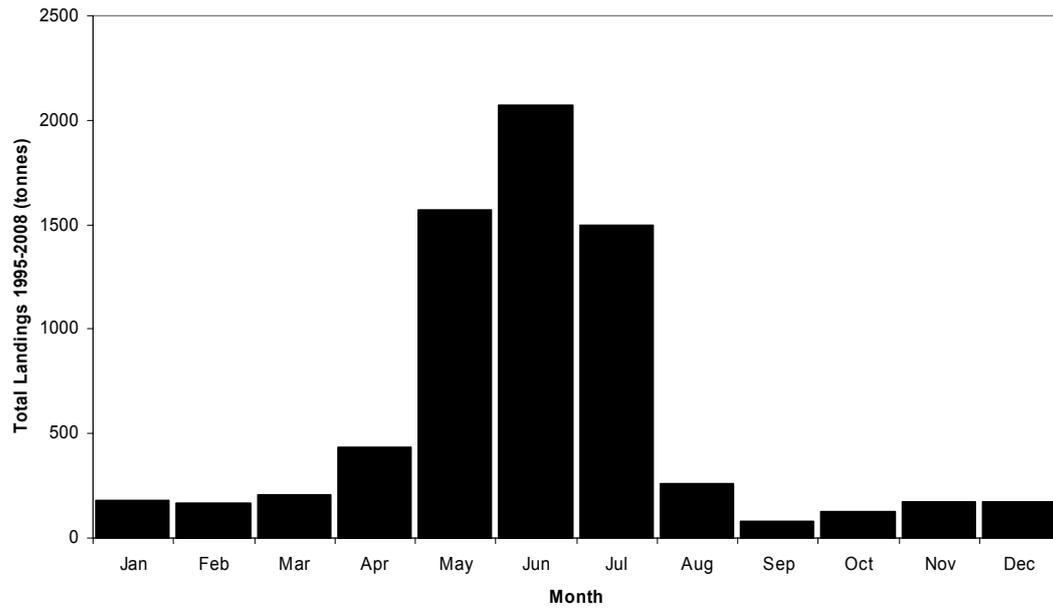


Figure 6.2.2: Pooled Irish monthly *Nephrops* landings between 1995-2008 from the Porcupine Bank (FU16).

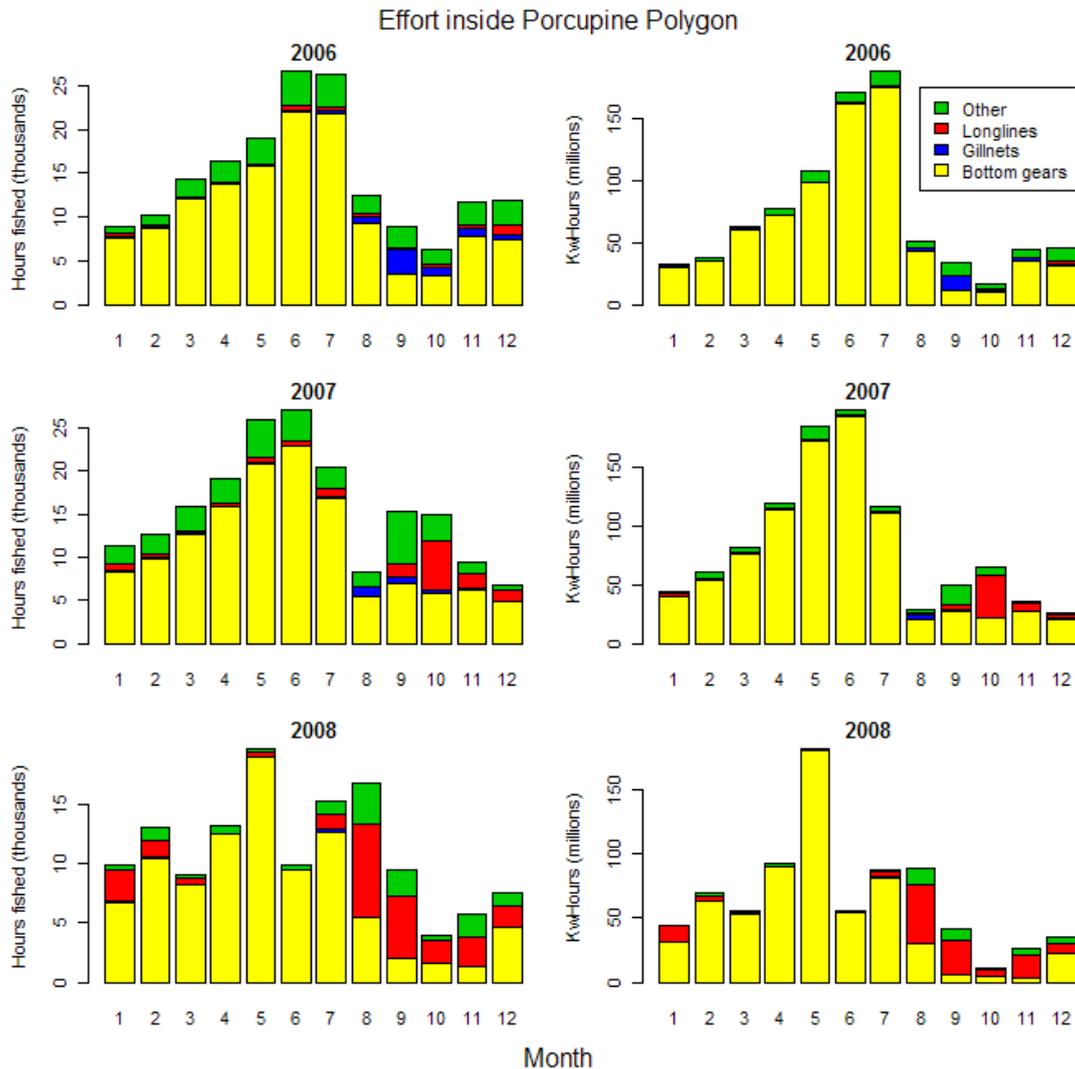


Figure 6.2.3: Effort in the closed area, defined by month and main gear type.

The seasonal closed area (1st May to 31st July) in place since 2010 has been respected by the fleet and has therefore afforded some protection to the majority of the stock area (~75%). Survey information in July 2011 indicates that abundance was 2.5 times higher inside the closed area than outside.

The reduction of the closure period from 3 months (1st May to 31st July) to 1 month (May) implies that now the fishery is opened in a period (June and July) of high activity (effort and catches) when LPUE has been high in the past. It is also a period of peak female emergence. It is not possible for STECF to provide a quantitative prediction of the impact of reopening the fishery for these two months. However, it would most likely lead to increased mortality on females which may be detrimental to future stock productivity.

By-catch

STECF is unable to provide a quantitative prediction of the in the possible impact on other stocks exploited by fleets that catch *Nephrops*. The main species that are

discarded by weight are blue-mouth redfish, blue whiting, and argentines (Anon., 2011).

2. Removal of all management measures

STECF considers that the full removal of all management measures would be a risky management strategy. The stock size in the area appears to have increased and because of the high value of *Nephrops* and lower costs per unit landed associated with higher catch rates, the increased abundance is likely to attract increased effort. Furthermore, the Subarea VII TAC is not restrictive and the increased abundance in FU 16, an absence of FU16-specific management measures may lead to a risk of over-exploitation.

3. Other possible management options

STECF notes that in terms of restricting the overall level of removals from the stock, the closed period may not be necessary when the “of which limit” of the TAC regulation is in place and adequate control and enforcement measures to discourage high-grading and area misreporting are taken. However, removal of the closed period may lead to unintended consequences with regard to future productivity of the stock. Fishing effort would be likely to be focused during the period of peak female emergence (when overall catch rates and likely economic returns would be highest) leading to increases in fishing mortality exceeding those assumed in the forecast TAC.

STECF also considers that some other alternative measures such as effort limitations could provide an alternative means to limit removals from the stock during the period of high female emergence.

4. relevant data gaps for points 1-3 above provide advice on which data would be needed to strengthen any assessment

Heretofore the lack of an UWTV survey for this area has been a key data deficiency. STECF considers that UWTV surveys should continue in the future to monitor changes in stock development and to provide basis for catch advice.

Even if the level of discard sampling in the fishery remains low STECF considers that measures to monitor the discard rates with adequate precision should be implemented.

ICES has been monitoring fishing activity in relation to the closed area using VMS data STECF considers that such monitoring should be continued.

References

Anon. 2011. Atlas of Demersal Discarding, Scientific Observations and Potential Solutions, Marine Institute, Bord Iascaigh Mhara, September 2011. ISBN 978-1-902895-50-5. 82 pp.

ICES. 2012. Report of the Working Group on the Celtic Seas Ecoregion (WGCSE), 9–18 May 2012, Copenhagen, Denmark. ICES CM 2012/ACOM:12.

Lordan, C., Doyle, J., Dobby, H., Heir, I., Fee, D., Allsop, C., and O’Neil, R. 2012. Porcupine Bank *Nephrops* Grounds (FU 16) 2012 UWTV Survey Report and catch options for 2013. Marine Institute UWTV Survey report. <http://hdl.handle.net/10793/832>.

6.3. Request for an advice on derogation from the seasonal closure restriction for the vessels of less than 12m length overall in 10 nautical mile zone under the Baltic cod plan

Background

The Commission has proposed the amendment to the Council Regulation 1098/2008 with the main aim to align it with the Treaty. This is needed to ensure the functionality of the plan since it was adopted before the treaty went into force. Parliament has adopted a number of amendments to the plan that go beyond the alignment exercise. The suggested amendment to article 9(6) of the cod plan is "By the way of derogation from paragraph 1, fishing vessels with an overall length of less than 12 metres shall be permitted to fish with static gear in the area up to 10 nautical miles measured from the baselines. The immersion time of the said static gears shall not exceed 48 hours." The Parliament justification for such amendment is that the cod stocks are not anymore at low level and such amendment will allow small-scale fisheries to fish cod during closed seasons, particularly during summer months with no negative effect on pre-spawning and spawning concentrations, which take place on the Baltic Deeps, away from coastal areas. This may prove economically important for this fleet segment, as prices during the relevant period are high.

Since such derogation has not been assessed the STECF is requested to advise on the possible impact if the proposed amendment is adopted.

Terms of Reference

The STECF is requested to advise:

1. on the effects of such derogation on the on pre-spawning and spawning cod and on sustainable exploitation of the cod stock as such;
2. whether the introduced conditions of 10 nautical miles and 48 hours of immersion are appropriate and enforceable. The advice should also cover possible costs and administrative burden of control and enforcement of such conditions for fisherman and the Member States;
3. on economic importance of such derogation for the small scale fleet taking into consideration quota limitations (share of the quota for this segment);
4. on cost benefit for such exclusion and compare possible benefits with the risks;

5. on possible wrong incentives that this derogation could create, like risks of non-compliance, or transfer of capacity to this segment.

STECF response

The request to the STECF does not make it entirely clear whether only Eastern Baltic cod is concerned or both Eastern and Western Baltic cod stocks. The Eastern Baltic cod fishery is closed during the summer months while the Western Baltic cod fishery is closed in April. STECF has interpreted the request as covering both stocks. Furthermore, STECF assumes that the reference to Article 9 (6) of Council Regulation 1098/2008 is wrong and should actually refer to Article 8 (6) of Council Regulation 1098/2007.

STECF notes also that a derogation is already in place within the current regulation. STECF asked the Commission for clarification whether the proposed derogation was meant as a replacement or an amendment to the current derogation, and was informed that the proposal from the EP is an amendment. Hence it follows that the EP proposal for the derogation in article 8(6) would include the following provisions for derogation:

All vessels less than 12 m (Council Regulation 1098/2007):

- 5 fishing days per month during the closed period (divided into periods of at least two consecutive days),
- immerse nets and land of fish from 06.00 on Monday to 18.00 on Friday of the same week

Vessels less than 12 m using static gears (EP proposal)
within 10 nautical miles,
immersion time less than 48 hours.

1. Effects of the proposed derogation on the on pre-spawning and spawning cod and on sustainable exploitation of the cod stock;

Temporal or spatial closures aiming at protecting spawning aggregations of cod have been in place for more than 10 years. These measures theoretically contribute to an improved recruitment; however the immediate effect has not been demonstrated, mainly because environmental factors play a bigger role in determining the strength of a year class and thus mask potential effects of spawning closures (STECF 2010, 2011). EWG 11-07 concluded the following: *The impact on the present spawning closures on the stocks and the fisheries is unclear but the measures are unlikely to have had a limiting effect on the overall fishing mortality and EWG concludes that spawning closures are not required to meet the biological objectives as long as the TACs effective in limiting the fishing mortalities as intended.*

The Eastern Baltic cod status has improved in the recent years, and spawning occurs in the deeper areas far from the coast (Bornholm Basin) in the periods covered by the closure (July-August). Additionally, three areas known as important spawning areas in Bornholm Sea (SD 25) are closed for all fisheries most of the year (May-October). In the Eastern Baltic (Area B, SD 25-32), vessels under 12 meters represented 14% of

cod catches in 2011 (15% of landings), mainly using passive gears (11.5% of cod catches). In general the TAC is considered to be correctly enforced, and with limited discards. STECF therefore considers that the existing closures have no effect on the sustainable exploitation of the Eastern Baltic cod.

The Western Baltic is shallower and spawning occurs in saline waters below 20–40 m much closer to the shore, especially in area 22 (Figure 6.3.1). Spawning in western Baltic occurs at different times, peaking in January/February in Area 23 (Sound), then in March/April in area 22, and later on in May/June in area 24 (Hüssy, 2011).

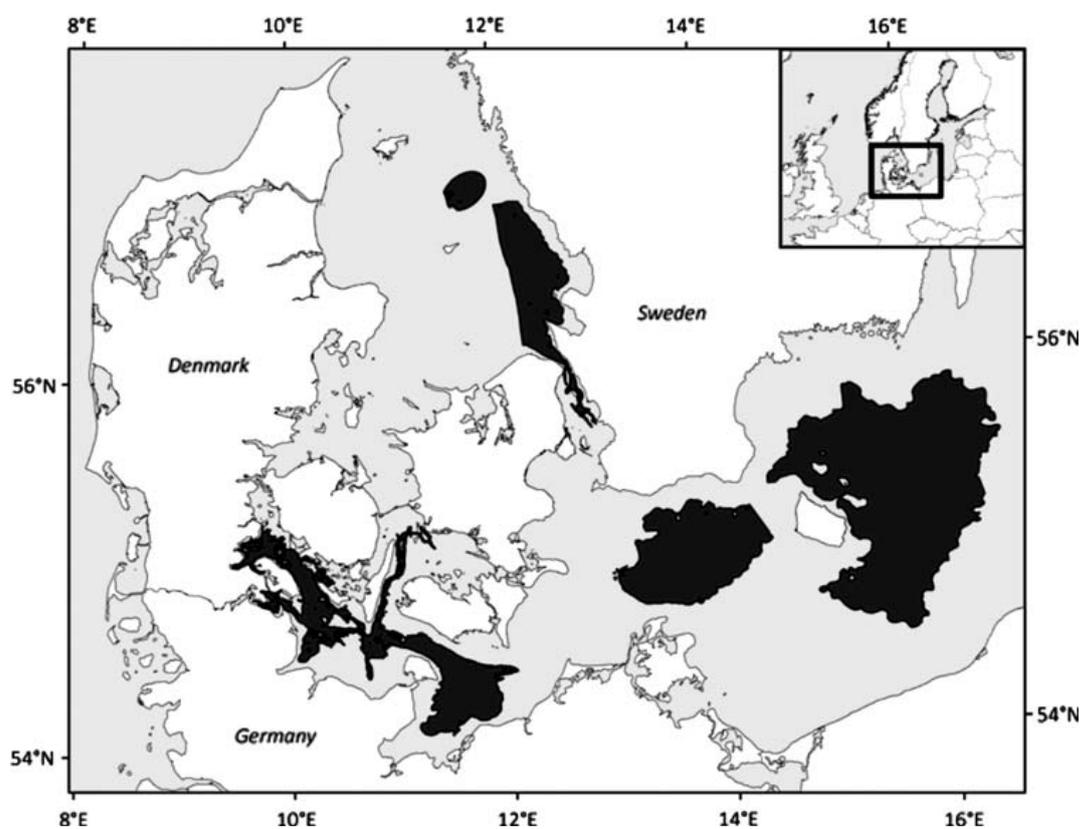


Figure 6.3.1. Spawning areas (black) in the Baltic Sea from the Kattegat to the Bornholm Basin derived from a combination of ichthyoplankton surveys and surveys of spawning adults. (from Hüssy, 2011).

The TAC for 22-24 has been set consistent with ICES advice and the management plan. The TAC has not been taken in recent years. Recent information on the state of cod indicate that the cod in 22 is in a very poor state, while the positive signals in the overall western stock dynamics are driven by the substantial increase in the biomass of cod in SD 24. Cod fishing in area 24 is spread throughout the year, while cod fishing in area 22 occur primarily from January to March. CPUE are usually very low when the closed area reopens in May. In area A (SD 22-24) vessels less than 12 m are a major component, making 32% of cod catches in 2011, mainly with passive gears (25% of cod catches).

Overall, STECF concludes that the current April closure has little or no effect in limiting fishing mortality on cod and protecting recruitment in Western Baltic and the proposed amendment to Article 8(6) of the cod plan will not alter this conclusion.

2. *Whether the introduced conditions of 10 nautical miles and 48 hours of immersion are appropriate and enforceable.*

Firstly, STECF notes that enforcement of measures for which there seems to be no conservation effect is difficult to justify.

Secondly, STECF notes that the maximum 48 hours immersion time is already prescribed in Council Regulation (EC) No 2187/2005. The inclusion of this provision in the proposed amendment therefore does not represent a change from the current situation.

Closed areas are generally relative straightforward to control provided that the vessels for which they apply can clearly be identified and the vessels are equipped with vessel identification technology (VMS etc.) making it possible to determine the position of the vessel at any time. Derogation from the area closure may increase the requirements for enforcement and control activities. Derogations potentially also increase the administrative burden for both the administration and the industry by increased requirements for reporting etc.

STECF notes that the current cod plan already includes some prescriptive and complex derogations from the closed areas (Article 8(6)). The amendment proposed by the EP involves specific spatial and gear considerations which will not only make the derogation even more prescriptive but will also require additional needs for control and administration. Especially since the added provisions the derogation proposed by the EP concerns vessels under 12 meters that are currently not equipped with VMS vessel detection technology. In addition, based on the answer to question 1 above, STECF considers that the additional spatial considerations mentioned in the amendment proposal are not likely to have any significant conservation effect.

3. *Economic importance of proposed amendment for the small scale fleet.*

Delaney (2008) conducted an impact assessment for the Baltic Small Scale Fisheries fishing in SD 24 and 25. On the basis of this study, STECF estimates that a derogation from summer closure restrictions in the Eastern Baltic would likely have positive social effects for small-scale fishers. The derogation would allow this segment, important economically and culturally in many Baltic communities, to fish in the summer months with generally calmer weather and safer fishing conditions. A major complaint noted by Delaney (2008) is that often, weather deteriorates in September when the closure ends in the eastern Baltic, preventing small vessels from fishing even though they have some quota.

Cod CPUE in eastern Baltic is expected to be higher during summer because of cod heading towards spawning grounds. Additionally, the small-scale fishery would likely also fish for other species mainly flatfish (turbot, plaice and flounder) in this season. The seasonal closure also coincides with a period of higher prices for the fish with higher demand for fish during the summer tourist season.

In many Baltic MS, the coastal fishery sector is the interest group with the lowest income and little resilience to cope with change. Yet small-scale fishing communities represent a main pillar of employment and prevent out-migration in the rural and less-developed areas of the Baltic coast. Consequently, positive social impacts for individuals, also positively impact communities (Delaney 2008).

Overall, STECF considers therefore that the proposed derogation would likely have clear positive social benefits in the Eastern Baltic for the fleet segment concerned. It must however be noted that within the current derogation, all vessels under 12 m including trawlers are allowed to fish in the closed area for 5 days per month. The proposed amendment to Article 8(6) only concerns vessels under 12 m using static gears and within 10 nautical miles, and the omission of small-scale trawlers in the amendment may potentially raise concerns of inequity and competition in comparison with the current situation.

The social effects in the Western Baltic are less clear because there are less expected positive effects of increased prices and CPUE and better safety; but catches of species other than cod would also be achieved by static gears with the derogation.

4. *Cost benefit and risks of the proposed amendment*

Overall, STECF considers that since the seasonal closures are not needed to achieve conservation objectives, the EP proposal to permit fishing by under 12m vessels with static gears will not result in any increased risk to the stocks.

As stated in response to item 3 above, STECF considers that there are potential economic benefits for the small-scale fisheries by alleviating the seasonal closures in the Eastern Baltic, but these benefits are expected to be more limited in the Western Baltic. Costs benefit considerations are then largely a matter of administrative and enforcement costs. However, STECF could not quantitatively estimate neither the potential benefits nor the increased costs.

5. *Incentives created by the proposed amendment*

STECF could not evaluate whether non-compliance with the proposed amendment would be any different compared to the non-compliance of the current derogation. It cannot be excluded that capacity transfer to this fleet segment would occur with the derogation; however, it is unlikely that massive re-investments from large vessels to small vessels will occur, not least because the small-scale passive gears are increasingly being restricted by other legislations such as Natura 2000.

STECF conclusions

- STECF reiterates its conclusions from 2011 (EWG 11-07)⁸ that the seasonal closures currently implemented through the Baltic cod management plan (Article 8 of Council Regulation (EC) 1098/2007) are unlikely to have a

⁸ Scientific, Technical and Economic Committee for Fisheries (STECF). Impact Assessment of multi-annual plans for Baltic cod (STECF-11-05). 2011. Publications Office of the European Union, EUR 24899 EN, JRC 66048, 230 pp.

limiting effect on the overall fishing mortality, and are not required to meet the biological objectives as long as TACs are set appropriately and effectively enforced.

- STECF considers that positive effects are expected for the small scale fisheries fishing with static gears if these were exempted from the seasonal closures, especially in the Eastern Baltic. Because of the prescriptive terms of the proposed amendment from, the enforcement and administration costs of the proposed amendment would likely increase compared to the current situation.

References

Delaney, A. 2008. “Profiling of Small Scale Fishing Communities in the Baltic Sea: A Study Requested by the European Commission.” ec.europa.eu/fisheries/documentation/studies/baltic_cod_2008_en.pdf

Hüssy, K. 2011. Review of western Baltic cod (*Gadus morhua*) recruitment dynamics. – ICES Journal of Marine Science, 68: 1459–1471.

6.4. Review of economic indicator tables and biological indicators tables from ad hoc contract.

Background

EWG 13-03 is requested to quality check, analyse and summarise economic, social and technical balance indicators produced by JRC for the period 2008-2011/12, which must be submitted to STECF plenary by 12 noon on Thursday 11th of April.

Biological indicators will be submitted through an adhoc contract.

Terms of Reference

The STECF is requested to review and adopt the calculated tables of economic, social and technical balance indicators, after being checked by EWG 13-03.

The STECF is requested to review and adopt the calculated tables of balance indicators prepared by ad hoc contract.

STECF response

STECF will respond to this item by written procedure as soon as possible after 21 April as the data required to calculate the biological indicators were incomplete at the time of the STECF plenary meeting.

6.5. Request for an assessment of the study on the implementation of the EU Community Plan of Action for the conservation and management of sharks

Background

The European Commission adopted on 5 February 2009 a Communication to the European Parliament and the Council on a Community Plan of Action for the Conservation and Management of Sharks in accordance with the FAO International Plan of Action on Sharks.

In its answer to the open consultation of the draft CPOA, the Scientific, Technical and Economic Committee for Fisheries (STECF) noted that there was "a clear need for collation and examination of historical fisheries data especially on species composition of catches, realised catches and effort". The STECF suggested that one important first step towards deepening the knowledge on sharks and fisheries exploiting sharks was to verify what information is already available. In this context, the Commission signed a contract with a consortium of EU scientific institutes with the purpose of obtaining scientific advice as regards the facilitation of monitoring fisheries and shark stock assessment on a species-specific level in the high seas.

The advice and services requested are sought to support the implementation of the CPOA on Sharks. The geographical scope is the high seas of the Atlantic, Indian, Pacific Oceans and adjacent seas and more detailed information should be provided on the two main shark species fished by the EU fleet: blue shark and shortfin mako.

A draft final report shall be submitted to the Commission by mid-March 2013. The Commission will request advice of the STECF in light of the draft final report. The contractor and the Commission will discuss the draft final report following the reception of the STECF advice, following which the report should be finalised.

Terms of Reference

The STECF is requested to advise the Commission on the availability and utility of historical fisheries data on sharks, especially on species composition of catches, realised catches and effort with a focus on the two main species exploited by the EU fleet; blue shark and shortfin mako. In responding to this request the STECF is invited to refer to the draft final report of the consortium contracted to undertake a study addressing the above issues.

The STECF is requested:

To advise on the most appropriate data sources and method to obtain the information requested, such that it can provide the basis for management of fisheries exploiting sharks

To suggest any additional studies that are likely to lead to further improvement in fishery-dependent data and information on shark species.

STECF Observations

The scope of the European Union Plan of Action for Sharks covers not only the fishing of any chondrichthyans within Community waters, but also includes any fisheries covered by current and potential agreements and partnerships between the European Community and third countries, as well as fisheries in the high seas and fisheries covered by the relevant Regional Fisheries Management Organizations (RFMO).

Therefore, the objective of the project was to collate and summarize the knowledge we currently have and the data available for the purpose of implementing the EU Plan of actions (EUPOA) on sharks as regards the facilitation of monitoring fisheries and shark stock assessment on a species-specific level in the high seas. Thus, the study was focused on major elasmobranch species caught by large pelagic fisheries on the High Seas of the Atlantic, Indian and Pacific area, which are managed by respective Tuna RFMOs. Specifically, firstly the study collated historical fisheries data especially on species composition of catches, effort, size frequencies as well current knowledge on biology and ecology of sharks. Secondly, the project reviewed and prioritized the gaps identified to develop a research program to fill those gaps in support for the formulation of scientific advice for management of sharks

The work carried out by the consortium focused on the collection of fishery information publicly available, mainly in the website public domain of the four major tunas RFMOs (IATTC in the Atlantic, IOTC in the Indian Ocean, IATTC and WCPFC in the Eastern and Western Pacific respectively), as well as ICES and CGFM in European seas. The study also considered information available in the literature (including working documents, reports, etc...). RFMO data administrators were contacted in order to obtain any additional fishery statistics data. Similarly, information from flag states, and from EU-Member States, was requested in order to improve the information available on discards levels, size frequencies and biological information. Apart from these RFMO official statistics, total shark catch estimates for the most recent period (2000-2010) were derived using two fleet-specific ratios: the ratio between shark catches over tuna (target) catch, and the relative proportion by species in the catch. Both ratios were derived from a literature search and/or data from observer programs reported to the relevant RFMO.

STECF notes that the aim of the study was to explicitly focus on sharks catches taken by tuna fisheries, trying to take into account both industrial (including UE) or small scale local fisheries. Other non-tuna fisheries, especially coastal fisheries and fisheries targeting small pelagic stocks were not considered, even though in certain sea areas, such fisheries are capable of catching some of the shark species under consideration.

One of the major conclusions of the study is the poor quality of fisheries statistics on sharks. Several countries were/are not collecting or reporting shark fishery statistics. The report underlined that this problem worsens in the case of developing states and, especially, for historical data, while for recent periods the problem still persists. Under-

reporting is also very important. In many cases the catches recorded did not represent the total catches of sharks but simply the amounts retained on board. The catches of sharks for which only the fins are kept on board or of sharks usually discarded, because of their size or condition, are seldom, if ever recorded. Even in the favorable cases where they are reported, there are many instances where shark catches are not disaggregated at the required level, especially at the species level. Miss-identification of shark species is also common. As a result, STECF notes that there is a paucity of times series of reliable stock-specific catch, effort or CPUE data available from the report. Furthermore, the report contains only sparse information on the size composition of shark catches.

The comparison between the declared shark catches and the estimated catches documented in the report can be considered as an indication of the extent of underreporting. For example, it is worth mentioning that the average annual catch (2000-2010) of European Union Plan of Action of Sharks (EUPOA-shark) species estimated by the group indicates that annual average catches have been 1.5, 13 and 7 times higher than the declared average annual catches from the Atlantic Ocean, Mediterranean Sea and Indian Ocean, respectively. STECF is unable to quantify how representative the estimated catches are of the true realized catches from these fisheries.

Shark stock status also appeared very poorly known for most of the shark stocks. Regarding the two species mentioned in STECF ToRs, it appeared from the report that shortfin mako stock status has been assessed for the Atlantic only (last assessment in 2012), while blue shark stocks were assessed in the Atlantic (last assessment in 2008) and North Pacific (in 2009 using data up to 2002) (Table 6.5.1).

Table 6.5.1 Knowledge available on the stocks status of blue shark and shortfin mako, from RFMO assessment or IUCN classification (from the report)

	Blue sharks (<i>Prionace glauca</i>)	Shortfin mako shark (<i>Isurus oxyrinchus</i>)
Atlantic Ocean (ICCAT)	2008 assessment: $B > B_{MSY}$ No IUCN classification	2011 assessment: $B > B_{MSY}$ IUCN classif.: Vulnerable
Mediterranean sea (CGFM)	ICCAT assessment and management advice is applied IUCN classif.: Vulnerable	ICCAT assessment and management advice is applied. IUCN classif.: Critically endangered
Indian Ocean (IOTC)	No quantitative assessment IUCN classif.: Near Threatened	No quantitative assessment IUCN classif.: Vulnerable
Eastern pacific (IAATC)	2009 NMFS asses.: close to MSY No IUCN classification	No quantitative assessment IUCN classif. Near threatened.
Western Pacific (WCPFC)	2009 NMFS asses.: close to MSY No IUCN classification	No quantitative assessment IUCN classif.: Vulnerable (Indo-W.Pacific)

The report identifies the most important species in term of shark by-catch in tuna fisheries. It especially shows that blue shark is the most caught species, with around 65-75 % of the total shark catch in weight in all Oceans, except in the Indian Ocean (35%) and Mediterranean Sea (50%). In general the blue shark is then followed by shortfin mako, hammerhead, silky, thresher and Oceanic whitetip shark.

STECF agrees with the authors of the report that volume of catch is not a sufficient criterion to identify which stocks are the most important to study (and manage). In some cases, a minor catch of one species from all fleets or of one fleet in particular, may have a great impact on that species depending on its species-specific vulnerability according to its productivity and susceptibility to the fleet(s) in question. Thus, stock status and species vulnerability should also be considered. From this point of view, classification provided by IUCN (Table 6.5.2, from the report) indicates that 8 stocks are classified as *Endangered*, and 5 as *critically endangered* (including some of those stocks of Oceanic whitetip shark and Tope shark occurring outside of the ICES and CGFM areas).

Vulnerability index derived from a risk based assessment also indicates that the blue shark, even if the most common, is not the most vulnerable of pelagic sharks. It was categorized as being at “medium” ecological risk for deep longline sets and “medium-low” ecological risk for shallow longline sets (Kirby and Hobday, 2007).

Table 6.5.2 – IUCN classification of Sharks (Among the 16 species considered in the report, only species or stocks registered on the read list of IUCN (thus classified as vulnerable, endanger, or critically endanger) or where deficient data have been identified are considered here).

	IUCN Red List Global	IUCN Red List Regional
Pelagic thresher (<i>Alopias pelagicus</i>)	Vulnerable (2009)	Vulnerable: Atlantic.NW&WC; Medit.
Bigeye thresher (<i>Alopias superciliosus</i>)	Vulnerable (2009)	Endangered: Atlantic.NW&WC Vulnerable: Atlantic.NE; Pacific.EC; IWP Deficient Data: Medit.
Thresher shark (<i>Alopias vulpinus</i>)	Vulnerable 2009)	Vulnerable: Medit.
Silky shark (<i>Carcharhinus falciformis</i>)	Near threatened (2009)	Vulnerable: Pacific.EC&SE; Atlantic.NW&WC
Oceanic whitetip shark (<i>Carcharhinus longimanus</i>)	Vulnerable (2006)	Critically endangered: Atlantic.NW&WC Vulnerable: Atlantic.NE
Blue shark (<i>Prionace glauca</i>)	Vulnerable (2009)	Vulnerable: Medit.
Great white shark (<i>Carcharodon carcharias</i>)	Vulnerable (2009)	Endangered : Medit. Vulnerable: Atlantic.NE
Basking shark (<i>Cetorhinus maximus</i>)	Vulnerable (2005)	Endangered : Atlantic.NE; Pacific.N
Shortfin mako (<i>Isurus oxyrinchus</i>)	Vulnerable (2009)	Critically endangered: Medit. Vulnerable: Atlantic.NE; Indo-W.Pacific
Longfin mako (<i>Isurus paucus</i>)	Vulnerable (2006)	Vulnerable: Atlantic.NE
Porbeagle (<i>Lamna nasus</i>)	Vulnerable (2006)	Critically endangered: Medit.; Atlantic.NE Endangered : Atlantic.NW
Whale shark (<i>Rhincodon typus</i>)	Vulnerable (2005)	
Scalloped hammerhead (<i>Sphyrna lewini</i>)	Endangered (2007)	Endangered : Atlantic.NW&WC; IndianOcean.W; Pacific.EC&SE Vulnerable: Atlantic.EC; Atlantic.SW
Great hammerhead (<i>Sphyrna mokarran</i>)	Endangered (2007)	
Smooth hammerhead (<i>Sphyrna zygaena</i>)	Vulnerable (2005)	Vulnerable: Medit.
Tope shark (<i>Galeorhinus galeus</i>)	Vulnerable (2006)	Critically endangered: Atlantic.SW Vulnerable: Medit. Deficient Data: Atlantic.NE

STECF notes that the report provides useful information which can be used in order to improve statistics on shark catches in tuna fisheries. It especially shows that longlines targeting sharks, swordfish and/or tropical tunas, is the most important gear catching sharks in the Atlantic and the eastern and western Pacific (contributing by 59%, 86% and 95% to the total shark catches respectively), while in the Indian Ocean gillnets account for 61 % of the total shark catch (in comparison to 18 % for longliners). More specifically, the report identifies and prioritizes the main species and fleets that need to be monitored for the collection of fishery data and information for assessment purposes by the Tuna RFMOs. The report also proposes general recommendations to Scientific Committees of Tuna RFMOs with the aim to improve data collection and fill the identified gaps. This especially includes some possible solutions and recommendations for the implementation or improvement of observers programs on those fisheries.

Finally, STECF underlines that the report usefully discussed several options of management and mitigation measures applicable to shark species, including finning prohibition, self-policing, spatial/temporal closure, reduction of fishing effort, etc.

STECF conclusions

STECF concludes that the current knowledge we have and data available to support the implementation of EUPAO is incomplete and imprecise. Nevertheless, STECF recognizes that the information in the report represents the most comprehensive compilation of information on shark catches from fisheries managed by Tuna RFMOs (ICCAT, IATTC, IOTC, WCPFC). STECF suggests that the attention of the Scientific Committees of the tuna RFMOs be drawn to the Consortium report for their consideration. Moreover, STECF considers that recommendations included in the report can be used by DG MARE to provide feedback to Tuna RFMOs and MS, in order to improve the data collection to fill the identified gaps in sharks catch and by-catch statistics.

STECF notes that shark catches in some coastal fisheries may not currently be reported to the Tuna-RFMOs and, thus, STECF advises that Tuna RFMOs should enhance collaboration with other regional fishery management bodies to improve the collection of fishery data of those species that are widely distributed and whose range overlaps adjacent management areas (i.e. catches are taken by fisheries managed by different RFMOs). Such collaboration would provide a more comprehensive global picture, by species and fisheries, of the worldwide catch and by-catch of the sharks species investigated.

STECF notes that to undertake comprehensive assessments of shark species worldwide, efforts need to be made to assemble catch and effort data on shark for those fisheries not managed by the tuna RFMOs dealt with in the report.

6.6. Request to develop guidelines for the improved implementation of Article 13, including the methodology and information requirements for the Member State annual reports and methodology for STECF to determine and quantify an excess effort.

Background

Member States (MS) may allocate additional fishing effort to vessels subject to the fishing activity conducted in accordance with the requirements of Article 13.2 point's a-d of Council Regulation (EC) No 1342/2008 establishing a long-term plan for cod stocks and the fisheries exploiting those stocks. In accordance with Article 13.6 the STECF shall assess the results of Member State cod avoidance and discard reduction measures. On basis of STECF advice, the Commission may propose fishing effort adjustments for the effort groups concerned in the following year.

MS annually submitted to STECF their reports and STECF has been requested to assess whether effort increases by MS were commensurate with reduction of fishing mortality as result of those actions. From the experience of the last years it appears that quality of the assessments and information provided in the MS reports differ between MS and does not allow the STECF to quantify any excess effort used by the MS. The STECF has repeatedly underlined the difficulty of evaluating compliance with the Article 13 requirements, both for the stakeholders for whom the required data are particularly unclear, and for the STECF for whom no standardised evaluation method has been established.

The STECF is requested to further develop the work on a standardised evaluation method that was begun by its working group (12-13), with the following terms of reference:

Terms of Reference

STECF is requested to:

1. Develop guidelines for Members States reporting on Article 13, which should include the standardised requirements for MS reports, assessment methods and minimum information requirements.
2. Establish an STECF standardised evaluation method of MS reports that would it to quantify any excess effort used by the Member States.

STECF Response

Since the introduction of the Article 13 provision under the Council Regulation (EC) No 1342/2008 establishing a long-term plan for cod stocks and the fisheries exploiting those stocks, STECF has attempted to evaluate Member State submissions on an annual basis. STECF has previously provided guidelines on the types of information to be supplied by Member States in order to demonstrate that management measures

introduced under Article 13 deliver equivalent reductions in fishing mortality, F , as that implied by the effort reduction prescribed by the cod plan. For a number of reasons, however, it has proved very difficult to provide satisfactory evaluations, not least because of the fact that estimates of fishing mortality are not available for some of the stocks concerned. The difficulties have been discussed and noted by STECF at several plenary meetings and are not reiterated here. During a meeting of the STECF EWG 12-07 on management plans held in 2012, suggestions were made for an alternative evaluation approach based on catch (landings and discards) information and initial proposals for how to implement this were made. STECF supported these proposals.

In further developing the initial proposals at this meeting, STECF discussed the details in the context of a structured process involving:

A) responsibilities for Member States to provide

- i) initial plans for catch to be taken and effort used and
- ii) fully worked up outturn reports of catch taken and effort used;

B) responsibilities for STECF to provide

- i) a tool to assist the development of initial MS plans,
- ii) guidance and a template for data submissions and
- iii) the development of an evaluation process.

Key elements in the process and the points at which inputs are required are illustrated in Figure 1.

Step 1. The process envisaged by STECF EWG 12-7 involves the prediction of catch divided up by Member State and gear for the forthcoming year. A starting point for arriving at this is the information contained within the STECF effort database constructed by the STECF expert WG dealing with effort and catches. This provides a means of obtaining the relative amounts of annual landings (by MS and gear) and the associated discards (and discard rate) in 2012. Provisional information is available at the STECF July 2013 Plenary.

Step 2. Linking the information in step 1 to the latest ICES information and predictions. For stocks with analytical assessments a forecast of international catch which incorporates stock dynamics and any F adjustments (under the cod plan) can be used. For other stocks, information on stock trends can be utilised coupled with the appropriate mortality adjustments. ICES stock assessments are reviewed by the STECF stock review group and are also available at the STECF July 2013 plenary. The output from the combined information will provide an estimate of predicted landings and associated discards in 2013 and 2014 (the latter based on the discard rate as provided by the STECF effort WG).

For efficient operation, Steps 1 and 2 will require a tool for compiling and summarising the relevant material. STECF will develop this tool inter-sessionally prior to the STECF Plenary July 2013. It is likely that the tool will be spreadsheet based facilitating the likely required update described in Step 3.

Step 3 Adjustment of catches in the light of end year TAC agreements. There is no certainty that the end year Council TAC outcome (actually Total Allowable Landings) will follow precisely the ICES advice. This may necessitate an adjustment to the catches by MS and gear calculated in Step 2. This may also imply an adjustment in the implied fishing mortality change. An update procedure will be built into the tool provided by STECF to facilitate this process.

Step 4 Provision of initial MS plans. Under Article 13, Member States already have to indicate their plans for effort buy backs for each gear being considered for Article 13 provision and describe the cod avoidance management measures which will be employed to achieve the equivalent mortality reduction (as expected from the prevailing effort reduction). STECF proposes that MS provide a preliminary indication of their expectations for annual catches (landings and discards) by gear, based on their initial national quota allocation and incorporating known international swaps of quota. It is to be expected that this initial estimate will be revised in year if further quota swaps take place. Member States may of course use the information provided by the STECF tool but would be at liberty to allocate landings or estimated discards between gear types providing the overall figures do not exceed the predicted Member State total provided in Step 3. Another option would be to require that the discard rate applying should not exceed the estimated overall rate for that gear type.

The format for the submission would be relatively simple and a preliminary example is indicated in Table 1.

Step 5 Provision of output results from MS. Under Article 13, Member States are already expected to present information to demonstrate that the alternative management measure has achieved an equivalent F reduction. Under the new proposed approach for evaluation there will be a requirement to provide standardised information on out-turn catch results compared to the initial plan proposed by the MS (together with any 'late' quota swap updates). STECF is working on a format for provision of this material and this will be available after the July STECF plenary meeting. At this stage it is expected that the submission will be required to include the initial plan values for landings and discards, quota swap updates (i.e. to provide a definitive indication of landing quota available up to the end of the year), final estimates of actual landings and of observed discards, and the extent of observer sampling of discards. Member States should also supply information on effort used and a short narrative describing how the alternative management measures have performed. The latter, however, need not be as detailed as in previous years – since the key indicator will be the MS success in delivering the appropriate predicted catch.

Step 6 *Evaluation approach*. STECF will evaluate the Article 13 performance of different Member States using the standardised information, making a comparison between the planned catch (i.e. final available landings quota plus total discards, the rate of which should not exceed the indicative STECF effort database estimate) with the out-turn catch (i.e. realised landings plus the raised *observed* discards). If the ratio between observed and planned catches exceeded 1, this could be used as a basis to reduce the effort allocation if considered appropriate.

STECF notes that in the procedure described, gear specific discard rates from previous years, potentially inform what the discard rates in subsequent years might be. While in principle this approach should not lead to increases in discard rate, there is nevertheless, no incentive or built in requirement to reduce the discard rate. An alternative approach might be to require that where a MS in a previous year demonstrated a discard rate exceeding the implied rate consistent with relative stability principles, then there would be a requirement to reduce the discard rate. Another approach would be to require that discard rates proposed by MS should not exceed the overall rate for that gear type.

STECF also notes that quota swapping between fleet segments operating under Article 13 and fleet segments not operating under Article 13 may cause problems. As an illustration a Member State with only two fleet segments could choose to have one operating under Article 13 and the other not. Both fleets have to achieve the same reduction in F. The first fleet segment commits to use cod-avoidance measures and not to exceed a portion of the national catch as calculated by the proposed procedure. The second fleet segment will be subject to an effort restriction and a landings quota; all things being equal its discard rate will likely be similar to historical values. Subsequently, the first fleet segment requires some extra quota and acquires it from the second fleet segment. If the second fleet does not change its behaviour it will continue to have the same catch as if it had not sold quota but will now need to discard more because of lack of landings quota. The combined catch of the two segments will now be higher than intended. This example illustrates that the proposed procedure in combination with quota swapping between Article 13 users and non-users may not be able to constrain catches and therefore not constrain F as intended. This situation is analogous to the previous observation made by STECF concerning situations where vessels in CCTV pilot schemes operate alongside non- CCTV vessels.

Given the difficulties experienced in the previous evaluation approach, STECF recognises a need to implement the new approach as soon as possible. The above description anticipates that gear-group catch forecasts (e.g. TR1, TR2 etc.) will begin in the summer of 2013 to help inform Member States' plans in 2014 with an evaluation in 2015. STECF considers that as an interim, a 'pilot study' could take place this year in which MSs are encouraged to add a catch plan to their effort buyback plans for 2013 which would then mean a first pilot evaluation in 2014. This pilot process would offer an opportunity for consultation with MSs on the formats for

submission of data etc. The timeline illustrated in Figure 2 summarises this suggestion.

STECF conclusions

STECF considers that an Article 13 evaluation based on catches will provide an approach which will enable greater scope for standardisation of MS submissions and STECF evaluations. It will also provide a more transparent target for fishermen to aim for than the rather abstract concept of fishing mortality rate. The development of this approach is on-going and STECF will work inter-sessionally before the 2013 summer plenary to put in place a gear-group catch-forecasting tool and a format for MS to submit their future out-turn results as required for STECF evaluation.

STECF also notes that part of the existing requirement under Article 13 is the need for MSs to submit a plan for their effort buyback. Under the catch based approach this will require an indication of the catch (landings and discards) target they plan to work to. STECF suggests that a format for submitting the catch plan could be circulated for consultation to MSs involved in utilising the provision of Article 13. This should be accompanied by an explanatory narrative from the Commission providing a general description of the catch based methodology. STECF will work with the Commission to provide this.

Figure 6.7.1 Sequence of steps required in an Article 13 evaluation based on catch based. Shading indicates responsible party: STECF - blue; MS – red; Commission - white

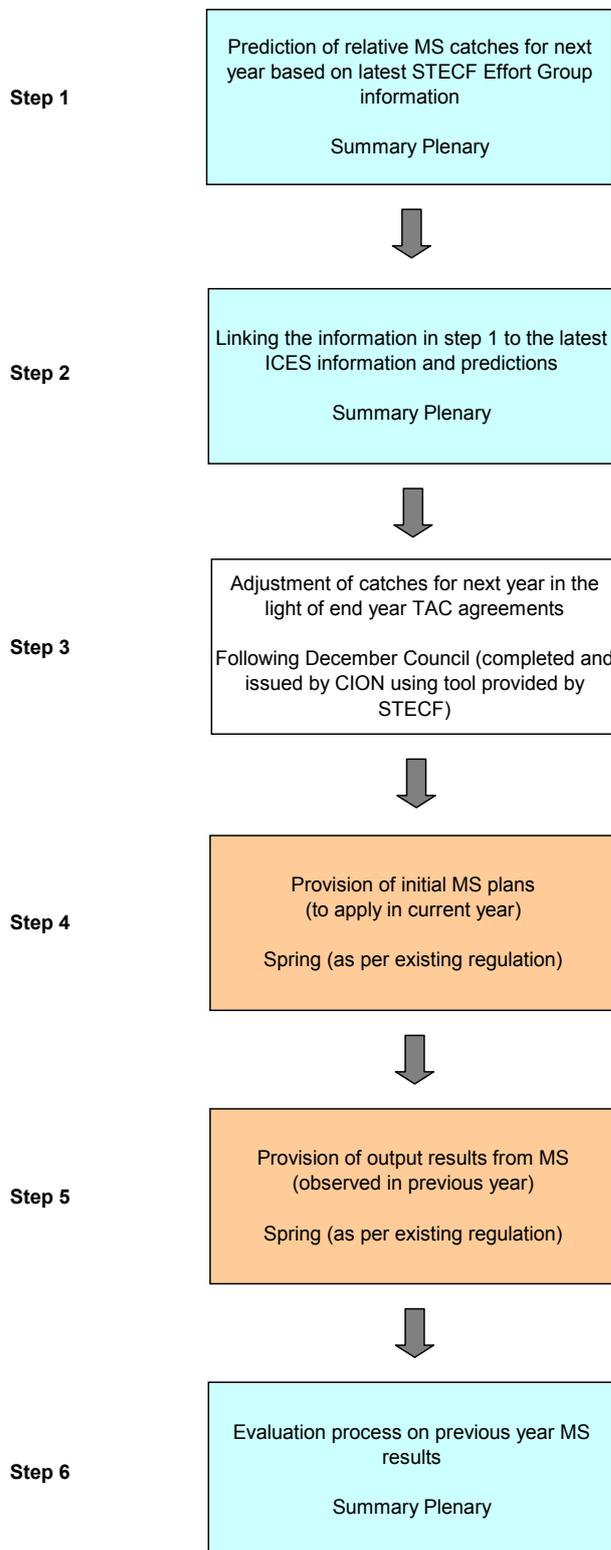


Figure 6.7.2 Suggested timeline for the introduction of a catch based approach to evaluate MS reports received under Article 13. The first sequence should be considered as a pilot with the opportunity to consult with MSs on the format for submission of catch and associated information.

	2013			2014			2015			
	Spring	Summer	Winter	Spring	Summer	Winter	Spring	Summer	Winter	
First Sequence (pilot)	MS submit pilot catch plan			MS submit outturn 2013 pilot catch results	STECF evaluates 2013 pilot catch results					
Second Sequence		STECF provides analysis tool, format for data submission by MS and 1st prediction of catches in 2014	Predicted 2014 catches updated in light of Council Outcome	MS submit catch plan for 2014			MS submit outturn 2014 results	STECF evaluates 2014 catch results		
Third Sequence					STECF provides 1st prediction of catches in 2015	Predicted 2015 catches updated in light of Council Outcome	MS submit catch plan for 2015			
Fourth Sequence							STECF provides 1st prediction of catches in 2016	Predicted 2016 catches updated in light of Council Outcome etc 		

Table 6.7.1 Example format for Member State submissions of catch plans under Article 13 (to accompany existing requirement to provide details on requested effort buy-back and proposed management measures) .

			Expected landings		Expected Discards	Expected Catch	Expected Discard rate	Basis for discard rate
Area	Gear	Paragraph a, b, c or d	National quota	available swaps at (insert date)				
North Sea (2b)	TR1	a						
	TR2	b						
	etc							
	Total							

6.7. Request for an evaluation of the effectiveness of Commission implementing regulation (EU) No 737/2012 of 14 August 2012 on the protection of certain stocks in the Celtic Sea

Background

In its advice dated June 2011, ICES warned that discards of juvenile haddock and whiting were high and increasing in the Celtic Sea, therefore reducing the yield for future years and threatening the sustainability of the stock. According to ICES, technical measures should be implemented to reduce discards. Measures would also possibly benefit cod juveniles.

In October 2011 the North Western Waters Regional Advisory Council put forward a proposal on improvements in Celtic Sea selectivity measures. In December 2011, the Council acknowledged the necessity to implement the measures proposed by the NWWRAC. Most of these proposals were endorsed in the regulation adopted by the Commission in August 2012 (Regulation (EU) 737/2012). The Commission's regulation is based on article 45 of regulation 850/98 (so-called 'technical measures regulation') enabling the Commission to take emergency measures 'where the conservation of stocks of marine organisms calls for immediate action'.

The regulation provides for the protection of juveniles of haddock, whiting and cod via the insertion of a square mesh panel in the trawls and seine fisheries targeting *Nephrops* and the aforementioned species.

The regulation applies to vessels meeting certain conditions in terms of mesh size and engine power and fishing in ICES areas VIIf, VIIg and that part of VIIj that lies north of 50°N and East of 11°W.

The regulation provides for Member States concerned to 'establish an on-board observer programme to record the effectiveness of those measures. In particular, the observer programme shall estimate haddock, whiting and cod catches and discards with a precision of no less than 20 %' and to 'submit to the Commission 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 a joint statement issued to the minutes of the December 2012 Council, the Commission and the United Kingdom, France and Ireland agreed to undertake a review of these measures in 2013 with a view to identifying any necessary improvements in 2013 after discussion with stakeholders.

Terms of Reference

STECF is requested to:

1. Examine the reports submitted by the Member States.
2. Examine the scientific advice for the stocks concerned, taking into account possible updated information.
3. In light of 1. and 2. above:
 - 3a. STECF is requested to advise on:
 - the efficiency of the measures provided for in the Commission implementing regulation as regards the objectives stated;
 - if suitable, on the extension of the scope of the regulation in terms of geographical range, vessels (size, engine power) and/or gears submitted to the regulation, design of the selectivity gear and other relevant selectivity measures such as seasonal closures or else;
 - 3b. If reports were not submitted by Member States at the time of examination, STECF are requested to indicate the information required to undertake the assessment specified under point 3.a. of these Terms of reference.

Background documents

1. The Commission implementing regulation can be found at the following address:
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:218:0008:0009:EN:PDF>
2. Joint Statement to the Minutes of the December 2012 Fisheries Council on the Celtic Sea
'JOINT STATEMENT BY THE COMMISSION, THE UNITED KINGDOM, FRANCE AND IRELAND'

14. Ad Celtic Sea

'Last year selectivity measures were introduced in the Celtic Sea on the basis of a proposal from the North-Western Waters Regional Advisory Council which, while less selective than those identified by scientific advice, introduced a more selective gear which could be readily implemented. The proposal allowed for the assessment of these measures.'

The Commission and the Member States concerned agree to undertake a review of these measures in 2013 with a view to identifying any necessary improvements in 2013 after discussion with stakeholders.

Member States based on the conclusions of this review and where appropriate, will agree to further selectivity measures to reduce discards in the mixed whitefish fishery by the end of 2013'.

3. additional background documents are to be found on:

<http://stecf.jrc.ec.europa.eu/web/stecf/plen1301>

STECF Response

Due to differences in recruitment levels between years, it is not possible to simply compare the discard rates at length (DPUE) pre and post introduction of the square mesh panels as an indicator of effectiveness. Prior to and during the period of implementation, DPUE were very high due to the exceptionally large 2009 recruitment. Subsequent recruitment has been weak with a resultant reduction in DPUE. It is therefore not straightforward to disentangle the effects of any changes in gear selectivity from the effects arising through reduced recruitment.

In a provisional analysis, an attempt has been made to use information from both the IBTS survey (FR-IBTS EVHOE) and the observer at sea program (Working Document: Dimeet et al.⁹) to evaluate the effect of the SMP on the selectivity of the gear used by the French demersal trawlers. The survey data provide information on the underlying population, allowing at least partially discriminating the effect of the gear modification from the level of recruitment on the length frequency distribution of the catch. The analysis focused on whiting and haddock caught in ICES division VIIg. Data from the observer program were collected on board French demersal trawlers. The comparison is carried out using data from the second trimester of 2010, 2011 and 2012 only, as the survey takes place during that period. For both haddock and whiting, the number of small fish in the catches has been reduced in the second semester of 2012 in comparison to previous years. At this stage however, it is not possible to conclude to what extent the observed reduction can be attributed to the introduction of the SMP as other factors which have not been accounted for in the analysis may have played a role in the reduction (Fishing area, vessels, fishing gear). Further investigations including such factors need to be carried out.

STECF considers that the approach used, although provisional, provides a good basis for investigating the effects of the square mesh panel on gear selectivity in the Celtic sea demersal trawl fishery.

STECF notes that in order to assess the selectivity of a given gear, it is necessary to have an estimate of the length structure of the underlying population and the numbers at length entering the gear. Conventional selectivity experiments estimate this by either capturing fish escaping through the cod-end and square mesh panel by surrounding the cod-end with a secondary small mesh cover. Alternatively, the population can be estimated by using a twin-rig or parallel haul arrangement where a trawl fitted with a small mesh cod-end is towed beside the cod-end being tested. A direct contrast of the numbers retained at length can then be used to show the proportion of the population retained at length for the construction of a selection ogive. STECF notes that in the case of the Square Mesh Panel in the Celtic Sea, the analysis needs to be carried out on commercial vessels in operation and that it is therefore not possible to use the above mentioned methods directly. STECF notes however that, as shown by Working Document D Dimeet et al.⁴ it may be possible to use catch at length data from IBTS surveys to derive a population structure. In that case, STECF considers it important to account for differences in spatial distribution between survey and commercial fleets. For that purpose, survey data could be weighted towards survey stations taken in

⁹ See: <http://stecf.jrc.ec.europa.eu/web/stecf/plen1301>

the same area as the commercial fishery to provide an estimate of the population structure encountered by the commercial fleet. A reconstruction of the "effective" selection ogive of the gear could then be carried out by comparing number at length per unit of effort (i.e., expressed as tow duration) obtained from the commercial fleet with number at length per unit of effort obtained from the survey. At this stage it is unclear as to the technical feasibility of this approach but it should be explored.

STECF notes that under article 3 of the EU regulation 737/2012 Member States must "submit to the Commission an annual 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." However, STECF considers that in order to undertake the more detailed analysis outlined above, information in addition to that stipulated in the regulation is required.

STECF considers that for such an analysis catch data from national observer programmes and bottom trawl surveys (IBTS) would be required. The specific data requirements would be as follows:

For haddock and whiting only

Fishery Independent Survey Data (IBTS)

Raised number of fish caught at length provided at an individual IBTS survey station level for the years 2010 to 2012 undertaken in ICES areas VIIIf, VIIg and that part of VIIj that lies North of 50oN and East of 11oW.

For each survey station referred to above, provide associated positional (Lat/Lon) data, date and haul start/stop time.

Fishery Dependent Observer Data

From observer programmes undertaken in ICES areas VIIIf, VIIg and that part of VIIj that lies North of 50oN and East of 11oW, and for the fleets covered by EU Regulation 737/2012, provide raised estimates of number of fish caught at length disaggregated into landings and discards at an individual haul level for the period 2010 to 2012.

Only haul data that corresponds to the months covered in point 1.2 above should be provided

For each of the hauls referred to above, provide associated positional (Lat/Lon) data, date and haul start/stop time.

For the fleets covered by EC Regulation (737/2012) provide spatial distribution of effort by statistical rectangle or VMS where available.

STECF notes that the appropriate analyses using the data described above cannot be done during the November 2013 plenary meeting and considers that this would best be accomplished by a small group of experts through an ad hoc contract. The contractors should undertake the analysis and prepare a report to the STECF for review at the November 2013 plenary meeting.

The terms of reference for an *ad hoc* contract should be as follows:

Using the data provided by Member States, 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.

6.8. Evaluation of the revised Slovenian Management Plan

Background

According to Council Regulation 1967/2006 (the Mediterranean Regulation) Mediterranean Member States have to adopt management plans for fisheries conducted with trawl nets, boats seines, shore seines, surrounding nets and dredges within their territorial waters. The plans shall ensure the sustainable exploitation of stocks and that impact of fishing activities on marine ecosystems is kept at sustainable levels. The Mediterranean Regulation sets conditions of minimum distance from the coast and minimum depths for these fisheries. It also specifies characteristics for the nets they use. Derogations are possible only under a number of conditions, and provided that there is no significant impact on the marine environment.

Slovenia presented a management plan covering all its fisheries, which was assessed positively by the STECF EWG 11-20 (Madrid, 16-20 January 2012). This plan included a request for derogation from the maximum drop of surrounding nets as defined in the Mediterranean Regulation. The evaluation of the STECF was that this derogation was justified under the condition that there would be a re-assessment after a one-year pilot study.

In December 2012, Slovenia submitted to the Commission a revised management plan, which contained further details on the derogation regarding the maximum drop of surrounding nets (point 4.11.9, p. 191-196 of the document), and a new request for bottom otter trawlers to derogate from the minimum distance/depth requirements set by the Regulation (4.9.9, p. 160-166). This new version is now submitted to the STECF for opinion.

Terms of Reference

STECF is requested to deliver advice on:

- the request for derogation to allow trawlers to fish between 1.5 and 3 NM at a depth that is less than 50m
- the additional detail that was included in the plan regarding the requested derogation from the maximum drop of surrounding nets

In particular, the STECF is requested to assess if the derogation for trawlers is justified, and if the additional elements regarding the derogation for surrounding nets consolidate the positive opinion that the STECF gave previously on this issue.

STECF response

A. Derogation to allow trawlers to fish between 1.5 and 3 nautical miles at depths less than 50 m

STECF observations

In the revised version of the Slovenian management plan (submitted in December 2012), a derogation is requested concerning the use of the 'volantina' type bottom otter trawl in the area from 1.5 to 3 nautical miles (nm) from the coast by 14 fishing vessels listed in the MP.

Prohibition of bottom trawling in the 1.5-3 nm zone, is considered to cause a drastic reduction of available trawling area in the territorial waters of Slovenia. However, there is no quantitative information in the MP concerning the extent or proportion of the area that would be affected.

According to the information provided in the MP, there are no protected areas, phanerogams, coralligenous habitats or maërl beds in the 1.5-3 nm zone.

STECF conclusions

Given the available information, STECF is unable to conclude on the potential impact of the requested derogation to allow fishing by the 14 trawlers indicated in the MP in the 1.5-3 nm zone within the Slovenian territorial waters.

In order to fully assess the impact of the requested derogation, the following additional information is required. Such information could be derived from a trial fishery undertaken with limited fishing effort:

- (a) Estimates of monthly catch volumes separated into landed and discarded shares by species (including non-target organisms) and corresponding size compositions from catches taken inside the 1.5-3 nm zone and fishing grounds beyond the 3 nm zone.
- (b) Quantitative information about monthly fishing effort deployed under the requested derogation inside the 1.5-3 nm zone in units of fishing time or Km² and on fishing grounds beyond the 3 nm zone.
- (c) An assessment of the socio-economic impacts of not granting the request for a derogation to fish in the 1.5-3 nm zone.

B. Derogation regarding the maximum drop of surrounding nets

STECF observations

In the previous version of the Slovenian MP assessed by the STECF EWG 11-20, the request for derogation from the maximum drop of surrounding nets (as defined in Annex II of the

Mediterranean Regulation) concerned purse seines used by the Slovenian fleet, described in the plan as having a height of approximately 70 metres and length of approximately 280 metres.

In the revised version of the MP submitted in December 2012, the aforementioned request has been changed and it is now asked that 5 fishing vessels be allowed to use purse seines with an overall drop of 120 m. These vessels are said to target mullets (*Mugilidae*) over fishing grounds that are approximately 22 m deep.

The rationale for asking for a 120 m net height, as explained in the revised MP, is the following:

- (a) According to the prescribed dimensions for purse seines in the Mediterranean Regulation, the stretched height of the purse seine for an average bottom depth of 22 m should be 31 meters.
- (b) According to the MP, the 'functional drop' of a 31 m seine would be approximately 16 metres.
- (c) The ratio of drop (functional drop) and length of the net is 1:4 in Slovenia and elsewhere in the Adriatic, so the maximum length of the net for a functional drop of 16 m would be 64 m. However, fishing with a net shorter than 250 meters is not feasible since this would not allow for the circular manoeuvre of the vessel required to set the net.

With regard to (b) above, STECF notes that although the actual depth in the water of the seine during the fishing operation is difficult to envisage (it depends on several factors, such as speed of operation-net retrieval), it can be considered to be 50-60% of stretched net depth (e.g. Prado and Dremlere [1990], Fisherman's Workbook, cited in the MP, <http://www.fao.org/docrep/010/ah827e/AH827E04.htm>). In that sense, given the 22 m depth of the Slovenian fishing grounds, the purse-seine stretched height should not exceed 44 m in order that the purse line does not touch the bottom.

With regard to (c) above, STECF notes that the ratio '(functional drop):(length)' of the purse seines in other fisheries use a ratio other than 1:4. According to Prado and Dremlere [1990], Fisherman's Workbook, <http://www.fao.org/docrep/010/ah827e/AH827E04.htm>) purse seines can be used with a ratio as large as 1:10.

STECF also notes that in the previous version of the MP, the purse seine used by the Slovenian fishermen was described as having a height of approximately 70 metres. This contradicts the information given in Table 91 (revised MP), in which two purse seine types are presented: the 'purse seine targeting mullets' with height of 90 m, and the 'purse seine targeting small pelagics' with height of 85 m.

Finally, in the previous version of the MP, the request for derogation from the maximum drop of surrounding nets concerned both purse seine types whereas, in the revised MP, the derogation is only requested for the purse seine targeting mugilids.

STECF conclusions

STECF notes that, in the Slovenian territorial waters, the bottom depth of the purse seine fishing grounds is 22 m with small variation. STECF further notes that the requested height for purse seine of 120 m implies bottom depths deeper than 84 m according to the dimensions prescribed for purse seines in the Mediterranean Regulation (article 13, paragraph 3). If the height of the net is 120 m, the lower edge of the gear will most likely make contact with the sea bed during the fishing

operation in the Slovenian territorial waters. However, from the information presented in the plan, STECF is unable to assess either the impact of the requested derogation on exploited stocks or the impact on the benthic community resulting from the likely contact with the seabed during purse seine fishing operations.

STECF notes that the results from the pilot survey being carried out in 2013 may help to inform on the potential impacts of this gear. Such a pilot study should cover representative and quantitative information about the complete catch composition including all organisms caught and their landed proportions together with corresponding size compositions. Furthermore, the time, gear dimensions and fishing effort deployed should be reported in units of fishing time (See response under ITEM 1).

6.9. Request for advice on minimum size for anchovy

Background

The minimum landing size for anchovy exploited in the waters around the Canary Islands is laid down in Annex XII of Council Regulation (EC) No 850/98 for the conservation of fishery resources through technical measures for the protection of juvenile marine organisms. Minimum landing sizes are set at the size of first maturity to protect juveniles from fishing pressure. In order to effectively manage the exploitation on the anchovy stock and to avoid fishing it below the minimum conservation size, the STECF is requested to provide relevant biological and fishery-related information.

Terms of Reference

The STECF is requested to review relevant literature on the biology, fisheries and markets for European anchovy (*Engraulis encrasicolus*) exploited in waters around the Canary Islands and advise on the following:

- The geographical distribution and stock identity of anchovy around the Canary Islands
- The location and timing of any known spawning areas
- The characteristics of the fisheries exploiting anchovy in this area (specification of gears used, seasonal catch compositions etc.)
- The seasonal size composition of anchovy catches
- The size at first maturity in males and females of anchovy occurring in waters around the Canary Islands
- Recent trends in market prices for the different sizes of anchovy

STECF observations

European anchovy, *Engraulis encrasicolus*, is widely distributed through the North Atlantic to the South Atlantic through west coast of Africa and in the North Sea, Mediterranean Sea and Black Sea (Motos, 1994). With regard to the Canary Islands, anchovy is commonly distributed in the eastern islands and appears occasionally in the western Islands (Hernández, 2012).

There is not much information available on stock structure of anchovy in the northwest Africa and on the relationship between anchovy around Canary Islands and the African coast. Thus, in the

absence of any study on stock structure, the CECAF working group on the assessment of small pelagics fish off northwest Africa considers that all anchovy off northwest Africa, including anchovy caught in the vicinity of the Canary Islands, constitute a single stock (FAO, 2011). A meristic study analysing the number of fin rays and branchial spines concluded that there were no statistical differences neither in the mean number of any fin rays nor in the number of branchial spines between Canary Island and Moroccan anchovy (García-Martín et al., 2012). Although based on few and old samples, Ivanova and Dobrovolev (2006) found genetic differences between samples taken in Canary Islands and African coast.

Anchovy in the Canary Islands is a very important fishery resource for the artisanal seiner fleet between 10 and 16 meters long, called *traíñas*, which harvest anchovy together with other small pelagics resources such as sardines and sardinellas mainly along the coast of eastern islands from January to October (Martín-Sosa, 2012). Although there is no historical time series of anchovy landings in Canary Islands, the information on anchovy catches in recent years is being collected in a more standardized format by the Institute of Oceanography (IEO) of Canary Islands (Martín-Sosa, 2012). However, there are still some problems and gaps with data collection that need to be addressed by the regional authorities (Martín-Sosa, 2012).

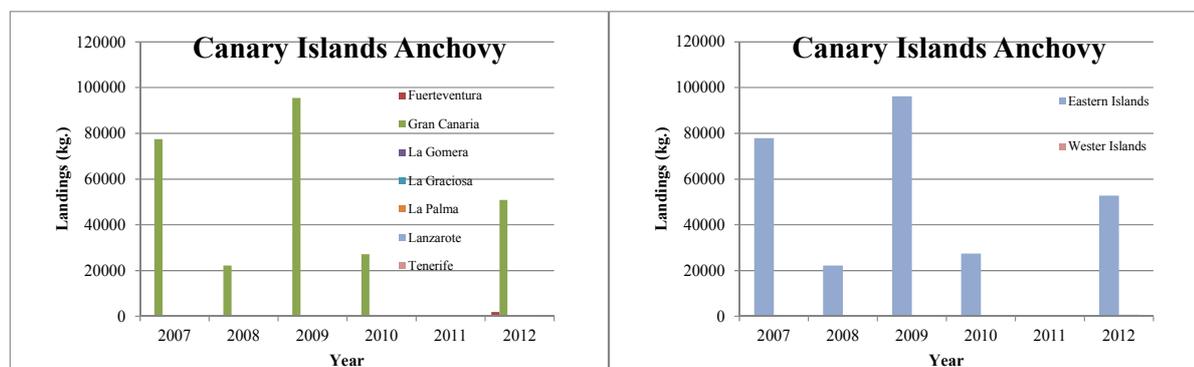


Figure 6.10.1 Canary anchovy landings by islands (left) and region (right) for the last 6 years recorded in the first sale point.

Canary Islands anchovy landings varies greatly between years with a maximum of a slightly less than 100 tonnes landed in 2009 (Figure 6.10.1). Figure 6.10.2 shows the seasonality of the catches, where major catches are observed between March and May in most recent periods. There is not size composition data available for the catches of anchovies in the Canary Islands; however, Hernandez (2012) in a reproductive study based on a sampling of 4225 individuals collected randomly aboard of commercial vessels showed that the length range of the sampling was between 45 and 145 mm with a mode around 85 mm. The mean length of the sampling by sexes showed statistical significant differences, with an average length for females of 89.7 mm and 86.3 mm for males. On the contrary, the mode of the size frequency of anchovy catches in Moroccan waters ranged between 125 and 145 mm (García-Isarch et al., 2012).

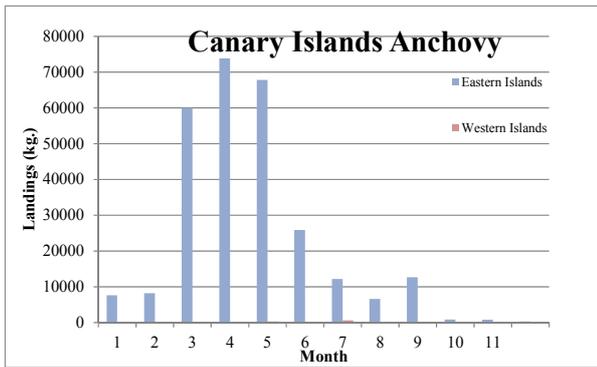


Figure 6.10.2 Canary Islands anchovy landings by month for the period of 2007-2012.

In contrast, the catches of anchovy in West Africa region of Morocco and Mauritania increased constantly through the 90s to reach the highest historic catch of around 175,000 tonnes (Figure 6.10.3). Since then, catches decreased to around 75,000 tonnes in 2005 and have been maintained between 100,000 and 125,000 tonnes during the last years.

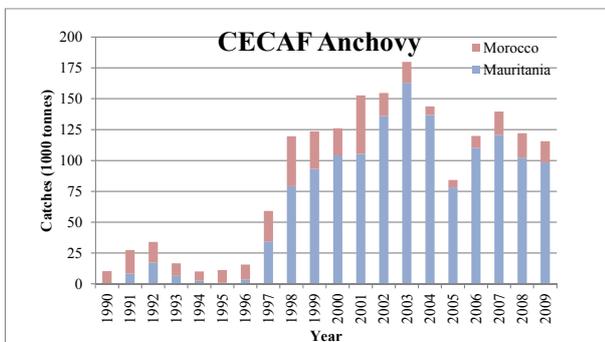


Figure 6.10.3 Anchovy catches in the CECAF area from 1990 to 2009 (FAO, 2011)

The Moroccan sub-region of the Canary Current system is characterized by permanent upwelling (Barton *et al.*, 1998) which is maintained year around by the presence of favorable northeasterly winds, although trade winds and upwelling are more intense during the summer months (Arístegui *et al.*, 2006). Upwelling filaments that transport water offshore from African Coast to the Canary Islands are recurrent structures in this area, which transport biogenic such as eggs and larvae from African coast to offshore as far as 400 km (Pelegrí *et al.*, 2006). The western limit of those upwelling filaments is considered to be Gran Canaria Island (Arístegui and Montero, 2005; Brochier *et al.*, 2008).

Thus, historically two hypotheses have been forwarded to explain the presence of anchovy in the Canary Island: (1) eggs/larvae are transported by upwelling filaments from anchovy spawning areas in African coast to Canary Islands and (2) the existence of anchovy local population in the eastern islands of Canary.

The catches of anchovy in Canary Island are restricted to the Eastern Islands and specially the Gran Canaria which is supposed to be the western limit of the African flow current of the upwelling (Brochier *et al.*, 2008). A high catch in the Canary Island western islands is documented for 1999, with the population and catches declining to normal (occasional and rare) levels afterwards. The high 1999 catch was attributed to a larger than average flow of water from African coast in that particular year (Brito *et al.*, 2002). Although the anchovy in Canary Islands appears occasionally,

anchovy larvae was the predominant component of the larvae fish community in Canary islands in 1999 (Rodriguez et al., 2004). Moreover, a relatively high density of anchovy spawning in the African shelf, where the upwelling filaments originate, was observed during a research survey in 1999 and the anchovy eggs were observed in depth layers susceptible to be transported through the upwelling filaments (Rodriguez et al., 2004). All this is in favour of the hypothesis of a continuous flow of anchovy eggs/larvae from African coast to Canary Islands. On the other hand, Bécognée et al. (2006) observed that, contrary to what happen with sardine, anchovy larvae were not always associated with upwelling filaments which may suggest some anchovy adult spawning near the archipelago.

The main spawning period for anchovy in African coast is thought to be in summer when the sea surface temperature is warmer (Ettahiri *et al.*, 2003; Berraho, 2007). There is no growth rate of anchovy published in this area but the spawning period of anchovy in the African coast could be matched with the Canary Islands anchovy fishery season and anchovy size under the hypotheses of anchovy transportation from African coast to Canary Islands.

However, Hernandez (2012) based on macroscopic staging (n=1735) found individuals from around Gran Canaria in pre-spawning and spawning condition during a 9 month period of sampling from April to December 2011 (20-40 % individuals in pre-spawning condition and 50-70% of individuals in spawning condition, Figure 6.11.4). The females mean values of the gonadosomatic index were kept high throughout the study period with a peak in the GSI index in July 2011. This observation seems to favour the hypothesis of a population in the Canary Islands but cannot refute the alternative hypotheses of the drift of anchovy from African coast to Canary Islands.

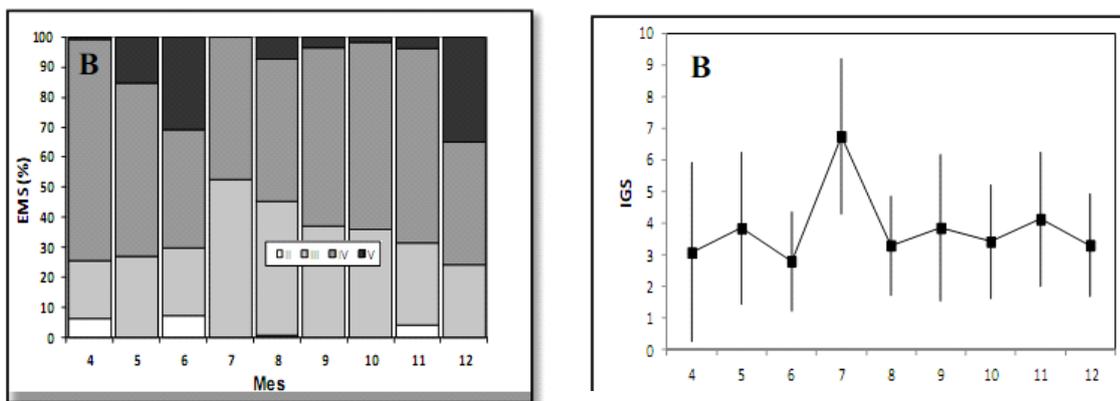


Figure 6.10.4 Females proportion of different macroscopic maturity stages (left) and females GSI monthly trend (right) from Hernandez (2012).

Hernandez (2012) also estimated the size at first maturity of anchovy macroscopically (n=1634 individuals) and microscopically (n= 331) based on the same sampled collected around Gran Canaria between March and December 2011. They estimated the size at first maturity of anchovy of samples collected using 4 maturity threshold for macroscopic staging (stages III-pre-spawning to V-partial post-spawning; GSI > 1.5; GSI > 2.0; and GSI > 2.5) and the advance vitellogenesis for microscopic staging (Table 6.10.1). Table 6.11.1 summarizes the range of length at first maturity (L_{50} where 50 % of individuals are matured) and L_{95} (where 95 % of individuals are matured). Although the number of samples used for histological analysis is lower than the macroscopic approached, it is commonly accepted that the estimation of maturity based on histological analysis is more accurate (Brown-Peterson et al., 2011).

Table 6.10.1 Size at first maturity (L_{50}) and size at massive maturity (L_{95}) by sex estimated using different maturity threshold from Hernandez (2012).

Maturity threshold	N		Length range		L_{50} (mm)		L_{95} (mm)	
	Females	Males	Females	Males	Females	Males	Females	Males
Macro stages III-V	889	745	55-146	55-140	83	90	110	128
GSI > 1.5	889	745	55-146	55-140	78	86	115	131
GSI > 2.0	889	745	55-146	55-140	96	95	142	148
GSI > 2.5	889	745	55-146	55-140	101	na	105	na
Histological staging	331		na		93	94	125	132

STECF responses

- *The geographical distribution and stock identity of anchovy around the Canary Islands*

STECF notes that anchovy is commonly distributed in the eastern islands and appears occasionally in the western Islands (Hernández, 2012). There is not much information on stock structure of anchovy in the northwest Africa and on the relationship between anchovy around Canary Islands and the African coast. In the absence of any study on stock structure, STECF notes that CEEAF working group on the assessment of small pelagic fish off northwest Africa considers that all anchovy in the northwest Africa, including that from Canary Islands, constitute a single stock (FAO, 2011).

STECF notes that historically two hypotheses have been forwarded to explain the presence of anchovy in the Canary Island: (1) eggs/larvae are transported by upwelling filaments from anchovy spawning areas in African coast to Canary Islands and (2) the existence of anchovy local population in the eastern islands of Canary. STECF notes that more investigations are needed in order to determine which of the preceding hypotheses is likely to be true.

- *The location and timing of any known spawning areas*

STECF notes that main spawning period for anchovy in African coast is thought to be in summer when the sea surface temperature is warmer (Ettahiri *et al.*, 2003; Berraho, 2007). STECF also noted that Hernandez 2012 based on macroscopic staging (n=1735) found individuals in spawning capable phase during a 9 month period of sampling from April to December 2011 in eastern Canary islands.

- *The characteristics of the fisheries exploiting anchovy in this area (specification of gears used, seasonal catch compositions etc.)*

STECF notes that anchovy in the Canary Islands is harvested by artisanal purse seiners between 10 and 16 meters long, called *traíñas*, together with other small pelagic resources such as sardines and sardinellas mainly along the coast of eastern islands from January to September (Martín-Sosa, 2012).

STECF notes that anchovy catches in Canary Islands are observed mainly between January and September with major catches between March and May in most recent period.

- *The seasonal size composition of anchovy catches*

STECF notes that there is not size composition information available for the catches of anchovies in the Canary Islands; however, Hernandez (2012) in a reproductive study based on a sampling of 4225 individuals collected randomly aboard of commercial vessels showed that the length range of the sampling was between 45 and 145 mm with a mode around 85 mm. The mean length of the sampling by sexes showed statistical significant differences, with an average length for females of 89.7 mm and 86.3 mm for males.

- *The size at first maturity in males and females of anchovy occurring in waters around the Canary Islands*

STECF notes that only the work of Hernandez (2012) estimated the first maturity of anchovy in Canary Islands using samples collected aboard of commercial vessels between April and December 2011 based on macroscopic (n= 1634 individuals) and microscopic (n= 331) maturity staging. STECF notes that Hernandez (2012) estimated different maturity values using 4 maturity threshold for macroscopic staging (stages III-pre-spawning to V-partial post-spawning; GSI > 1.5; GSI > 2.0; and GSI > 2.5) and the advance vitellogenesis threshold for microscopic staging. STECF notes that the size at first maturity in females ranged between 78 mm (macroscopic staging) to 101 mm (microscopic staging). STECF notes that, although the number of samples used for histological analysis is lower than the macroscopic approach, it is commonly accepted that the estimation of maturity based on histological analysis is more accurate (Brown-Peterson et al., 2011).

- *Recent trends in market prices for the different sizes of anchovy*

STECF notes that most of the anchovy caught in Canary Islands is sold in the market for fresh consumption but no information about the recent trends in market prices for the different sizes of anchovy is available (Martín-Sosa, 2012).

References

- Aristegui, J. and Montero, M. F. 2005. Temporal and spatial changes in plankton respiration and biomass in the Canary Islands region: the effect of mesoscale variability. *J. Mar. Syst.*, 54, 65–82.
- Aristegui, J. and Montero, M. F. 2005. Temporal and spatial changes in plankton respiration and biomass in the Canary Islands region: the effect of mesoscale variability. *J. Mar. Syst.*, 54, 65–82.
- Barton, E.D., Aristegui, J., Tett, P., Garcia-Braun, J., Hernandez-Leon, S., Nikj r, L., Almeida, C., Ballesteros, S., Basterretxea, G., Escanez, J., García-Weill, L., Hernandez-Guerra, A., Lopez-Laatzén, F., Molina, R., Montero, M.F., NavarroPérez, E., Rodríguez, J.M., Velez, H., Wild, K., 1998. The transition zone of the Canary Current upwelling region. *Progress in Oceanography* 41, 455–504.

- Becognee, P., Almeida, C., Barrera, A., Hernandez-Guerra, A., Hernandez-Leon, S., 2006. Annual cycle of clupeiform larvae around Gran Canaria Island, Canary Islands. *Fisheries Oceanography* 15 (4), 293–300.
- Berraho, A. 2007. Relations spatialisées entre milieu etichthyoplancton des petitspèlagiques de la cote Atlantique marocaine (Zones centrale et sud). Université Mohamed V, Rabat, 261 pp.
- Brito, A., Pascual, P.J., Falcon, J.M., Sancho, A., Gonzalez, G., 2002. Peces de las islas Canarias. Catálogo comentado e ilustrado. In: Litografía, A., Romero, S.A. (Eds.), La Laguna. Santa Cruz de Tenerife, Spain.
- Brochier, T., Lett, C., Tam, J., Fréon, P., Colas, F., and Ayón, P. 2008. Modelling sardine and anchovy ichthyoplankton transport in the Canary Current System. *Journal of Plankton Research*, Vol. 30, number 10: 1133-1146.
- Brown-Peterson, N. J., Wyanski D.M., Saborido-Rey F., Macewicz B. J. and Lowerre-Barbieri, S.K., 2011. A standardized terminology for describing reproductive development in fishes. *Mar. Coast. Fish.* 3, 52-70.
- Ettahiri, O., Berraho, A., Vidy, G., Ranmdani, M., Do chi, T., 2003. Observations on the spawning of sardina and sardinella off the south Moroccan Atlantic coast (21– 26N). *Fisheries Research* 60, 207–222.
- FAO. 2011. Report of the FAO Working Group on the Assessment of Small Pelagic Fish off Northwest Africa. Banjul, the Gambia, 18–22 May 2010. FAO Fisheries and Aquaculture Report. No. 975 Rome, FAO. 2011. 263 pp.
- García-Isarch, E., Millán, M., Ramos, F., Santamaría, M.T.G. and Burgos, C. 2012. Recent past and present of the Spanish fishery of anchovy (*Engraulis encrasicolus* Linnaeus, 1758) in Atlantic Moroccan waters. In S. Garcia, M. Tandstad and A.M. Caramelo (eds.). Science and Management of Small Pelagics. Symposium on Science and the Challenge of Managing Small Pelagic Fisheries on Shared Stocks in Northwest Africa, 11–14 March 2008, Casablanca, Morocco. FAO Fisheries and Aquaculture Proceedings. No. 18. Rome, FAO. pp. 441–449.
- García-Martín, V., Hernández-Castro, D., Capote, E., González, J. A., and Pajuelo, J. G. 2012. Datos preliminares sobre la biología de *Engraulis encrasicolus* (Osteichthyes: Clupeiformes: Engraulidae) en las Islas Canarias. *Revista de Investigación Marina*, 2012, 19(6): 559.
- Hernández, D. 2012. Sexualidad y Reproducción del boquerón o longorón *Engraulis encrasicolus* (Osteichthyes: Clupeiformes: Engraulidae) en aguas de Gran Canarias. Informe Final Máster en Gestión Sostenible de Recursos Pesqueros 2011-2012.
- Ivanova, P.P., and Dobrovolov, I. S. 2006. Population – genetic structure on European anchovy (*Engraulis encrasicolus*, Linnaeus, 1758) (Osteichthyes: Engraulide) from Mediterranean Basin and Atlantic Ocean. *Acta Adriatica*, 43(1): 13-22.
- Martín-Sosa, P. 2012. Fisheries around outermost regions: Canary Islands. Report for the Scientific, Technical and Economic Committee for Fisheries, European Commission.
- Motos, L. 1994. Estimación de la biomasa desovante de la población de anchoa del Golfo de Vizcaya, *Engraulis encrasicolus*, a partir de su producción de huevos. Bases metodologías y aplicación. Ph.D. Thesis. UPV/EHU, Leioa.
- Pelegrí, J.L., Marrero-Díaz, A., and Ratsimandresy, A. 2006. Nutrient irrigation of the North Atlantic. *Progress in Oceanography*. 70: 366-406.
- Rodriguez, J.M., Barton, E.D., Hernandez-Leon, S., and Aristegui, J. 2004. The influence of mesoscale physical processes on the larval fish community in the Canaries-CTZ, in summer. *Progress in Oceanography*. 62: 171-188.

6.10. Request for advice on a UK proposal for amendments to its 2011-2013 National Programme for data collection, for the year 2013

Background

On 31.10.2012, the UK submitted a proposal for amendments to its 2011-2013 National Programme for data collection, for the year 2013. Included in these proposed amendments, is the following (p.32):

Scotland

Reduced funding and a significantly reduced headcount for the fisheries sampling programme within MSS meant that it had to reduce its sampling effort in 2011 relative to that anticipated in the corresponding UK national programme and commensurate reductions were made in 2012. Sampling effort in 2013 will be maintained at the 2012 level and, as endorsed by STECF and the Commission, MSS will not carry out any pelagic observer trips in 2013 (as in 2012). This is because, as high-grading is now banned in these fisheries (Council Regulations 43/2009, 1288/2009 579/2011) landings now better reflect catches, and measurements of the biological characteristics (age and length frequencies) of the landings will be made at processing plants and factories.

Although the cessation of Scotland onboard observer programme in its pelagic fisheries was approved by STECF and the Commission in 2012 (see background information below), the Commission would like to receive STECF's opinion on the consequences of granting this derogation again in 2013, in light of the negotiations on the reform of the Common Fisheries Policy, according to which it seems likely that an obligation to land all catches in pelagic fisheries will enter into force 1 January 2014. It would therefore seem useful to have one more year of good information from observers at sea.

Background provided by the UK in an email of 3.4.2013:

Scotland cut the pelagic observer programme mid-2011 (although the summer herring fishery was sampled). This decision was based on several factors and the interaction between them, namely the impact of budget cuts, the continuing pelagic high-grading ban (Council Reg 43/2009 as amended) and the fact that close to 100% of Scottish or Irish pelagic landings are sampled at processors in Scotland. Significantly, the effect of the high-grading ban means that there may be an 'observer' effect when commercial vessels carry observers insofar as the behaviour of the master will be to operate within the legislation in which case there will be little difference between sampling landings at processors or catches at sea.

Extract from the report of the STECF EWG11-19 (Scientific, Technical and Economic Committee for Fisheries (STECF) - Review of the Revised 2012 National Programmes and on the Future of the DCF (Report STECF-12-02)

Evaluation of the Proposed Amendments to the UK national programme for 2012:

Major reduction in the Scottish sea-sampling programme as well as reduced number of trips in the market sampling is proposed. Pelagic fisheries will no longer be sampled at sea since there is a high-grading ban (see general comment). EWG realizes that this probably will have an impact the

overall data quality but acknowledges the effort made by MS to minimise the impact on the achieved precision. EWG will be vigilant on enduser feedback on this issue.

MS proposes an updated list of derogations, but does not always make reference to RCM view (see general comment). EWG acknowledges that low coverage on-board sampling in pelagic fisheries may not be appropriate to capture the discard patterns. Reasons for applying for derogation presented by MS are reasonable and acceptable and this needs to be brought for discussion to the next RCM.

This report was reviewed by the STECF during its 39th plenary meeting held from 16 – 20 April 2012, Brussels, and no specific comments were made on the above remarks of the EWG11-19.

The Commission did not raise this issue with the UK thereafter, on the basis of STECF approval of it, and therefore the proposed amendment was implicitly accepted by the Commission when the NP2012 was adopted.

This issue was not discussed at the RCM North Atlantic in 2012, as recommended by STECF.

Note that the EWG 11-19 discussed the **Impact of Ban on Discarding on Sea Sampling and recommended the following:**

On the issue of sea-sampling within a regime of high-grading or discard ban; such bans will affect the discard patterns in certain fisheries and is likely increase/introduce an observer effect. In the present proposal from the Commission on a new Common Fisheries Policy discard bans is one of the new important elements. Such bans will of course affect the kind of data that sea-sampling programmes can provide. EWG 11-19 recommends that the role of the sea-sampling programmes within a possible future regime of discard ban is thoroughly discussed within the revision process of the DCF.

The STECF Plenary of April 2012 added the following on this issue:

STECF notes that in the present proposal from the Commission on the Common Fisheries Policy discard bans may be one of the new important elements. Such bans will of course affect the kind of data that sea-sampling programmes can provide as fishermen may change their fishing patterns and be required to retain and land all by-catches.

Terms of Reference

STECF is requested to provide their opinion as to the consequences of granting this derogation from sending observers on board Scottish pelagic fisheries in 2013, in light of the negotiations on the reform of the Common Fisheries Policy, according to which it seems likely that an obligation to land all catches in pelagic fisheries will enter into force 1 January 2014.

STECF observations

STECF notes that in addition to the references provided in the background above, STECF had endorsed the reports of EWG 12-08¹⁰ (evaluation of Annual Reports 2011) and EWG 12-20¹¹

10 Scientific, Technical and Economic Committee for Fisheries (STECF). Evaluation of MS Annual Reports for 2011 of the DCF (STECF- OWP-12-05). 2012. Publications Office of the European Union, EUR 25450 EN, JRC 73248, 239 pp.

(evaluation of National Programmes 2013) where the issue of the cessation of the UK observer sampling of pelagic fisheries was addressed.

A derogation for pelagic catch sampling at sea was not included in the UK NP 2013 in the list of derogations, nor formally requested in the NP 2012 and 2013. Derogations for sampling could be based on e.g. a regional agreement, to be discussed at the relevant Regional Co-ordination Meetings (RCM North Sea & Eastern Arctic and RCM North Atlantic). This apparently was not the case for this metier.

STECF EWG 11-19¹² stated that "when MS apply for derogation to sample certain metiers, it is of importance that the derogation is also put in a regional context. What is the importance of the metier in the regional view? Has RCM concluded that sampling is well covered by other countries? This kind of information is usually compiled in the RCM reports, and should be included in the NP proposal allowing the EWG to judge the potential consequences of a derogation."

STECF notes that the next relevant RCMs are scheduled for September 2013, which is too late for responsive action on a regionally co-ordinated at-sea sampling of this metier within 2013, but could inform on such a coordinated action for implementation in 2014.

Regarding the consequences of granting a derogation from sending observers on board Scottish pelagic fisheries in 2013, STECF is not in the position to evaluate the extent to which a derogation will effect the overall data quality from this metier.

STECF further notes that the consequences of the introduction of a discards ban on catch sampling had been dealt with by EWG 13-02 and ICES expert groups (e.g. PGCCDBS 2013) and will be discussed in the context of the ongoing reform of the CFP.

STECF ADVICE

As there is a clear need for unbiased catch data, STECF suggests that if a derogation for onboard observer sampling of Scottish pelagic fisheries is granted for 2013, the UK ensures the provision of these data by alternative means, e.g. camera observation.

With regard to the wider consequences of the introduction of a landings obligation on the way how catch sampling is to be conducted from 2014 onwards, STECF suggests that this issue be added to the Terms of Reference for the forthcoming EWG 13-05 and EWG 13-16 to address the potential implications of the introduction of the landing obligation in EU fisheries.

11 Scientific, Technical and Economic Committee for Fisheries (STECF). DCF – Assessment of NP Changes (STECF-13-02). 2013. Publications Office of the European Union, EUR 25827 EN, JRC 79838, 34 pp.

12 Scientific, Technical and Economic Committee for Fisheries (STECF). DCF – Review of the Revised 2012 National Programmes and on the Future of the DCF (STECF-12-02). 2012. Publications Office of the European Union, EUR 25308 EN, JRC 70899, 87 pp.

6.11. Request for an evaluation of the fulfilment of the condition for exclusion under Art 11 of the cod plan.

Background

Council Regulation 1342/2008 establishes a long-term plan for cod stocks and the fisheries exploiting these stocks. Under Article 11(2) 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 Art 11 are due 31st March.

Terms of Reference

Based on the information provided by the Member States in support of the continuing exclusions granted under Article 11 in their annual reports, the STECF is requested to assess whether the groups 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.

STECF response

France

The French report is available at the STECF PLEN-13-01 meeting's web site on

<http://stecf.jrc.ec.europa.eu/web/stecf/plen1301>

Two groups of French vessels are currently exempted under Reg. 1342/2008 Article 2: a first group of 8 TR1 vessels operating in in the North Sea (Divisions IIa (UE), IIIa, IVabc, VIIId) and West of Scotland (Divisions Vb, VIa) targeting saithe. A second group of 2 longliners operating in West of Scotland (Divisions Vb, VIa) targeting hake.

TR1 vessels in the North Sea (IV)

Within the 537 trips undertaken by these vessels in the North Sea (Table 1), in 107 trips the cod landings exceeded the 1.5% threshold. 12 observer trips were conducted in 2012 (Table 3), covering only 4 of the 8 vessels; of these vessels 1.9% to 3.4% of their effort was covered by the observers. 10 trips used a mesh size of 110 mm and 2 trips used a mesh size of 120 mm. The total

catch of cod by quarter compared to the overall catch represent 0.41%, 1.04%, 1.44% and 3.84% respectively. The annual percentage however amounts to 1.77%.

The information provided indicates that the vessels caught on average >1.5% of cod and according to the bootstrap analysis (as PLEN-11-03) the probability is more than 70% that the average actually exceeds 1.5%.

Conclusion:

STECF notes that the catch sample data provided indicates that in 2012, the proportion of cod in the catches of the French TR1 vessels fishing in the North Sea under Article 11(2) of the cod management plan (Council Regulation (EC) 1342/2008) was greater than 1.5%.

TR1 vessels West of Scotland (Vb – VIa)

Within the 102 trips undertaken by these vessels in the West of Scotland (Table 1), the cod landings never exceeded the 1.5% threshold. 7 observer trips were conducted in 2012 (Table 3), covering only 1 of the 8 vessels (representing 5.7% of the effort of that vessel). One trip used a mesh sizes reported as 60 mm and 110 mm, 5 used a mesh size of 100 mm and 1 trip used mesh sizes of 110 mm and 120 mm. Cod was only caught (and landed) on two of those trips and represented 0.14% and 0.22% respectively. The total catch of cod compared to the overall catch represents only 0.04%.

Conclusion:

STECF notes that the catch sample data provided indicates that in 2012, the proportion of cod in the catches of the French TR1 vessels fishing in the West of Scotland under Article 11(2) of the cod management plan (Council Regulation (EC) 1342/2008) was less than 1.5%.

LL vessels West of Scotland (Vb – VIa)

Within the 55 trips undertaken by these vessels in the West of Scotland (Table 1), the reported cod landings never exceeded the 1.5% threshold. 9 observer trips were conducted in 2012 (Table 3), covering both vessels, with respectively 7.5% and 12.7% of their total effort. There were no cod catches recorded on any of the observed trips.

Conclusion:

STECF notes that the catch sample data provided indicates that in 2012, the proportion of cod in the catches of the French deep sea longliners fishing in the West of Scotland under Article 11(2) of the cod management plan (Council Regulation (EC) 1342/2008) was less than 1.5%.

Ireland

The Irish report is available at the STECF PLEN-13-01 meeting's web site on <http://stecf.jrc.ec.europa.eu/web/stecf/plen1301>

Two groups of Irish vessels are currently exempted under Article 11(2): a group of TR2 vessels operating in Division VIIa (Reg. 712/2010 Article 2) and a group of TR1 vessels operating in Division VIa (Reg. 1106/2011 Article 2).

TR2 vessels in VIIa using the sorting grid.

The group consists of 25 vessels operating in the Irish Sea (ICES Division VIIa) in the TR2 (70-99mm) gear category. Ireland only provided aggregated monthly landings by vessel, indicating that

for area VIIa, in 5 out of the 121 vessel-month combinations, the cod landings exceeded the 1.5% threshold. The two highest percentages were 19.8% and 7.0%, and these were both in January 2012; this month does not belong to the current management period under consideration (management period runs from 1 February to 31 January). STECF notes that these two highest percentages concerned vessels that were then not yet under exemption.

A Table is provided in the format of Table 1 but it only contains information on 3 observed trips (3 different vessels). The observed effort represented respectively 2%, 2%, and 7% of the effort deployed by these vessels, and 0.6% of the total effort of the exempted group of vessels. In these 3 trips a total of 3 kg of cod was caught and discarded. The average percentage of cod in the catch in these trips was 0.02% (min=0.0% - max 0.03%).

Conclusion:

STECF notes that the catch sample data provided indicates that in 2012, the proportion of cod in the catches of the Irish TR2 vessels fishing in the Irish Sea under Article 11(2) of the cod management plan (Council Regulation (EC) 1342/2008), (Reg. 712/2010 Article 2) was less than 1.5%.

TR1 vessels in VIa.

The group consists of 5 vessels: operating mainly in ICES Division VIa in the TR1 (120mm) gear category. Ireland only provided monthly aggregated information on the individual vessel landings, indicating that for area VIa, in 8 out of the 54 vessel-month combinations the cod landings exceeded the 1.5% threshold (max = 3.3%). Again, a Table is provided in the format of Table 1 containing information on 13 observed trips; these 13 observed trips concern 4 of the 5 vessels. The observed effort represented respectively 10%, 16%, 28% and 30% of the effort deployed by these vessels, and 22% of the total effort of the exempted group of vessels. In these 13 trips a total of 1813 kg of cod was caught of which 886 kg was landed. Only one out of the 13 observed trips had cod catches exceeding 1.5%, and the average of the percentages of cod in the catch in these trips was 0.63% (min=0.0% - max 3.72%). The percentage of the overall cod catches to the total catches amounts to 0.59%. Bootstrap analyses (as PLEN-11-03) of the 13 trips' data indicate that the average percentage of cod exceeded the 1.5% threshold in 0.33% of the cases.

In accordance with STECF (PLEN-03-11) advice that monitoring of VMS data from the exempted vessels should be carried out in order to record fine-scale effort distribution, plots of vessel linked VMS data are provided. This shows that almost all vessel activity in 2012 in VIa was all confined to within the restricted area which was a condition for the exemption. There is a small amount of effort shown outside the area. However, analysis of 2012 logbook landings data by statistical rectangle shows this to be associated with pelagic pair trawling for mackerel and herring (198 and 59 tonnes respectively) and therefore outside the remit of the management plan.

Conclusion:

STECF notes that the catch sample data provided indicates that in 2012, the proportion of cod in the catches of the Irish TR1 vessels fishing in West of Scotland under Article 11(2) of the cod management plan (Council Regulation (EC) 1342/2008), (Reg. 1106/2011 Article 2) was less than 1.5%.

Sweden

The Swedish report is available at the STECF PLEN-13-01 meeting's web site on <http://stecf.jrc.ec.europa.eu/web/stecf/plen1301>

The data concern 91 vessels targeting *Nephrops*, fishing with the grid and 70 mm in areas a and bi. According to their Table 1, 148 kg cod was caught and landed. According to Table 3, 5658 trips (mostly day trips, some 2 or 3 days long) were observed. The Table seems to imply that 100% of effort was observed (the sum of the effort of the observed trips equals what is given as ‘total effort’ in Column 16). In only 12 of the 5658 trips cod was caught (and landed). On average, on these trips 0.02% of cod was caught, 10 of the 5658 trips had >1.5% cod and the maximum was 45.2% (SD = 0.7%).

Conclusion:

STECF notes that the catch sample data provided indicates that in 2012, the proportion of cod in the catches of the Swedish vessels fishing with the grid and 70 mm in areas a and bi under Article 11(2) of the cod management plan (Council Regulation (EC) 1342/2008), was less than 1.5%. It would be interesting to know why some vessels/trips had very high percentages of cod.

UK

The UK report is available at the STECF PLEN-13-01 meeting’s web site on <http://stecf.jrc.ec.europa.eu/web/stecf/plen1301>

The data concern 43 vessels targeting *Nephrops*, fishing with 80 mm mesh size in areas 2b2, and 2d The Clyde, 2d The Minches and 2d “other” areas; but only 39 of them are fishing in the relevant areas The Minches and the Clyde. Of these, three fished only in the Clyde, 35 only in The Minches, and one in both. In total these vessels made 32 trips in the Clyde and 590 in The Minches. According to their Table 1, 7.5 kg cod was caught and landed (in one trip in The Minches). Within the 622 trips undertaken by these vessels in The Minches and The Clyde, the cod landings never exceeded the 1.5% threshold. Table 3 containing information on 16 observed trips in The Minches and The Clyde; these 16 observed trips concern 16 of the 39 vessels involved but they do not provide information of the effort deployed in the observed trips, so it is not clear what proportion of total effort of these vessels in the management period this represents.

In these 16 trips a total of 39 kg of cod was caught of which 37 kg was discarded. Only one out of the 16 observed trips had cod catches exceeding 1.5%, and the average of the percentages of cod in these trips was 0.47% (min=0.0% - max 2.42%). The percentage of the overall cod catches to the total catches amounts to 0.28%. Bootstrap analyses (as PLEN-11-03) of the 17 trips’ data indicate that the average percentage of cod exceeded the 1.5% threshold in 0% of the cases.

The 39 vessels that had fished under exemption by Article 11 in The Minches and/or The Clyde, had also conducted 10 trips in area 2b2 and 54 in area 2d “other”. The latter fishing activities are not exempted from the effort regime, and therefore STECF has not considered their catches in those trips.

Conclusion:

STECF notes that the catch sample data provided indicates that in 2012, the proportion of cod in the catches of the UK vessels fishing with 80 mm mesh size in areas The Minches and/or the Clyde under Article 11(2) of the cod management plan (Council Regulation (EC) 1342/2008), was less than 1.5%.

7. STECF RECOMMENDATIONS FROM STECF-PLN-13-01

REC 13-01/1

STECF recommends that the EWG 13-11 on the evaluation of Member States' reports assessing the balance between capacity and fishing opportunities be requested to evaluate the added value of the sustainable harvest indicator based on a comparative analysis of trends in this indicator and the other biological indicators.

The proposed ToRs for such a request are as follows:

- Conduct a sensitivity analysis to individual elements within the indicator calculation and discuss their implications in relation to balance for both the sustainable harvest indicator and the biological indicator(s) for balance included in the guidelines. This analysis should illustrate what can really be determined from changes in the indicators.
- Assess the outcomes of the indicators for a number of fleets, to assess when the balance of fleet capacity and agreed opportunity can change without the indicator changing and, the opposite, provide examples of when the indicator can change without the balance of fleet capacity and agreed opportunity changing.
- Based on the above, assess the added value of the sustainable harvest indicator relative to the biological indicators included in the guidelines and adjust the guidelines accordingly.

In order to manage the workload during the EWG 13-11, STECF proposes that the various indicators are calculated beforehand under an ad hoc contract for various case studies covering different fleets and fisheries.

More generally STECF considers that it would be useful to expand the ToRs to address the broader question of the methods and indicators (ecological, biological, economic and social) to be developed and used, including ecological and economic indicators, in order to assess fleet performances. Such a EWG should include scientists involved in both the EWG dealing with balance between fishing capacity and fishing opportunities and the EWG on the EAFM. The additional terms of reference of such an EWG should be as follows, using a limited set (1 to 3) of ecosystems as case studies :

- collate the economic indicators available from the most recent STECF EAFM report (EWG 11-13), for the most important fleet segments operating within each ecosystem and advise how they could or should be used to assess the economic performance at the fleet segment level.
- for the fleet segments identified, calculate the suite of ecological indicators proposed by the EWG 11-13 (extending if possible, the relevant time series), discuss the appropriateness and the usefulness of these indicators and if feasible, advise on the best way to improve the methods.

test various methods (suggested by the EWG 11-13 on EAFM or any others if appropriate) to build trade-offs between indicators.

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: <http://stecf.jrc.ec.europa.eu/adm-declarations>

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Abstract

The Scientific, Technical and Economic Committee for Fisheries hold its 42nd plenary on 8-12 April 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 Mediterranean Sea stocks, future EU data collection, and technical measures.

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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.