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PLENARY MEETING,
6-10 July 2015, Varese

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Abstract

The Scientific, Technical and Economic Committee for Fisheries hold its 49th plenary on 6-10 July in Varese (Italy). The terms of reference included both issues assessments of STECF Expert Working Group reports and additional requests submitted to the STECF by the Commission. Topics dealt with were inter alia the AER 2015, the landing obligations, and multi-annual management plans.

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49th PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-15-02)

PLENARY MEETING

6-10 JULY 2015, VARESE

1. INTRODUCTION

The STECF plenary took place at the Palace Hotel, Varese, Italy, from 6 to 10 July 2015. The Chairman of the STECF, Dr Norman Graham, opened the plenary session at 09:00h. 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 10 July 2015.

2. LIST OF PARTICIPANTS

The meeting was attended by 27 members of the STECF, three invited experts and six JRC personnel. Four Directorate General Maritime Affairs and Fisheries (DG MARE) attended parts of the meeting. Section nine of this report provides a detailed participant list with contact details.

The following members of the STECF informed the STECF chair and Secretariat that they were unable to attend the meeting:

Andrew Kenny
Sakari Kuikka
Hilario Murua
Willy Vanhee

3. INFORMATION TO THE COMMITTEE

3.1. STECF plenary – information from the Commission

The Commission informed that the outcomes of the upcoming EWG 15-11 on Mediterranean stock assessments (31 August to 4 September) will be very much demanded during the following months to advance on the MAPs. The feasibility to have separate processes by written procedure on the small pelagic stocks in the Adriatic and the results of the stock assessments, respectively, will be discussed with the EWG-15-11 chair and the STECF bureau in due time.

4. STECF INITIATIVES

4.1. The use of economic indicators for analysis of MAPs and forecasting

STECF reviewed the report of the EWG 15-02 on the North Sea multi-annual management plan (NS MAP) in its April 2015 plenary meeting (STECF PLEN 15-01). In the discussion, STECF suggested that net profit is not a reliable indicator in forecasts and should not be used in the analysis of MAP proposals. Net profit is not very robust over time, in part because it depends on company financial decisions and other external factors, which are not directly influenced by the management plan. Therefore forecasting net profits is highly uncertain and hence is not a reliable indicator of the economic impacts of the plans.

Nevertheless, in retrospective terms, net profit gives an indication about the profitability of a company, which is why it is regarded as an important indicator in discussions about the past performance of fishing fleets.

STECF suggests that EWGs dealing with forecasts should compute Gross Value Added (GVA) as an economic indicator, which presents information about what the sector provides for society (return on capital and return on labour). Provided that GVA is not split into crew remuneration (wages) and capital remuneration (net profit), (based on operating profit rather than net profit) then GVA is considered more robust than net profit as an indicator by avoiding having to make assumptions about the distribution of rent across remuneration of labour and capital, financing choices and taxes.

5. ASSESSMENT OF STECF EWG REPORTS

5.1. STECF EWG-15-03: Annual economic report 2015 of the EU fishing fleets

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.

STECF observations

STECF acknowledges the extensive work undertaken by all personnel involved in the preparation of the 2015 AER, which represents the most comprehensive overview of the structure and economic performance of EU Member States' fishing fleets prepared to date. Nevertheless there are a number of important considerations that users of the report will need to be aware of in order to correctly interpret the findings presented in the report. These are listed below:

STECF notes that, although there are still some substantial shortfalls in the data submitted by Member States, data delivery requirements in response to the 2015 call for economic data on the EU fishing fleet were more complete than those submitted under previous economic data calls.

Nevertheless, STECF notes that the data submitted by eight Member States (Bulgaria, Cyprus, Estonia, Ireland, France, Greece, Malta, Spain) were identified by the Expert group as incomplete or unreliable and were not taken into account in the EU and regional trend analyses presented in the 2015 AER. Furthermore, data submitted by Croatia were also excluded from the time trend analyses because data from Croatia relate to 2013 and 2014 only, as Croatia joined the EU in July 2013.

In addition, the exclusion of all or some Member States' data from the EU and regional overviews has varied between AERs. This means that time trends shown in previously published AERs now appear different to those presented in the 2015 report. The absence of some data from some MS can change the direction of key trends for the overall EU fleet. For example, in the 2014 AER, EU fleet net profit **increased** from 2011 to 2012 (Figure 10, page 26). However in the 2015 AER, EU fleet net profit is shown to have **decreased** from 2011 to 2012 (Figure 3.3.16).

In view of the above arguments, the EU and regional trend analyses presented in the 2015 and earlier AERs may not reflect the true trends for the entire EU fishing fleet.

STECF notes that for a variety of reasons including incomplete information, the templates used by the EWG to summarise fleet economic information by Member State were not completed in a standardised way. In addition, there is scope to improve the format of such templates and therefore an alternative format for future AERs is proposed under STECF conclusions below.

STECF notes that for the first time in the AER, figures showing trends in monetary values presented in the report have been adjusted for inflation and are shown in equivalent 2014 EURO values. The adjustment may have contributed somewhat to some of the apparent differences in trend directions between those published in the 2014 and 2015 AERs, although any changes in the data provided by MS in response to the 2015 data call could also be a contributing factor.

While the need to respect the confidentiality of business owners is acknowledged, it does cause issues with reporting on the performance of MS fleet segments that are clustered together with other segments in the same MS. For such clusters, the total figures for all the individual vessels in the cluster are correctly presented but totals, averages and trends for individual fleet segments that make up the cluster are not presented.

STECF observes that there is discrepancy in how some MS interpret the regulation regarding which vessels should be included in the data for each reference year. The DCF regulation [No. 199/2008] states that all vessels on the MS fleet register at 1st January of the reference year should be included, and that economic variables should be for all vessels that are active during the year. However, some MS have interpreted this to mean all registered vessels that were active during the year, including vessels which were added to the fleet register after 1st January, while other MS have included economic variables only for those vessels that were both on the register at 1st January and were active during the reference year, thus missing out data for vessels that joined the register and were active during the year.

The 2015 AER presents the results of economic projections for fleets in the NE Atlantic for the years 2014, 2015 and for what is referred to as MSY using the Bio-Economic Model of European fleets (BEMEF)¹. The basis of the projections for 2014 and 2015 are the agreed TACs for those years. However the basis for the projections at MSY is unclear, but appears to be the aggregated expected landings of all species by fleet when fished at F_{MSY} . This definition assumes that (i) there is a MSY by fleet, which is not correct, since MSY is a combined characteristic of the stock and the fleets exploiting that stock; and (ii) it is possible to harvest all the stocks at MSY simultaneously, which in a mixed fishery is very unlikely to occur. Hence the results of the projections at MSY are likely to be unrealistic and should not be considered informative. Furthermore, it is important to note that because the uncertainties associated with the projections are not shown in the AER, the precision of the projected values appears overly-optimistic.

STECF conclusions

The conclusion of the STECF on the 2015 AER can be divided into those that are of policy relevance and are directed to DG MARE and those that are of a procedural nature and are directed to the future EWGs involved in the production of future AERs. These two categories are listed separately below.

Conclusions for DG MARE

The 2015 Annual Economic Report (AER) on the European Union (EU) fishing fleet provides the most comprehensive overview of the structure and economic performance of EU Member States' fishing fleets prepared to date. The majority of the analyses regarding the performance of Member States' fleets are reliable and informative. However, because data from a number of Member States (Bulgaria, Croatia, Cyprus, Estonia, Ireland, France, Greece, Malta, Spain i.e. including some of the EU's biggest fishing nations) were excluded from the regional and EU overviews, the trends reported in those overview sections may be wholly misleading and are not informative.

The issue of inconsistent clustering of fleet segments remains problematic in some cases. STECF suggests that DG MARE discuss with Member States whether a standardised set of criteria can be agreed on when fleet segments need to be clustered. At the same time it may be useful to discuss whether vessels in similar fleet segments from different member States operating in the same sea basins could be clustered so that a multi-MS cluster of similar vessels, e.g. Baltic Sea pelagic over 40m vessels, could be created when there may be too few vessels in each MS to show any national fleet segments for these vessels. Such a multi-MS cluster would still provide useful information about the performance of vessels engaged in the fishery.

Following the communication from DG MARE to Member States on the procedures for data submission in response to data calls under the DCF and the timing of EWGs, the data submission process for fleet economic data was much improved compared to previous years. All data submitted by Member States were assembled and checked ahead of the second AER EWG meeting.

¹ Managing EU fisheries in the public interest. Results from the Bio-economic Model of European Fleets. [Griffin Carpenter](#) and [Aniol Esteban](#). March 2015

Nevertheless, the following comments from the report of the July 2014 STECF plenary meeting remain valid:

“STECF reiterates its comments from 2013, noting that the usefulness of future Annual Economic Reports on the performance of EU fishing fleets will remain less than optimal unless Member States submit complete, accurate and timely data submissions in response to annual economic data calls. STECF urges the Commission to take whatever action is necessary to ensure that future data submission from Member States are complete, accurate and are submitted within timescale specified in the annual data calls. Until such time that these issues are resolved, the ability to generate accurate and in-depth analysis of the performance of the EU fishing fleet at a regional and EU wide level is compromised.”

Notwithstanding the previous paragraph, STECF notes that some of the historical data that are currently missing from the fleet economic dataset are unlikely ever to appear and concludes that in future, there is therefore a need to focus on those time series that are currently more or less complete.

STECF concludes that the results from the BEMEF projections at MSY are based on inappropriate assumptions are likely to be unrealistic and should not be considered informative. Furthermore, it is important to note that because the uncertainties associated with the projections are not shown in the AER, the precision of the projected values appears overly-optimistic.

STECF concludes that in future, economic variables and fleet capacity variables submitted by Member States in response to the fleet economic data call should relate to all vessels that were active during each reference year, irrespective of whether they were on the fleet register on 1st January of the reference year.

Conclusions for EWGs preparing future AERs

STECF concludes that it would be useful if future AERs contained MS summaries that all follow the same structure and the following alternative template is proposed, noting that items 2 to 9 could be tabulated with use of small graphs (e.g. MS Excel sparklines) for trends:

1. Most important observed characteristic of the MS fleet (e.g. substantial change in fleet size or revenues)
2. Number of vessels: Total, SSF, LSF, DWF + trends
3. Gross Tonnage: Total, SSF, LSF, DWF + trends
4. Engine power (kW): Total, SSF, LSF, DWF + trends
5. Landings, top five species, quantity and value
6. Employment (jobs): Total, SSF, LSF, DWF + trends
7. Employment (FTE): Total, SSF, LSF, DWF + trends
8. Revenue (€): Total, SSF, LSF, DWF + trends
9. GVA (€): Total, SSF, LSF, DWF + trends
10. Other interesting features of each MS fleet e.g. any substantial recent changes in activity, physical characteristics of vessels included in the segment, etc.

STECF concludes that due to different opinions within the EWG regarding the adjustment of monetary values to account for inflation over the time series, and due to different views on the most appropriate index to use if adjustment is done, the issue of adjustment for inflation requires further

investigation and discussion. It is imperative that the issue is resolved and a decision taken by the EWG on the most appropriate index to include in the next AER.

5.2. STECF EWG-15-04: Multiannual management plans SWW and NWW

Request to 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.

Given the generic approach undertaken for the evaluation of Multi-annual plans associated with the North Western Waters and the South Western Waters Region, the STECF evaluation of the relevant sections (NWW/SWW) of EWG 15-04 and EWG 15-09 are considered together in the following evaluation. STECF evaluation of Multi-annual plans for the Mediterranean (EWG 15-09) can be found in Section 5.6 of this report.

STECF considerations

STECF notes the considerable amount of work carried out by the EWG and concludes that the different methodologies used to address all the TORs follows the best practices in the field of simulation modelling for providing scientific policy advice.

STECF notes that TORs 3.1 to TOR 3.2 of the EWG 15-04 and EWG 15-09 have been addressed using simulation testing. Five different models have been used to conduct the simulations of the EWG:

- Iberian waters simulation model (FLBEIA).
- Iberian waters multi-fleet state-space model
- Bay of Biscay Spanish fleets simulation model (FLBEIA).
- Bay of Biscay French fleets simulation model (IAM).
- Celtic Sea (FLBEIA)

At the present time, models covering other areas in the NWW (e.g. Irish Sea, Western Channel and West of Scotland) are not available.

Using each of the above models, two management options were simulated. Option one (baseline) which included:

- Single species F_{MSY} objectives
- Achieving objectives in 2016
- Inter-species flexibility (LO)
- Inter-annual flexibility (LO)
- Existing management plans

and option two (named MAP) which when implemented will repeal the existing management plans, includes:

- F_{MSY} ranges instead of single species F_{MSY}

- Achieving objectives in 2016
- Inter-species flexibility (LO)
- Inter-annual flexibility (LO)
- De minimis exemption (LO)
- Survivability exemption (LO)
- Biomass safeguards

The results provided in the EWG Report are expressed in relative terms in order to highlight the relative differences between the two management options.

For most of the stocks concerned, F_{MSY} ranges have not yet been provided by ICES and so were derived using a regression analysis approach based on North Sea and Baltic F_{MSY} estimates (ICES WKFMSYREF3).

The models used were unable to incorporate all fleets and stocks that exist in each of the management areas. However, for the stocks and fleets that could be included in the analysis, the simulations take account of the catches of all stocks and the fleet revenues obtained from them. Furthermore, for the Northern Hake stock, which is common to the two Bay of Biscay simulation models, the parametrization was made consistent and the results obtained from both models were similar.

The potential impact of the LO was not evaluated by the EWG due to time constraints and uncertainty associated with how it is likely to be implemented; namely which decisions will be taken by the MS regarding inter-annual and inter-species flexibilities, which may result in large changes in fishing mortality.

STECF notes that EWG 15-04 and EWG 15-09 used the same method used by EWG 15-04, to highlighted fleets with 'high' and 'low' employment together with their economic dependency on the species identified in the MAP (relative to the total landings' value of each fleet). Such an analysis allows the identification of potential employment impacts created by the implementation of the MAP, as well as identifying the fleets most impacted.

All of the EWGs computed a number of economic indicators such as fixed costs, variable costs, revenue and GVA. STECF notes that the forecasts of economic indicators are largely based on the transformation of catch, effort and capacity, and do not reflect other potential economic dynamics due to the due to the difficulties in forecasting changes in prices of fish, costs of fuel, wages, etc. Indicators based on profits are considered to be uninformative and potentially misleading and were deliberately not computed for the reasons outlined in Section 4.1 of the EWG report.

STECF notes that for TOR 3.4 no quantitative analysis was carried out, the EWGs' findings are based on experts' knowledge.

STECF notes that TOR 3.5 has been undertaken using correlations between species' catches. The analyses indicate it is unlikely that setting TACs for the target/driver stocks will be sufficient to manage exploitation rates on by-catch/non-driver stocks.

STECF conclusions

Based on the results of simulations of the provisions of the proposed management plan, STECF concludes that, setting fishing opportunities in line with single-species F_{MSY} ranges will provide

managers with additional flexibility compared to the basic provisions of the 2013 CFP. Such flexibility is likely to help alleviate the problem of mismatches in quota availability in mixed-species fisheries thereby reducing the risk of early closure of some fisheries due to choke species. Adopting F_{MSY} ranges will therefore increase the likelihood that desired exploitation rates will be achieved and will reduce the risk that some fishing fleets will go out of business.

STECF considers that it is crucial that managers take note that persistent fishing at the upper limits of the F_{MSY} ranges across all or most stocks simultaneously negates the flexibility introduced by the F_{MSY} ranges and greatly increases the risk of overfishing. Such an approach will also increase the risk that the objectives of the CFP will not be achieved.

STECF concludes that single species biomass safeguards for all stocks should be maintained to provide a basic level of protection.

STECF notes that for the fleets affected by the SWW MAP, those providing the highest employment are generally not dependent to a great extent on the species that will be regulated through the MAP proposals.

STECF notes that in the NWW there are some fleets which provide significant levels of employment and seem to be very dependent on the species that will be regulated through the MAP proposals. Nevertheless, there are a number of fleets in the NWW area that are not included in the employment analysis because of an absence of appropriate data. Regarding the number and scope of MAPs as currently defined, STECF considers that a MAP covering a wider geographic area has advantages in terms of reducing management overheads and avoiding multiple regulations affecting the sector. A larger MAP area however, may have disadvantages associated with reducing the emphasis on local management measures and this may discourage the involvement of stakeholders, although this effect will depend on how the process of regionalization operates within the MAP.

To evaluate the question of whether management of the species that drive the fisheries adequately allows for the management of by-catch species, the EWG carried out an analysis of correlations between catches of driver species identified in the plan and a variety of by-catch species. The analysis suggested only limited correlation. In view of this, the STECF notes that it is unlikely that relying on the TAC of the driver species to manage other species will be effective, in accordance with CFP requirements. STECF however notes that when analysis was performed at the fleet level, there were more obvious correlations, suggesting some scope to use fleet related management measures for the driver species as a way of managing some of the bycatch species. STECF therefore concludes that management of exploitation rates of non-driver (or bycatch) species is unlikely to occur as an automatic consequence of the management of the main (driver) stocks by TAC considered in the MAP.

5.3. EWG 15-05: Landing Obligation - Part 5 (demersal species for NWW, SWW and North Sea)

Request to 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. In making their evaluation STECF is asked to take into account any additional supporting information they may be supplied by the Member States Regional Groups.

Observation of the STECF

The report of the STECF EWG 15-05 represents the findings of the fifth Expert Working Group meeting convened to address the implications associated with the implementation of the Landing Obligation, the provisions of which are prescribed primarily in Article 15 of the 2013 Reform of the Common Fisheries Policy (Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013).

STECF EWG-15-05 was requested to evaluate elements of the joint recommendations (JR) submitted to the Commission by Member States' regional groups in respect of demersal fisheries in North-western waters, South-western waters and the North Sea. STECF notes that in some cases, the fishery definitions included in the JRs show potential anomalies and there are several trans-boundary issues where individual fisheries straddle different management areas with differing definitions. These may create difficulties for managers and fishermen.

In addition EWG-15-05 was requested to review and assess the supporting documentation underpinning proposed exemptions based on high survivability, de minimis and changes to minimum conservation reference size (MCRS). A request detailing additional technical measures to be introduced in the Skagerrak as part of the North Sea joint recommendations was also considered. On the basis of the report of EWG-15-05, STECF notes the following:

STECF re-iterates that without clear definitions of the terms, “disproportionate costs”, “very difficult to improve selectivity” or “high survival”, there are no objective scientific criteria to judge whether any proposed exemptions from the Landing Obligation (LO) are merited. Consequently, managers will need to judge whether such proposals are merited using relevant subjective criteria.

STECF notes that the EWG-15-05 has identified a number of general issues and limitations in the JRs that the Commission may wish to note. These broadly relate to inconsistencies in the definition of the fleets to which proposed exemptions relate. For de minimis exemptions, STECF notes that in many cases, it is unclear how de minimis catch volumes would be estimated (i.e. what total annual catches are to be used to estimate the de minimis volumes) and furthermore, to which fleets such de minimis volumes will be accessible. STECF notes that in relation to these points, additional information has been sought from the regional groups and in most cases been provided to the Commission. The STECF observations associated with such additional information are provided in Table 5.3-1, Table 5.3-2, and Table 5.3-3.

STECF notes that in many cases, the de minimis proposals are based around potential losses of marketable fish associated with improvements in selectivity. STECF also notes that because selectivity is generally not knife-edged (i.e. with a very narrow selection range), improvements in selectivity almost invariably result in some short term losses and that such losses should be viewed in the broader context of the overall impact of the Landing Obligation. In some cases losses in marketable catch may be offset to some extent by quota uplift, and furthermore the potential reductions in catches of fish <MCRS associated with improvements in selectivity, would reduce the amount of quota needed to account for catches that cannot be sold for human consumption. Furthermore, improved quality of catch and reduced sorting time arising from reductions in catches of individuals less than the MCRS may also offset any losses in value. All these elements would to some extent negate the negative economic consequences associated with the short term losses of marketable fish. In addition, improvements in selectivity and exploitation

pattern are likely to result in medium-term increases in stock biomass and potentially higher yields to the fisheries.

STECF notes that several of the de minimis applications have focused on determining what additional costs would be incurred through (i) onboard sorting and handling of the catches; or (ii) costs associated with onshore disposal of unwanted catches. It is unclear to STECF whether de minimis exemptions based on additional costs associated with onshore disposal are in line with the spirit of the basic regulation or whether it was the intention of the regulators to seek economic evidence regarding the additional costs of handling unwanted catch, Article 15.5(c).ii could be interpreted in such a way that disproportionate costs of handling unwanted catch are simply assumed when the unwanted catch of a specific fishing gear is below a certain percentage of the total catch of that gear, and that the key element is that the percentage threshold would be established in a discard plan (STECF-13-23).

STECF notes that the introduction of the landing obligation will undoubtedly result in the increased retention of unwanted catches which will increase onboard sorting and stowage times as well as leading to the expansion of onshore handling, processing or disposal provisions. These are likely to be generic issues across all fisheries and in particular for those focused on multiple species. Therefore, there are no obvious ways to define when this issue becomes “disproportionate” in one fishery compared to another. Furthermore, STECF also notes that the provisions regarding documentation of the catch (from 0 kg in the case of de minimis exemptions) will presumably require some increase in the sorting and handling times.

STECF notes that several of the de minimis proposals are supported with arguments that are based on the idea of "compensation" for selectivity measures that have already been introduced, rather than on the grounds that further selectivity is very difficult to achieve. In such cases, the proposed de minimis exemptions appear to be intended to cover residual discards and as such essentially equate to "business as usual" with the result that there will be little incentive for fishermen to try to further increase selectivity to reduce the residual unwanted catches.

STECF notes that the JR for the North Sea, includes a proposal to set the MCRS for *Nephrops* in the Skagerrak/Kattegat (IIIa) and the North Sea at 105mm total length (equivalent to about 32mm carapace length), which corresponds to the current minimum landing size for *Nephrops* from the North Sea (Current MLS in IIIa is 130mm total length, equivalent to 40mm carapace length). The lengths of 50% maturity for males and females in the IIIa *Nephrops* population is estimated to be 30mm and 27.8mm respectively (ICES 2006). Given that the proposed MCRS is above the L50 maturity sizes, STECF considers that the risk to the population of reducing the MCRS in IIIa so as to harmonise it with ICES Division IV, is small although any increase in mortality of smaller individuals from current levels will likely result in lower F_{MSY} values and therefore reduced yields.

STECF notes that several proposals in the Joint Recommendations are to exempt *Nephrops* from the landing obligation on the basis of high survival. As noted previously by STECF, there are no objective scientific criteria to determine what constitutes high survival and therefore STECF cannot provide specific guidance on whether the survival rates from experimental results presented in the Joint Recommendations can be considered high. Furthermore, as the survival rates presented in support of the proposals are based on captive experiments, where discarded animals are retained within tanks based on shore or on the sea bed, and therefore protected from potential post-discard scavenging they may be overestimates of the true survival rates. Furthermore, STECF (13-23) has

noted that retaining and landing catches of animals that would otherwise have survived the discarding process increases fishing mortality on those size/age groups that would have been discarded, thereby potentially resulting in a negative shift in exploitation pattern. This would result in a reduction in fishing opportunities so as to remain within F_{MSY} objectives unless improvements in selectivity can be introduced.

STECF has previously noted that with the exception of studies associated with creel fisheries, which show captive survival to be greater than 80% in all cases, the limited data available associated with trawl discards indicate that discard survival of *Nephrops* is highly variable (12-88%). STECF also notes that for stock assessment purposes ICES assumes a post-discard survival rate for *Nephrops* in trawl fisheries of ~25% (depending on stock).

The results presented from studies in ICES Division IIIa indicate a much higher survival rate of *Nephrops* (59% and 73%) for trawls fitted with species-selective devices (SELTRA panels and grids respectively) than previously observed for trawls without any species selectivity device. The difference between the IIIa and the ICES estimates may in part, be due to a reduction in bulk catch associated with the species-selective gears that may have offered some benefits in terms of reduced compression in the cod-end during towing and reduced sorting time on deck, reduced sorting time has been identified as being beneficial to discard survival in general (SGMEDS, 2014). However, STECF notes that the ambient environmental conditions of relatively low air temperature and similar sea temperature (ca. 6°C) observed during the IIIa study period are likely to be a significant contributing factor to the observed survival rates. Seasonal variability in survival of *Nephrops* has previously been attributed to ambient environmental conditions, with lower air temperatures resulting in higher survival rates (Castro *et al*, 2003).

Noting that further studies are planned during the summer in 2015, STECF considers it appropriate to await the outcome of the autumn 2015 experiments so that the results can be taken into account by managers in deciding whether survivability of *Nephrops* is to be considered high and whether to grant the proposed high survivability exemption on such grounds.

Furthermore, STECF notes that survivability studies usually only provide estimates of pre-discard mortality relating to the species under study and the type of fishing operation which includes inter alia, vessel- and gear-specific factors. To date, post-discard mortality for most species and fishing operations remains unknown and is extremely difficult to quantify. Nevertheless, the overall mortality of discarded fish may be higher than that estimated through captive survival experiments. It is also important to note that the estimated mortality rates from survival experiments are influenced by numerous factors that could vary widely over time and between vessels (see EWG 13-17). Hence, such studies only provide estimates of pre-discard mortality that reflect the circumstances that prevailed during the experimental trials.

Due to the practical difficulties, complexity and high costs of estimating survivability, particularly with regard to the assessment of post-discard mortality, it may not be possible to obtain estimates of overall discard survival for the vast majority of species and fisheries.

It is likely therefore that managers will need to take decisions on proposed exemptions based on information that may not be fully reflective of the true survival rate even if it has been obtained under rigorous experimental conditions.

Table 5.3-1. Summary of additional information received relating to exemptions presented for North Western

Waters

Fishery	Main Findings of EWG 15-05	COM comments to Regional Groups	Response by Regional Groups	Comments STECF PLEN 15-02
De Minimis				
Sole in trammel net and gillnet fisheries in ICES areas VIId, e, f and g.	Exemption is well defined. Additional selectivity improvements through increases in mesh size are demonstrated to be problematic to achieve without incurring losses of marketable sole although the potential scale of these losses have not been quantified. Proposed de minimis will lead to a status quo in discard rates.	No comments	No action required	No additional comments
Whiting in bottom trawls less than 100 mm (TR2) in the Channel (ICES area VIIde)	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve. Current discard rates far exceed de minimis request so incentive to further improve selectivity remains.	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated. The volume of catch would also aid the examination of disproportionate handling costs.	Partial clarification (NL have provided data) regarding the fleet segments to which the exemption will apply. No further supporting information supplied because discard data is not available.	Clarifications provided partially address the issues raised by the EWG. No further data supplied from UK or FR –Cannot assess current discard level compared to the volume of the de minimis requested.
Whiting in bottom trawls greater than or equal to 100 mm (TR1) in the Celtic Sea and the Channel (ICES areas VIIb-j)	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve. Further selectivity studies are ongoing with promising results and these measures should be implemented as quickly as practically possible. Current discard rates far exceed de minimis request so incentive to further improve selectivity remains.	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated. The volume of catch would also aid the examination of disproportionate handling costs.	Partial clarification has been provided on the fleet segments to which the exemption will apply. No further supporting information is available on discard rates in the fisheries.	Clarifications provided partially address issues raised by EWG.
Whiting in bottom trawl fisheries targeting mixed demersal finfish in the Celtic Sea (ICES Area VII excluding VIIa,	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. No quantitative information on selectivity analyses is	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated. Further supporting information is required.	Clarification has been supplied on the fleet segments to which the exemption will apply. Further supporting information has been provided to strengthen the justification for	The clarifications provided better define the fleet segments to which the exemption will apply. The additional supporting information does provide some level of justification for the exemption but basis

d and e) with less than 100mm	provided. Request is based on information on the economic performance of the fleet involved. Current discard rates far exceed de minimis request so incentive to further improve selectivity remains.		the exemption on the basis that selectivity is very difficult to achieve but there is a paucity of relevant selectivity data.	is generic across all fisheries of this type.
<i>Nephrops</i> in bottom trawl fisheries in ICES area VII	There are inconsistencies between the Joint Recommendations and the annexes. It is unclear whether the exemption relates only to trawls and seines or whether it extends to all gear types in the fishery. The basis for calculating de minimis is unclear and it is not possible to estimate the de minimis volume. Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve.	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated.	Clarifications have been provided on the fleet segments to which the exemption will apply. No additional data provided.	Clarifications provided largely address issues raised by EWG
<i>Nephrops</i> in bottom trawl fisheries in the West of Scotland (ICES Area VIa)	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume Supporting quantitative information shows costs for disposal of <i>Nephrops</i> < mcrs to be significant. Further studies planned.	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated.	Clarifications on vessels and areas to be covered have been provided.	Clarifications provided largely address issues raised by EWG
Sole in beam trawl fisheries using a gear with increased selectivity in the channel (ICES Areas VII d,e) and the Celtic Sea (VII f,g)	There are a number of inconsistencies in the definitions of the fisheries to which the de minimis is to apply. Supporting information is unclear It appears the intention is to provide a de minimis volume as an incentive to improve selectivity.	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated. Further supporting information on the fleets involved and the level of de minimis required should be better defined.	Clarifications have been provided on the fleet segments to which the exemption will apply. Further supporting information has been provided to strengthen the justification for the exemption on the basis that selectivity is very difficult to achieve.	Clarifications provided address issues raised by EWG Exemption is to compensate for the use of more selective gear and not because “to difficult to achieve” (i.e. the de minimis will cover residual discards after increasing selectivity and it is difficult to reduce these discards further)
High Survivability				
<i>Nephrops</i> using pots – VIa and VII	Results indicate survival rates of > 80%. The estimates presented are at the upper end of survivability studies using captive methods. Cannot quantify the potential post discard predation mortality	No comments	No action required	No additional comments

Table 5.3-2. Summary of additional information received relating to exemptions presented for the North Sea and Kattegat/Skagerrak

Fishery	Main Findings of EWG 15-05	COM comments to Regional Groups	Response by Regional Groups	Comments STECF PLEN 15-02
De Minimis				
<i>Nephrops</i> below MCRS caught by bottom trawl with a mesh size of 80-99mm	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Supporting quantitative information shows costs for disposal of <i>Nephrops</i> below mcrs to be significant (16% of the average net profit for vessels in the fishery)	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de minimis should be calculated and why it appears to be quite high relative to reported discard rates.	Clarification of the fleet segments and areas to be covered has been provided. The rationale for a 6% volume of de minimis clarified - for parts of the industry discards below MCRS exceed 6% of catch and they have limited scope or vessel capability to adapt to fish on alternative grounds. De minimis request covers their needs. Should an exemption for high survivability for <i>Nephrops</i> in IIIa Skagerrak/Kattegat be granted, this de minimis would be limited to the North Sea (IIa+IV).	Clarifications provided address largely issues raised by EWG.
Common sole caught by beam trawls with a mesh size of 90-119mm or similar selective gears	There are a number of inconsistencies between the JR and annexes in the definitions of the fisheries to which the de minimis is to apply. Supporting information is unclear. It appears the intention is to provide a de minimis volume as an incentive to improve selectivity.	Clarify the actual fleet segments involved and provide further supporting information on the fleets involved and the level of de minimis required. Re-consider the exclusion of this exemption or provide further clarification and supporting information to demonstrate selectivity is difficult to achieve.	Request withdrawn but only for beam trawls with a minimum mesh size > 90 mm (an amendment to the JR might be proposed later). An exemption is maintained for beam trawls with increased mesh sizes in the extension of the beam trawl (Belgium study). Supporting information has been provided. Similar exemption applied for in NWW.	Exemption still seems to be to compensate for the use of more selective gear and not necessarily because selectivity is "very difficult to achieve". (i.e. the de minimis will cover residual discards after increasing selectivity and it is difficult to reduce these discards further)
Common sole caught by beam trawls with a mesh size of 80-90mm	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Quantitative information presented is not clear whether disproportionate costs relate purely for sole or for all discards and therefore whether the assertions are correct or not.	Provide the supporting study and clarification on whether the costs are related to sorting the total catch or just the small quantity of sole below 19cm to allow assessment whether this exemption is justified and whether such significant increase in crewing are actually required in practice.	Clarification has been provided on the fleet segments to which the exemption will apply and on the basis for the calculation of the volume of de minimis. Additional information has been also provided on the supporting study.	Clarifications provide define the fleet and volume of de minimis. Issues presented are generic to all fisheries – costs for handling on board will be increased through the retention of unwanted catches regardless of the fishery. Unwanted catches have to be documented so therefore will have to be handled to some extent.
Fish by-catch caught in <i>Nephrops</i> targeted trawl fishery	No quantitative information presented to demonstrate that increases in selectivity are difficult to achieve. The de minimis will lead to a status quo in discard rates.	Provide relevant supporting information on selectivity to support the exemption.	Additional information on relevant selectivity studies has been provided.	Clarifications provided address issues raised by EWG.

Common Sole caught in gillnets and trammel nets	The exemption is well defined. Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve. The de minimis will lead to a status-quo in discard rates.	No comments	No action required	No additional comments
High Survivability				
<i>Nephrops</i> caught using pots – ICES area IIIa, IV and EU waters of IIa	Results indicate survival rates of > 80%. The estimates presented are at the upper end of survivability studies using captive methods. Cannot quantify the potential post discard predation mortality which means the survival rates are an overestimation	No comments	No action required	No additional comments
<i>Nephrops</i> caught with trawl gears in area IIIa – Grids and SELTRA trawl	Results indicate survival rates of > 75% for grid trawls and 59% for the SELTRA trawl which are at the upper end of survivability studies using captive methods The experiments were conducted under very favourable environmental conditions and may overestimate survival over the full year. Appropriate to await the outcome of follow-up trials so that the results can be taken into account when deciding whether survivability is to be considered sufficiently high to grant the exemption.	Confirmation is required that further studies are planned for Autumn 2015.	Further studies are planned for autumn 2015	No additional comments
<i>Nephrops</i> caught with trawl gears in area IV and EU waters of IIa - NetGrid	Based on extrapolation of the results from trials in the Skagerrak Not advisable to assume that survival rates of <i>Nephrops</i> in this fishery are the same as in the Skagerrak. Dedicated survival studies in the fishery for which the exemption is being sought would be advisable.	Review this exemption and clarify whether the intention to keep it in the Joint recommendation. If so further supporting information is required.	Request withdrawn at this stage. Research will be undertaken later this year with results expected by the end of March 2016: amendment to the JR expected in the future, if such exemption deemed as well-established by the Scheveningen Group.	No additional comments
MCRS				
Harmonising the Minimum Conservation	The risk of harmonising the mcrs is small although any increase in	No comments	No action required	No additional comments

Reference Size (MCRS) for <i>Nephrops</i> in the Skagerrak with the North Sea	mortality of smaller individuals from current results will likely result in lower F _{MSY} values and therefore reduced yields			
Technical Measures				
Technical measures in the Skagerrak	No supporting information provided but these measures have largely been assessed previously by STECF	No comments	No action required	No additional comments

Table 5.3-3. Summary of additional information received relating to exemptions presented for South Western Waters.

Fishery	EWG	Commission	Response RG	Comments PLEN 15-02
De Minimis				
Sole in beam trawl and bottom trawl fisheries in ICES Subarea VIII and b	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Supporting documentation demonstrates short-term losses as a result of an increase in mesh size. Supporting information on disproportionate costs is limited and qualitative.	Check the consistency of the joint recommendation concerning the de minimis exemptions against the supporting information in the annexes. Clarify which fleets are covered under the de minimis	Clarification given on fleets to which the exemption will apply and the calculation of the de minimis volume. Limited information supplied on the Belgium beam trawl fleet.	Clarifications provided largely address issues raised by EWG.
Sole in trammel net and gillnet fisheries in ICES Subareas VIII a and b	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Supporting information presents credible arguments but qualitative	Check the consistency of the joint recommendation concerning the de minimis exemptions against the supporting information in the annexes. Clarify which fleets are covered under the de minimis	Clarification given on fleets to which the exemption will apply and the calculation of the de minimis	Clarifications provided largely address issues raised by EWG.
Hake in bottom trawl fisheries in ICES Subareas VIII and IX	Not clear to which fleets the de minimis will apply. Supporting information on increasing selectivity applies to a different fleet not covered under the LO. Arguments on	Provide additional information to strengthen the justification and to better define the exemption in terms of the fleets involved and the calculation of de minimis.	Clarification of the fleets to which the de minimis will apply has been provided. Clarification on how the de minimis will be calculated. Additional selectivity information has been provided.	The clarifications provided better define the fleet segments to which the exemption will apply. The additional supporting information does provide some level of

	disproportionate costs of handling are generic and do not relate directly to the exemption.		Additional information has been provided on disproportionate costs. Confirmation has been given that further selectivity work will be undertaken.	justification for the exemption on the basis of selectivity but still rather generic. Information on disproportionate costs presented is largely generic to all fisheries – costs for handling on board will be increased through the retention of unwanted catches regardless of the fishery. Further selectivity studies should be carried out to provide further evidence that improvements in selectivity are difficult to achieve.
High Survivability				
<i>Nephrops</i> in trawl fisheries in ICES Subareas VIII and IX	Supported by additional survival experiments. Supporting information presented in a powerpoint rather than with a final report. Average survival rate of 51% observed. Observation times for the survival experiments are relatively short (i.e. 3 days) and therefore the survival rates observed are probably an over-estimate. Little evidence was supplied to justify a survival exemption for <i>Nephrops</i> in Area IX concerning the Portuguese fleet. There is a summary of a set of Portuguese experiments but no reports provided.	Joint Recommendation should clearly indicate that further work will be carried out to confirm the survival rates observed. Provide supporting information for Portuguese fisheries. Provide reports from FR survival experiments.	Additional supporting information has been provided on the survival studies (FR report) conducted. Confirmation has been given that a tagging study is underway and further survival studies will be carried out. No additional information has been supplied relating to the Portuguese fisheries.	The additional supporting information illustrates the high degree of variability between survival experiments. A 1999 study referred to does show that 88-94% of the final discards mortality occurred within 3 days, and that no mortality was observed from 6 days in captivity. This still means that the French study did not measure survivability up until the point when mortality had stabilized in the 1999 experiments. Therefore survivability is overestimated. STECF also notes that a survival study relating carried out in Portuguese fisheries gave estimates of survivability of around 35%.

STECF conclusions

STECF concludes that without clear definitions of the terms, “disproportionate costs”, “very difficult to improve selectivity” or “high survival”, there are no objective scientific criteria to judge whether any proposed exemptions from the Landing Obligation are merited. Consequently, managers will need to judge whether such proposals are merited using relevant subjective criteria.

While STECF is able to give its opinion on the validity of the results of survival experiments presented in support of proposals for exemptions from the landing obligation and whether they have been obtained under rigorous experimental conditions, it has no objective scientific basis to judge whether the proposals in the Joint Recommendations constitute a “high survival rate”. STECF therefore concludes that it is a decision for managers to judge whether the results of survival experiments are to be considered high and hence take a decision on whether proposals for exemptions from the landing obligation on the grounds of high survivability should be granted.

STECF concludes that due to the practical difficulties, complexity and high costs of estimating survivability, particularly with regard to the assessment of post-discard mortality, it may not be possible to obtain estimates of the overall discard survival rate for the vast majority of species and fisheries. It is likely therefore that managers will need to take decisions on proposed exemptions based on information that may not be fully reflective of the true survival even if it has been obtained under rigorous experimental conditions. Hence, managers will have to make decisions on survivability exemptions based on incomplete information.

STECF concludes that the Regional Groups have largely addressed the issues raised by the European Commission in its communication to the Regional Groups following EWG 15-05 concerning numerous inconsistencies between the Joint Recommendations and the supporting annexes. Regional Groups have also generally clarified the fleet segments to which the exemption would apply and also how the de minimis will be calculated. The Regional Groups have also provided some additional information in support of several specific exemption proposals. STECF considers that such information and clarifications may be informative to managers in taking a decision on whether the proposed exemptions from the landing obligation should be granted.

Many of the proposed de minimis exemptions from the landing obligation in the Joint Recommendations are identified as transitional measures to be introduced pending the results of further selectivity experiments. STECF considers it important that once the results of such experiments become available, Regional Groups review their requirement for any proposed de minimis exemptions.

Selectivity enhancements may result in short-term losses in marketable catch and associated revenues but that such losses are a generic issue that will almost inevitably apply to all fisheries. Similarly, handling and disposal of small fish are also likely to be generic issues. STECF concludes that such impacts should be viewed in the broader context of the overall impact of the Landing Obligation which may offset some potential losses, for example through quota uplift and reductions in catches of fish < MCRS through selectivity improvements.

5.4. STECF EWG-15-06: Standardization stock assessment models for MED

Request to 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.

Terms of reference of the WG:

The EWG was asked to produce clear guidelines for: (i) reconstructing historical landings and discard data; (ii) data processing and length-frequency 'slicing' procedures; (iii) specifying selectivity functions; and (iv) identifying the ranges of F_{MSY} and Biomass reference points all in the context of Mediterranean fish stock assessments.

Specifically the EWG was asked to:

1. Set up a best practice standardized procedures to reconstruct times series of historical discard and landings data to be used in future stock assessment of Mediterranean stock.
2. To check and revise the R code developed by Osio, Rouyer, Bartolino and Scott (<https://github.com/drfinlayscott/R4Med>) to extract MEDITS numbers at length and produce stratified numbers. Set up a best practice standardized procedures for slicing methodology to be used in reconstructing times series of number at age data derived from catches and surveys for future stock assessment of Mediterranean stocks.
3. Carry out a sensitivity analysis of the impact of different assumptions on selectivity (i.e. dome shaped, logistic, etc) on the estimation of SSB and F for multi-gear fisheries of hake and red mullet in GSA 5, 6, 7, 9, 10, 16, 17, 18, 22, 25.
4. Set up a best practice standardized procedures for estimating ranges of F_{MSY} and biomass reference points for Mediterranean stocks.

STECF observations

STECF acknowledges the work of the EWG 15-06 in progressing methods for the assessment of Mediterranean stocks.

STECF notes the effort and significant contribution made towards defining efficient standard procedures for stock assessment in the MED. In relation to each of the Terms of Reference (ToRs), STECF notes the following:

Reconstructing long time-series of total catch per species is a key step for building appropriate scientific advice. In particular, it provides the potential basis for a longer term perspective on the exploitation history and trends in stock biomass.

EWG 15-06 gives an overview of available data, including landings, discards, size/age catch composition, survey data, or fishing effort. STECF notes that EWG-15-06 provides useful

guidelines for the reconstruction of time series usable in stock assessment, but was not in position to define a unique standard procedure for such an operational reconstruction. This should probably be done in the frame of a mid-term research program, in close cooperation with scientists involved in stocks assessment. STECF notes that the EMODnet project (European Marine Observation and Data network), supported by the Commission, aims to provide long term time series of catch for Mediterranean fisheries. However, STECF notes that EMODnet will not provide that catch-at-age, effort and survey data necessary for stock assessments.

STECF notes that EWG 15-06 revised and improved the R code used to extract numbers at length from the standardized MEDITS surveys. In particular, this improved version allows the estimation of stratified length frequency distributions by sex. EWG 15-06 discussed three methods of conversion of catch at length into catch at age: the knife-edge slicing, the use of fixed age/length keys called proportional slicing, and the fitting of a mixture of distributions to the length-frequency data (Hasselblad 1966). EWG 15-06 proposes using the proportional slicing as the default method and notes that the fitting of a mixture of distributions is not straightforward and the outcomes very sensitive to model settings. Nevertheless, STECF notes that using constant age/length keys might lead to an underestimate of the year to year variability in the abundance of each age classes (MacDonald et Pitcher 1979, Kimura and Chikuni 1987).

EWG 15-06 investigated the impact of assumptions on selectivity on the estimation of SSB and F for hake and red mullet (GSA 17). Simulations performed by EWG 15-06 confirmed that different assumptions on the functional form and on the parameters of selectivity have a large impact on the model estimates (SSB, F and Recruitment), when using assessment tools explicitly modelling age or length compositions, such as SS3. EWG 15-06 advised to use reliable prior information on the spatial and temporal distribution of the different life stages of the stocks compared to those of the survey and fleets in order to guide the choice of functional form of selectivity. In the case that such prior information is not available, assessment methods that do not model selectivity (e.g. a4a, SAM) should be preferred.

STECF notes that EWG 15-06 undertook an analysis of multi-fleet management options based on fleets' partial F across different approaches (aggregated vs. multi-fleet) but that no firm conclusions were achieved. STECF considers that if possible, this area should be further investigated at the next Mediterranean Assessment EWG, as multi-fleet forecasts constitute one of the major products of scientific advice.

EWG 15-06 used the empirical relationship fitted on 19 northern European stocks, in order to estimate the range of F_{MSY} . Simulations performed by the EWG, applying MSE to four stocks considered as case studies, suggested that setting F to F_{upper} lead to a very low probability of the stock falling below B_{lim} if defined as the lowest observed biomass (B_{loss}). STECF notes, that in the absence of F_{MSY} ranges derived for the stocks in question, this necessitated the development of the pragmatic approach by means of an empirical function based on the ranges Northern European stocks. STECF considers that such an approach is appropriate for the purposes of the work undertaken by the EWG.

STECF further notes that due to the use of F0.1 as a proxy for F_{MSY} , the upper limit of the F_{MSY} range will be lower than those based on stock-recruitment relationships, which in practice results in smaller biological risks. On the other hand, ranges based on F0.1 will not represent the area of the yield curve that provides 95% of MSY, if the exploitation pattern is kept constant.

STECF notes, the use of $F_{0.1}$ for Mediterranean stocks will lead to a more precautionary outcome in practice. Furthermore, STECF notes that for the simulated case studies, the EWG 15-06 assumed constant recruitment in the MSE simulations. Given the low starting biomasses, and assuming that biomass does not decline further, this implies that the future recruitment is likely to be underestimated and therefore future SSB and catches are underestimated in the MSE. STECF notes that reaching F_{MSY} or even F_{upper} implies a substantial decrease in fishing mortality on the stocks examined, which is currently between 5 and >10 times the F_{MSY} estimates. Such large reductions in F give estimates for future SSB that have never been previously observed in the available time series. Consequently, at such high stock sizes the stock dynamics are unknown, thereby rendering the outcomes of the forecasts uncertain in an absolute sense. However, STECF notes that the general trends can be considered indicative of likely trends in SSB and catch.

STECF considers that the main priority for the management of Mediterranean stocks should be the rapid introduction of efficient measures designed to reduce fishing mortality from the current very high levels.

STECF conclusions

STECF concludes that results of the analyses undertaken by the EWG 15-06 constitute a significant step forward to improve and standardize assessment methods used for Mediterranean stock assessments. STECF endorses the guidelines provided by the EWG in relation to ToRs 1 to 3 and that the guidelines should be carefully considered by EWG's dealing with Mediterranean stocks.

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5.5. EWG 15-08: Fisheries-dependent information

Request to 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.

Introduction

The report of the Expert Working Group on Fisheries-dependent Information (EWG -15-08) was reviewed by the STECF during its 49th plenary meeting held from 06-10 July 2015, Varese, Italy.

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

STECF comments, observations, and conclusions

STECF notes that the EWG fully addressed all the Terms of Reference related to the compilation of Fisheries Dependent Information (FDI). The data compilation was carried out for the following sea areas:

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

The EWG 15-08 Report provides updated estimates of trends in fishing effort, landings and discards by species, CPUE and LPUE by fisheries and species and temporal trends in the spatial pattern of fishing effort by fisheries. It also provides cod CPUE-based transfer factors for regulated gears for the cod long term management plan and partial fishing mortalities for effort regulated and non-regulated fisheries by Member States under the provisions of the cod long term management plan (Counc. Reg. No 1342/2008).

As agreed by the STECF bureau² in January only one meeting of the EWG dealing with FDI has been scheduled for 2015. Furthermore, the report has been prepared using a new format. All the annexed tables are now made available on the STECF website and figures of trends in effort and

² DG MARE, STECF (chair and vice-chairs), STECF secretariat / JRC

landings and associated comments are not presented. Those will be produced every second year in a full version of the report.

STECF notes that during the EWG meeting, because of the unavailability of required data information, EWG-15-08 was unable to complete the work on partial fishing mortalities for effort regulated and non-regulated fisheries by Member States and detailed evaluations of the national implementation as regards fishing effort derogations granted under the provisions of article 13 of the cod long term management plan (Counc. Reg. No 1342/2008). This work has however been completed during the plenary meeting. STECF notes that ICES stock assessment results are required to complete the partial fishing mortalities work of the EWG. The majority of assessment results are released by ICES on 1st July and hence to take account of such advice, the FDI EWG would necessarily need to be held very close to or at the same time as the STECF plenary meeting with implications for report completion.

STECF also notes a number of issues that emerged during the WG. They relate to (i) data processing, (ii) gear categories used for discards raising and (iii) CPUE conversion factors (iv) spatial resolution of the data. These points are detailed below.

(i) FDI Data Call

The EWG 15-08 report is based on data submitted by Member States in response to the 2015 FDI data call. STECF notes that the newly defined data handling procedures for STECF Expert Working Groups³ worked well in ensuring data provision ready for processing two weeks in advance of the EWG. STECF notes, however, a major weakness this year was that delays in post submission processing of the data and re-processing of the data after error detection meant that the EWG did not receive useable data by the end of the meeting. STECF notes that this late data availability led to a substantial increase in workload after the EWG (especially within the JRC) and without this additional work the terms of reference would not have been met. STECF also notes, a possible impact on the quality of the work carried out, with less time and resources being devoted to check the output data.

In its report, EWG 15-08 stresses that in future, a report similar to those previously produced after two meetings of the STECF 'effort' EWGs (e.g. STECF-14-20), may be possible after a single meeting but that several elements need to be ensured:

- Timely submission by MS, and correct processing into aggregated data tables.
- Timely provision of processed data tables to experts prior to the meeting for feedback and data re-submission (if necessary).
- Ability of MS to submit data corrections during the meeting and the behest of the EWG.

STECF notes that:

- a) With a single EWG reporting to summer STECF plenary the time available for experts to check aggregated data ahead of the EWG will always be limited because MS data is only available from April-May and because of other work commitments of the experts. There will

³ See: <http://datacollection.jrc.ec.europa.eu/guidelines>

always be a risk that a major problem in submitted MS data prevents the EWG focusing attention to report production in good time.

- b) Even if all the elements listed above are met, to produce a full report restricts the time available for data checking compared to having a dedicated meeting devoted primarily to data validation and error checking.

If there is a continued requirement for a full report with interpretation and analysis, then STECF considers that it is necessary to maintain 2 EWGs.

STECF was informed that the JRC is intending to rationalise the existing FDI database to increase its utility and efficiency.

(ii) Discards estimation

Member States provide information at the level of gear and mesh size class, but this is subsequently aggregated into fisheries, before the application of landing estimation and discards raising algorithms. STECF notes that the estimation of fisheries specific international landings and discards was devised in relation to the cod recovery plan (Reg (EC) 423-2004), and subsequently adjusted for the Long Term Management Plan for Cod (Reg) EC 1382/2008 but has remained unchanged since. Subsequent to the first assessments of effort regimes, areas covered by different management plans have been added to the remit of the EWG and the combination of data fields used to identify fleet segments for 'fill-ins' of discard information can be inappropriate (too highly aggregated) when used for these areas (Iberian peninsula). Problems have also been identified when gears unregulated by the effort management regime take a significant proportion of the catch of species of greatest concern in the area (Western Channel).

Consequently, great care should be used in the interpretation of the discard and resulting catch data owing to the incomplete nature of information on discarded fish. Furthermore, there remains a need to revise the methodology for estimation of international discards and determine the most appropriate raising procedures.

(iii) Interpretation of CPUE correction factors

STECF agrees with EWG 15-08 that the use of CPUE conversion factors can be questioned and may not reflect the relative catchability of cod for different gear groups. The estimated CPUEs are not only influenced by the potential for a certain gear and mesh size to catch a certain species, but also to a large extent by the targeting behaviour of fleets and the areas that they operate. For example, the large difference in CPUE for cod between TR1 and TR2 is to an unknown extent influenced by the fact that TR1 is used to target cod (and other finfish species) while cod is essentially a bycatch in the TR2 fisheries targeting *Nephrops*. It remains unclear what would be the cod catchability of TR2 gears when used to target finfish. Therefore, the CPUEs calculated in this report may not reflect the relative cod catchability for different gear categories. Such estimates could only be derived from gear trials applying different gears in the same area and time. In addition, the same gear groupings are used for different kinds of fisheries in different areas. For example, TR1 gears are used to fish for haddock and cod but also, in the central North Sea, to target plaice. These fisheries have different discard rates and CPUEs for cod that cannot be distinguished in the current transfer coefficient calculations.

(iv) *Spatial data*

STECF notes that, as underlined by EWG 15-08, minimum geographic resolution in the available logbook information on landings and effective effort is by ICES rectangle. Hence, at present, the minimum spatial resolution for which analyses can be undertaken is also at the level of the ICES rectangle. As such only broad scale geographic shifts in effort can be highlighted. In a number of the smaller sea areas, however, this resolution is inadequate for describing any localized changes of effort distribution (as for example, in the Kattegat) and information on a finer scale is desirable. Increasing availability of VMS data should provide opportunities for improved resolution in due course.

CPUE correction factors

Cod CPUE correction factors for regulated gears in the cod long term management plan are presented below. Colours in the cells relate to a discard coverage index. The groups are defined as

- Green = 67 % or more of the provided landings are with an accompanying discard estimate,
- Yellow = 34-66 % of the provided landings are with an accompanying discard estimate, and
- Red = less than 33 % of the provided landings are with an accompanying discard estimate.

STECF notes again that this discard coverage index cannot inform on the quality of the discard rate estimates supplied by member States (as affected for example by the proportion of fishing trips sampled for discards). STECF considers that those discard estimates highlighted in red are not reliable, as the majority of the reported landings did not have a corresponding discard estimate

Furthermore, STECF notes that in the Kattegat, the transfer factor between TR1 (donor gear) and TR2 (receiving gear) is believed to be underestimated. Discard estimates for Germany were derived (“filled-in”) based on Swedish data. However, Swedish national cod quota was exhausted in quarter 4 leading to substantial over quota discarding for that fleet. STECF considers that this “fill-in” procedure is inappropriate and the German discard estimate (based on Swedish data) should be removed. If the German discards are removed from the calculation, the transfer factor TR1/TR2 would be 0.343.

Kattegat		receiving gear						2012-2014		factor = CPUE donor/CPUE receiving if factor > 1 then factor = 1 if CPUE=0 or LPUE = 0 then CPUE=1 or LPUE=1
donor gear		GN1	GT1	LL1	TR1	TR2	TR3	CPUE	LPUE	
3a	GN1		1	1	1	0.413	1	57	34	
3a	GT1	0.018		1	0.022	0.007	0.214	1	0	
3a	LL1	0.018	1		0.022	0.007	0.214	1	0	
3a	TR1	0.784	1	1		0.324	1	45	11	
3a	TR2	1	1	1	1		1	138	114	
3a	TR3	0.082	1	1	0.104	0.034		5	5	

Skagerrak

donor gear		receiving gear							
		BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3
3b1	BT1		1	0.032	0.05	0.076	0.038	0.07	1
3b1	BT2	0.932		0.03	0.046	0.07	0.035	0.065	1
3b1	GN1	1	1		1	1	1	1	1
3b1	GT1	1	1	0.643		1	0.756	1	1
3b1	LL1	1	1	0.422	0.656		0.496	0.921	1
3b1	TR1	1	1	0.85	1			1	1
3b1	TR2	1	1	0.458	0.712	1	0.539		1
3b1	TR3	0.821	0.881	0.026	0.041	0.062	0.031	0.057	

2012-2014

CPUE	LPUE
59	59
55	55
1839	1806
1183	1160
776	776
1564	2637
843	454
48	82

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

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

North Sea and 2EU

donor gear		receiving gear							
		BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3
3b2	BT1		1	0.529	1	0.988	0.323	1	1
3b2	BT2	0.112		0.059	0.201	0.111	0.036	0.211	1
3b2	GN1	1	1		1	1	0.61	1	1
3b2	GT1	0.556	1	0.294		0.55	0.18	1	1
3b2	LL1	1	1	0.536	1		0.327	1	1
3b2	TR1	1	1	1	1	1		1	1
3b2	TR2	0.53	1	0.28	0.952	0.523	0.171		1
3b2	TR3	0.011	0.1	0.006	0.02	0.011	0.004	0.021	

2012-2014

CPUE	LPUE
387	333
43	38
732	705
215	204
392	392
1199	2402
205	198
4	4

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

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

Eastern Channel

donor gear		receiving gear							
		BT1	BT2	GN1	GT1	LL1	TR1	TR2	TR3
3b3	BT1		1	0.08	0.484	1	0.064	0.348	1
3b3	BT2	0.532		0.043	0.257	0.535	0.034	0.185	1
3b3	GN1	1	1		1	1	0.796	1	1
3b3	GT1	1	1	0.165		1	0.132	0.719	1
3b3	LL1	0.994	1	0.08	0.481		0.063	0.346	1
3b3	TR1	1	1	1	1	1		1	1
3b3	TR2	1	1	0.23	1	1	0.183		1
3b3	TR3	0.337	0.633	0.027	0.163	0.338	0.021	0.117	

2012-2014

CPUE	LPUE
42	29
22	29
520	520
86	83
41	39
653	648
120	201
14	13

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

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

West of Scotland

donor gear		receiving gear						
		BT1	BT2	GN1	LL1	TR1	TR2	TR3
3d	BT1		1	1	1	0.003	0.017	1
3d	BT2	1		1	1	0.003	0.017	1
3d	GN1	1	1		1	0.003	0.017	1
3d	LL1	1	1	1		0.003	0.017	1
3d	TR1	1	1	1	1		1	1
3d	TR2	1	1	1	1	0.2		1
3d	TR3	1	1	1	1	0.003	0.017	

2012-2014

CPUE	LPUE
1	1
1	1
1	1
1	1
289	144
58	5
1	1

factor =
 if factor > 1 then
 factor = 1

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

Irish Sea

donor gear		receiving gear						
		BT2	GN1	GT1	LL1	TR1	TR2	TR3
3c	BT2		0.647	1	1	0.405	0.878	1
3c	GN1	1		1	1	0.626	1	1
3c	GT1	0.014	0.009		0.096	0.006	0.013	1
3c	LL1	0.15	0.097	1		0.061	0.132	1
3c	TR1	1	1	1	1		1	1
3c	TR2	1	0.737	1	1	0.461		1
3c	TR3	0.014	0.009	1	0.096	0.006	0.013	

2012-2014

CPUE	LPUE
70	54
108	69
1	1
10	1
172	949
79	159
1	1

factor =
 if factor > 1 then
 factor = 1

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

5.6. EWG 15-09: Multiannual management plans (North Western Mediterranean fisheries and North Western Waters fisheries)

Request to 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.

Observations of the STECF

Given the generic approach undertaken for the evaluation of Multi-annual plans associated with the North Western Waters and the South Western Waters Region, the STECF evaluation of the relevant sections North Western Mediterranean of EWG 15-09 are considered here in the following evaluation. STECF evaluation of Multi-annual plans for the North Western and South Western Waters (EWG 15-09/EWG 15-04) can be found in Section 5.2 of this report.

STECF observes that in all stocks tested the exploitation rate is largely above the targets and would benefit from the implementation of a MAP that aligns the exploitation with the CFP objectives.

STECF observes that the difference between reaching F_{MSY} in 2020 or 2018 is most likely an overestimation due to the lack of mixed fisheries interactions, which would constrain the intended decrease. In the cases tested the distinction between the baseline scenario and the MAPs was not very evident. The large decrease in F required to align the exploitation with MSY , blurs the effects of exploiting the stocks at relatively small differences in F that the F_{MSY} ranges provide.

STECF notes that the Spanish economic fleet segments of demersal trawls and seiners (DTS) with length overall 12-18m, 18-24m and 24-40m, are among the largest employers and are very dependent on the species likely to be under the MAP.

STECF notes that there are areas of non-overlapping between the target stocks (hake, mullet, etc.) and *cephalopods* and *sparidae*, which suggests that managing the target species will only have a limited constraint on the exploitation of these groups.

STECF observes that most fleets concentrate their exploitation on young ages: age-classes 0, 1 (e.g. hake in GSA 6), although in the case of crustaceans, age classes 2 and 3 are also important if not dominant (e.g. *Parapenaeus*, *Nephrops*).

STECF notes that for the stocks hake in GSAs 6 and 7, red mullet in GSA 6, deep water rose shrimp in GSA 6 and red shrimp in GSA 6, the EWG computed proxies for F_{MSY} ranges using a meta-analysis, and tested the robustness of the upper levels to mis-specifications of M and S/R . In the case of deep water rose shrimp the upper range was not robust as there remains a relatively high probability of $SSB < B_{lim}$, which means that the upper level of the F_{MSY} range is not precautionary.

As the safeguards do not operate in the cases studied, STECF notes that this is due to the large increase in biomass that the simulations show. As such, the impact of having safeguards could not be evaluated.

STECF observes that mixed fisheries methods dealing with all the relevant species in the areas of the MAP were not available. The EWG developed single species, single fleet MSEs in FLR/a4a to deal with the ToR.

As for the stocks studied there are no biological management references set, e.g. B_{pa} or B_{lim} , STECF notes that the approach applied was to compute B_{pa} using a multiplier (1.4) of the minimum biomass observed.

In most cases explored, the distance between current F and the F_{MSY} targets is very high. Therefore, STECF observes that the decrease in F simulated, drives the stocks to biomasses unseen in the recent past, which raises concerns about the assumptions made for population dynamics, in particular for the hake stocks. STECF notes that the absolute values in future stock size and associated catches should therefore be treated with some caution, and should be used as indicative of possible stock and catch developments if fishing mortality were reduced to F_{MSY} levels.

STECF observes that building a time series of catch at age by fleet will provide the basis for fleet based forecasts and management testing. This task would require considerable effort of digitizing and exploiting existing length frequency data in specific fisheries research centres.

STECF notes that the analysis was limited by availability of data, assessments and time, while the economic analysis was limited due to inconsistencies in the data.

STECF observes that the analysis spatial persistence of abundance suggests that the FRA overlaps with an area of high abundance of hake, blue whiting, red shrimp and *Nephrops*, although the models used by the EWG were not suited to estimate the precise impact of this area.

STECF conclusions

STECF concludes that the exploitation levels of the stocks studied are very high ($F > 1$) and concentrated on young ages. This substantial over-exploitation is severely undermining the potential yield that could be obtained from these stocks and is likely to keep the biological risk of collapse at high levels.

STECF concludes that hake in GSA 6 shows a clear pattern of decreasing recruitment and a high exploitation rate, which is estimated to be approximately 10 times F_{MSY} (STECF-14-17), and focused on recruits and individuals of age 1.

STECF concludes that this situation requires immediate reduction in fishing mortality to try to prevent further deterioration in the state of the stock. STECF considers that management actions to halt the current decline and rebuild stocks be identified and implemented as quickly as possible.

STECF concludes that, although differences between the implementation of a MAP (option 3) and not implementing a MAP (option 2) are not clear, a MAP may be a more effective tool to steer the fishery towards achieving the CFP objectives. STECF notes that despite the requirement for the

sustainable exploitation has been a requirement under the CFP 2002 (Article 2.1., Council Regulation (EC) No 2371/2002), no decrease in F is apparent for that period in the assessments performed by the EWG.

STECF concludes that achieving the MSY policy targets will require a large cut in catches either through substantive reductions in effort or the introduction of catch limits. STECF notes that, although in the long term catches are expected to recover, as a result of the increase in biomass, in the short term the benefits of rebuilding will not be immediate, because there is a delay in rebuilding stocks, and therefore there may be considerable short term implications for the sector, namely in terms of revenues and employment.

5.7. EWG 15-10: Evaluation of DCF 2014 Annual Reports & Data Transmission to end users in 2014

Request to 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.

Background

The STECF Expert Working Group (EWG) 15-10 met in Gdynia, Poland, 22-26 June 2015, to assess Annual Reports (AR) of 23 Member States (MS) for 2014, submitted as part of the Data Collection Framework. For evaluation and approval of the outcomes of the MS' National Programmes (NP), the European Commission is consulting STECF about the execution of the NP and about the quality of the data collected by MS in accordance with Articles 7.1 and 7.2 of Council Regulation 199/2008.

In addition, the EWG 15-10 was requested to evaluate the level of compliance of the DCF Data Transmission (DT) by MS to the end-users in 2014. The EWG assessed the feedback from nine end-users: ICES, GFCM, ICCAT, JRC, DG MARE, IOTC, IATTC, WCFCP and the Regional Coordination Meetings (RCMs). This feedback was available via a new online platform set up by JRC.

ARs and DT issues were assessed by a group of pre-screeners before the EWG meeting. The pre-screening effort has been increased compared to previous years: The number of pre-screeners has been doubled and the most complex AR modules have been assessed by two pre-screeners simultaneously but independently from each other. In addition, for cross-checking MS compliance with their NPs, an exercise with an Excel macro to assess table III.E.3 has been introduced by the Commission for exploring technical improvements for AR evaluation.

As an output of the evaluation of ARs and DT issues, the EWG was requested to produce for every MS:

- a) an evaluation of the AR in a table template provided by the Commission, which already included the pre-screening comments;
- b) an evaluation of the DT issues, commented by MS and pre-screeners, including an STECF judgement on whether the MS comments are acceptable.

The evaluation process at the EWG was set up to focus on topics where the pre-screeners have raised a problem or where the pre-screeners' final assessment of a particular point has revealed to be contentious. With regard to the AR evaluation, the working procedures were set up in way that allows the EWG to focus on further analysing the quality of the AR outcome.

STECF observations

STECF notes that the AR and DT pre-screening, as in previous years, has proven to be an important and very helpful preparation for the evaluation process. Moreover, due to the higher effort spent in the pre-screening process, the EWG found that the consistency and coherence across pre-screeners had improved and more time could be spent on the important issues.

STECF acknowledges that the EWG was able to thoroughly address their Terms of Reference with regard to AR and DT evaluation and analysis, resulting in complete detailed lists of follow-up action to be requested from MS. Moreover, the EWG was able to identify recurring issues arising in several Member States, relating to data collection or transmission, to be addressed in future.

STECF observes that overall, the level of MS compliance with the DCF and with reporting requirements in the 2014 ARs shows an improvement compared to previous years, in terms of both MS achievements and the reporting quality.

Concerning the AR evaluation process, however, several suggestions have been put forward by the EWG in order to achieve effective and consistent working procedures. Apart from inconsistencies in the AR submission guidelines and evaluation sheets, to be dealt with in the short term, the EWG again (cf. EWG 14-07 and 14-17) identified the need for a database and online reporting tool for effective and efficient compilation and monitoring of ARs.

STECF notes that the exercise on compilation of AR standard tables by using the Fleet Economic data call, endorsed by STECF PLEN 14-03, has proven to be very useful and going in the right direction in terms of automated processes for AR compilation. The automated compilation of AR tables from existing data, however, has only been limited to the fleet economic tables (AR module III.B) so far. STECF considers that this process should be further expanded to other parts of the AR, such as the tables containing information on fishing activities and sampling intensity (modules III.C and III.E), as well as data for aquaculture and processing industry (modules IV.A and IV.B).

With regard to the evaluation of DT issues, STECF acknowledges the EWG's extensive work on a total of over 800 issues. STECF notes, however, that the way how end-users report data issues and the prioritisation in the DT assessment still need to be fine-tuned by the Commission. Many of the DT issues reported by the end-users were either redundant, of minor importance or not clearly formulated, which caused unnecessary work by MS on responding to these issues and by STECF evaluating the issues.

STECF found the JRC online platform on DT issues very helpful in the evaluation process. Minor adjustments suggested by the EWG (section 7.1.2) would further improve the handling of DT issues.

STECF conclusions

For both the AR and DT evaluation, STECF concludes that the expanded pre-screening process applied before the EWG 15-10 (section 3 of the EWG report) should be kept for future evaluation of DCF compliance, allowing the EWG to focus more on the quality of the outcomes of the AR.

The analysis of the AR and DT has shown that there were several recurring issues arising in several Member States, relating to data collection or transmission highlighted by the EWG (section 6.2). STECF suggests that the Commission takes the proposals of the EWG relating to such issues into account when revising procedures and formats for the reporting and evaluation of ARs and DT. In the case of methodological issues such as sampling strategies, however, these should be addressed to the responsible fora such as RCMs and PGECON.

Annual reports

STECF concludes that the AR guidelines and evaluation template need additional work in order that they are fully aligned. This work must be carried out in advance of next year's assessment, taking into account the EWG recommendations (section 7) together with comments from the pre-screeners team (Annex 6).

The production of AR standard tables based on data obtained from the Fleet Economic data call was found to be useful. STECF thus concludes that this procedure should be kept and if possible be expanded to other parts of the AR (metier-based, biological and transversal data). This approach could be further elaborated at the EWG 15-15, taking the EWG suggestions for improving the reporting format (section 7.1.3) into account.

As in previous advice (STECF PLEN 14-02 and 14-03), STECF concludes that a database to support the preparation, management and assessment of the AR is the optimum solution to ensure efficiency and transparency in the overall DCF compliance check process. STECF urges the Commission to investigate ways to establish database procedures and online reporting tools in order to achieve these objectives.

Data transmission

STECF concludes that the online platform for DT issues should continue to be used and improved by the EWG suggestions (section 7.1.2).

Considering the various problems with the evaluation of DT issues identified by the EWG, STECF urges the Commission to review and amend the formats and procedures used for the end-user feedback on DT in dialogue with the end-users, taking the suggestions compiled by the EWG (section 6.1 and Annex 6) into account.

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

6.1. Assessment of French management commitments for the sole stock in VIIId

This request is closely linked to item 6.2 Assessment of NWWAC's advice for a management strategy for the sole stock in VIIId and STECF's recent assessment of Belgian selectivity measures for sole in VIIId⁴.

Background

The stock of sole in VIIId is exploited by France, Belgium and the United Kingdom⁵. During the Fisheries Council in December 2014, the French and the Belgian authorities issued a statement in which they committed to taking management measures to preserve the fisheries and the sole stock in VIIId (see <https://stecf.jrc.ec.europa.eu/plen1502>). The Belgian management measures were assessed by STECF during the April 2015 Plenary (STECF PLEN 15-01). Some of the Belgian and French fleet segments depend very highly on this stock and the preliminary ICES advice indicates that further TAC reductions should be considered in 2016. The Commission therefore requested the parties involved (Member States, national industries and the NWWAC) to address the mismatch between the dependency of some of the fleet segments and the decreasing TAC observed in recent years. The NWWAC presented a proposal for a management strategy in June 2015 and the STECF is requested to assess it during its July 2015 plenary (separate request).

Background documentation can be found on: <https://stecf.jrc.ec.europa.eu/plen1502>

Request to STECF

The STECF is requested to assess the management measures implemented by the French authorities as of 1 February 2015 (see French ministerial decree of 22 January 2015). If data deficiencies or other constraints prevent from fully addressing any of the questions, the STECF is requested to provide a qualitative answer if possible and indicate what additional data are necessary to provide a quantitative answer. The STECF is also invited to make any additional comments it considers suitable.

1. Provide a table displaying the partial F_{landings} and the partial F_{discards} for each of the métiers exploiting the eastern Channel sole stock.
2. Assess (i) the contribution of the French and Belgian measures respectively to reaching MSY as soon as possible and in any case no later than 2020 and (ii) the contribution of a possible nurseries closure for French netters. Analyze when MSY would be reached in the cases listed below:

4 See pp. 34-46 of http://stecf.jrc.ec.europa.eu/documents/43805/991908/2015-04_STECF+PLEN+15-01_JRC95802.pdf

5 TAC shares: FR: 54%, BE: 27%, UK: 19%.

- a. The French management measures alone are considered
 - If nurseries are not closed to netters (as is currently the case)⁶
 - If nurseries are also closed to netters
 - b. The French measures are combined with the Belgian measures⁷
 - If nurseries are not closed to netters (as is currently the case)
 - If nurseries are also closed to netters
3. Assess the effect of the French management measures on the economic performance of the various French metiers exploiting the eastern Channel sole stock.

STECF response

ToR 1. Provide a table displaying the partial F_{landings} and the partial F_{discards} for each of the metiers exploiting the eastern Channel sole stock.

(NB – landings and discards are now referred to as *wanted catch* and *unwanted catch* in the latest ICES advice. In the following response, STECF still use the wording landings and discards)

STECF underlines that it is not possible to produce such a table in terms of partial F , because the current assessment is based on landings only, therefore $F = F_{\text{landings}}$. The true F_{catch} and F_{discards} are unknown at present. However, Vermard et al. (2014, IFREMER Working Document) showed that the current discards are almost only comprised of fish below MLS. Therefore, it is likely that including discards in the assessment would only scale up the estimated recruitment, and neither the average fishing mortality (estimated on ages 3 to 7) nor the SSB would be affected.

Instead, proportions of the total catches can be presented. Some data are available disaggregated by country, gear and vessel length, from the STECF FDI database (<http://datacollection.jrc.ec.europa.eu/dd/effort/graphs>), but up to 2013 only, as 2014 data are not yet available. Additionally, STECF also had access to ICES InterCatch data used in the latest assessment. A quick comparison of the two datasets for 2013 indicated some discrepancies in the discards estimates. According to STECF FDI Data (based on automatic raising of unsampled gear-mesh size strata), the proportion of the catch discarded in 2013 was around 19.5% in weight. In comparison, the most recent ICES advice (<http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2015/2015/sol-eche.pdf>) indicates a much smaller discard proportion (around 10.2% in 2013, based on manual and expert-based raising of unsampled DCF metiers). STECF was not able to investigate the reasons for this discrepancy, but acknowledges that this creates some confusion and uncertainty regarding the actual discards quantities.

The Table 6.1-1 below displays landings and discards by country and metier from ICES InterCatch data for 2014, and is therefore consistent with the ICES assessment. Metiers are described using the DCF levels (Gear_target Assemblage_mesh size_selective panels_vessel length). The relative proportions are indicated on the right for a direct comparison of the importance of each fishery, as well as the discards ratio DR (discards/catch). The main fishery in terms of landings is the French trammel net fishery (36% of landings) which has a low discard proportion (at or less than 5%). The second main fishery is the Belgian BT2 beam trawlers (31% of landings), with an estimated

⁶ See note number 4.

⁷ The Belgian measures were assessed by STECF during the April 2015 Plenary. See footnote number 2.

discards in weight of 8.5% (below the average for the entire stock). Most discards (~500 tonnes) are estimated to come from the French TR2 otter trawlers, with a discard estimate above 50% by weight.

Table 6.1-1. Catches of sole VIId in 2014, disaggregated by country and DCF metier. Source ICES InterCatch database.

Stock	sol-eche					
DataYear	2014					
Sum of Weight_Total_in_kg	Column Labels					
Row Labels	Discards	Landings	Grand Total	% of discards	% of landings	discard ratio
Belgium	137141	1494624	1631765	19.1%	32.4%	8.4%
GTR_DEF_all_0_0_all	2933	48822	51755	0.4%	1.1%	5.7%
MIS_MIS_0_0_0_HC	1	2232	2233	0.0%	0.0%	0.0%
OTB_CRU_70-99_0_0_all	3	7435	7438	0.0%	0.2%	0.0%
SSC_DEF_70-99_0_0_all	0	1	1	0.0%	0.0%	0.0%
TBB_DEF_70-99_0_0_all	134204	1436134	1570338	18.7%	31.1%	8.5%
France	565513	2476839	3042352	78.7%	53.6%	18.6%
DRB_all_0_0_all	73	186039	186112	0.0%	4.0%	0.0%
GTR_DEF_100-119_0_0_all	5969	181276	187244	0.8%	3.9%	3.2%
GTR_DEF_120-219_0_0_all	1305	21722	23027	0.2%	0.5%	5.7%
GTR_DEF_90-99_0_0_all	16516	1495040	1511556	2.3%	32.4%	1.1%
MIS_MIS_0_0_0_HC	30	76253	76282	0.0%	1.7%	0.0%
OTB_DEF_70-99_0_0_all	535681	452946	988627	74.6%	9.8%	54.2%
TBB_DEF_70-99_0_0_all	5940	63564	69504	0.8%	1.4%	8.5%
UK (England)	15561	648125	663685	2.2%	14.0%	2.3%
DRB_MOL_0_0_0_all	3	7944	7947	0.0%	0.2%	0.0%
GNS_DEF_all_0_0_all	3293	235075	238367	0.5%	5.1%	1.4%
GTR_DEF_all_0_0_all	4031	167549	171579	0.6%	3.6%	2.3%
LLS_FIF_0_0_0_all	0	296	296	0.0%	0.0%	0.0%
MIS_MIS_0_0_0_HC	0	671	671	0.0%	0.0%	0.0%
OTB_CRU_70-99_0_0_all	44	113133	113177	0.0%	2.4%	0.0%
OTB_DEF_>=120_0_0_all	0	60	60	0.0%	0.0%	0.0%
SSC_DEF_All_0_0_All	0	420	421	0.0%	0.0%	0.0%
TBB_DEF_>=120_0_0_all	1	2970	2971	0.0%	0.1%	0.0%
TBB_DEF_70-99_0_0_all	8188	120008	128196	1.1%	2.6%	6.4%
UK(Scotland)	0	20	20	0.0%	0.0%	0.0%
MIS_MIS_0_0_0_HC	0	20	20	0.0%	0.0%	0.0%
Grand Total	718215	4619608	5337822	100.0%	100.0%	13.5%

TOR 2. Assess (i) the contribution of the French and Belgian measures respectively to reaching MSY as soon as possible and in any case no later than 2020 and (ii) the contribution of a possible nurseries closure for French netters

To respond to this request, STECF has interpreted the term “reaching MSY” to mean “reaching F_{MSY} ”, i.e. that the fishing mortality generated by the entire fishery is at the level of the F_{MSY} . This is not directly linked to either biomass or catch levels. F and F_{MSY} are calculated on the fully exploited age groups, 3 to 7. F (2014) is estimated to be $F=0.55$, and $F=0.50$ in 2015 (assuming

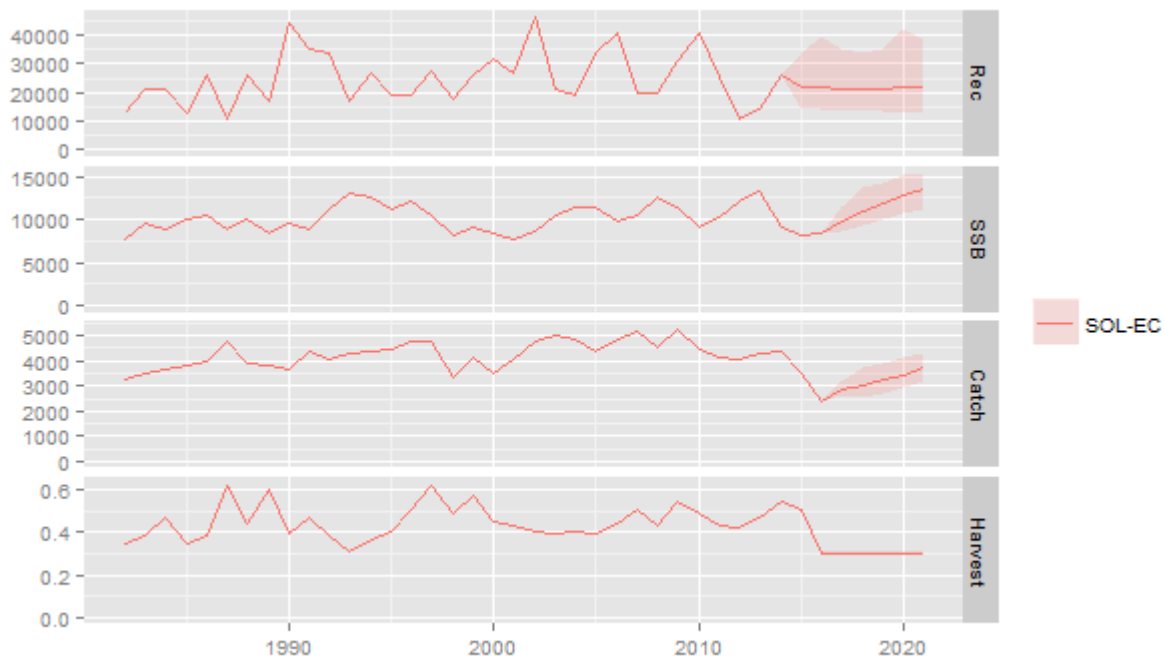
landings in 2015 corresponds to the 2015 TAC), and F_{MSY} is at 0.3. This implies a reduction in fishing mortality of 45% from the average fishing mortality in 2014. Therefore, any measure intended to reduce F to F_{MSY} should either deliver an immediate reduction of adult catches (ages 3-7). Reductions of catches of fish below MLS may deliver increase in biomass in the medium-term, but they do not help reach F_{MSY} in the short term.

To help illustrate what are the consequences of reaching MSY, a simple MSE for sole VIId was parameterised, adapting the code from the NS-MAP simulations (STECF 15-04). It is based on the following features:

- Hockey-stick stock recruitment relationship parameterised on the entire assessment time series since 1982 (the model fits the breaking point at the lowest observed biomass)
- Short-term forecasts for 2015-2020 using a TAC constraint for 2015, as is now the case in the ICES procedure.
- Target $F_{MSY} = 0.3$ starting in 2016, with a sliding rule decreasing F linearly if SSB at the beginning of the intermediate year is below MSY $B_{trigger} = B_{pa} = 8,000$ t
- 100 iterations (with same random recruitment draws used across different scenarios)
- No assessment uncertainty is included (assumption of perfect knowledge on the stock)

As the assessment is currently run without discards, no distinction is made on the possible effects of the landings obligation. The baseline projection to 2020 without technical measures is displayed below, indicating a large drop in the catches in 2016 (as in the latest ICES advice), and then a regular increase afterwards when biomass increases. On average, the 2015 TAC at 3,483 kt is reached again in 2020.

Table 6.1-2. Sole VIId MSE for 2015-2021, with the F_{MSY} implemented in 2016 according to ICES advice. NB “catch” means landings in this figure, as discards are not included in the assessment and projections.



Effect of the Belgian measures.

The analysis of Belgian measures was performed by using the same reasoning as in STECF PLEN 15-01, and using the corrected (non-linear) results of the catch comparison analysis performed by STECF (Figure 6.1.1) instead of the initial (linear) results presented by Bayse and Polet (2015). This corresponds to a reduction of up to 75% of catch at age 1, 33% at age 2 and 16% at age 3.

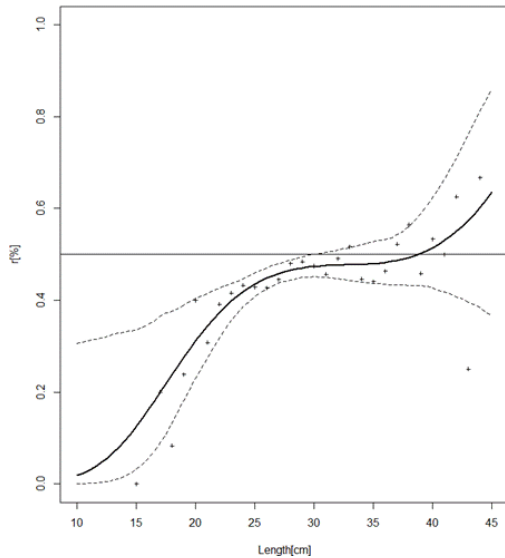


Figure 6.1-1. Catch comparison analysis of the Belgian beam trawl selectivity trial (From STECF PLEN 15-01).

Noticeably, the share of Belgian beam trawlers has increased from 20% in 2013 (data available to STECF PLEN 15-01) to over 30% in 2014 (updated ICES Data), so the catch composition by age and country reported in PLEN 15-01 have been updated to include catch data from the latest year (2014) Figure 6.1-2:

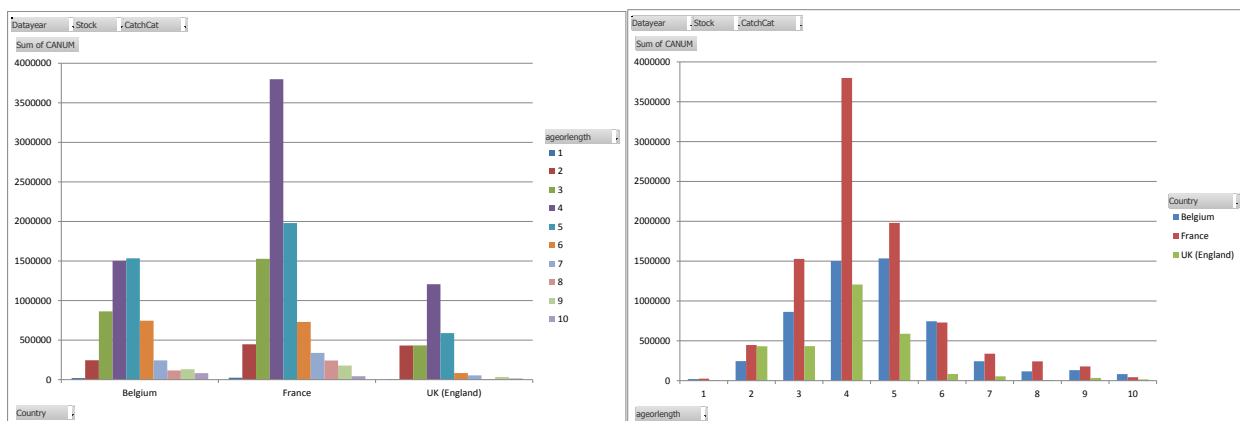


Figure 6.1-2. Composition of the sole VIIId landings in 2014 (ICES InterCatch data after discard raising). Left : by country over ages; Right : by age over country.

A reduction of landings in Belgian beam trawls as assumed from the trial would result in a reduction of F for the entire sole VIIId stock of 30% at age 1, 6% at age 2 and 5% at age 3. These changes were incorporated in the selection pattern for the projection 2015-2020 in the MSE. Knowing that the F is an average of ages 3 to 7, the effects of this on the F (average fishing

mortality) are negligible (< 1%). In terms of changes in landings and SSB, the effects of the change in Belgian beam trawl selectivity are also negligible, with a 2% increase in the SSB by 2020 and a 1% reduction of the total landings. However, these results may be underestimates of the potential effects, because reductions in the discarding of small fish might be expected by the expected changes in selectivity, but these are not accounted for in the assessment and forecast.

Effect of the French measures.

According to the statement by French authorities, France has committed to “implementing as of 1 January 2015 a series of national management measures: (i) submitting French fishing vessels catching more than 300 kg sole per year to a specific fishing license for sole in VIIId, (ii) reducing by 10% the number of admissible days at sea by those French vessels deploying bottom nets and beam trawls, (iii) setting a maximum overall net length of one kilometre for each metre of the vessel's length for vessels deploying bottom nets, (iv) fitting all French fishing vessels under license catching sole in VIIId with a Vessel Monitoring System (VMS), (v) implementing permanent fishing closures in four sole nursery areas in line with Article 8 of the Common Fisheries Policy regarding the setting of Fishing Recovery Areas, namely in the Veys, Seine, Somme and Canche bays where sole juveniles are abundant and (vi) nullifying the effort deployed so far in these nursery areas so as to avoid its displacement to adjacent areas.”

The effect of the French measures was to some extent analysed in the Working Document provided by IFREMER (Vermard et al., 2014), and additional analyses were performed by STECF. The main outcomes are summarised here:

- (i) *submitting French fishing vessels catching more than 300 kg sole per year to a specific fishing license for sole in VIIId.*

This point is not addressed in the IFREMER document. STECF has no information on the current level of unregulated fisheries for sole VIIId, and cannot evaluate the impact of this measure. However, it is obvious that any conservation measure can only be effective if the whole fishery is correctly monitored and controlled. Thus any of the following measures is likely to be conditional upon that one.

- (ii) *reducing by 10% the number of admissible days at sea by those French vessels deploying bottom nets and beam trawls.*

STECF notes that the wording “bottom nets and beam trawls” is confusing, as it is unclear if this includes only gill/trammel nets and beam trawls, or if bottom trawls are also included. According to Table 6.1.1 above, French bottom trawls (TR2) represent around 10% of the total landings of VIIId sole (c.f. less than 1.5% for the French beam trawlers), and 75% of total discards, and are therefore the third most important fleet for sole in VIIId. STECF considers that reducing the effort of the French TR2 bottom trawlers in VIIId in addition to the beam trawlers and bottom netters may also make a useful contribution to the required reductions in fishing mortality on sole in the area.

This measure is addressed in the French document which states that the fishery for sole occurs year-round, but bottom trawlers have more landings during summer, while netters have more landings in winter. A reduction of 10% of the effort equally and randomly applied across the year would be

expected to lead to up to 10% reduction of catch in tonnage and value in the short term, but potentially less if the reductions are applied in spring or autumn.

(iii) *setting a maximum overall net length of one kilometre for each metre of the vessel's length for vessels deploying bottom nets.*

STECF notes that this measure is assumed to be analogous to the reduction of effort addressed above, i.e. a reduction of net length has a direct equivalent reduction of the fishing mortality, although it may not be entirely true due to other factors influencing fishing mortality, such as soaking time.

To assess the impact of this measure, the French authorities provided a list of the length of each net of each type and each mesh size self-registered by each vessel. STECF noted that the data reported were of variable quality – notably the units in which both the net length and the mesh size are reported was often unclear and/or not filtered for typos (mesh size varying between 0 and 142600, net length varying between 0.3 and 140000), rendering difficult any quantitative analysis and interpretation of the dataset. Each vessel was reported to carry many different nets (between 1 and 58 per vessel in 2014), and most of the nets are reported to be of several kilometers each. Putting all this information together, it seems that each net can individually be of several hundred meters per meter of vessel length, and that added together across all declared nets per vessel, this sums up largely above one kilometer per meter of vessel length for most vessels.

Furthermore, STECF notes that while the proposal is to limit the overall net length for each meter vessel length, it is unclear to STECF whether the proposal also intends to limit the number of individual nets that can be deployed per vessel. Unless limits on the overall number of nets are applied in conjunction, the impacts of placing a restriction on individual net length may potentially be offset by increasing the total number of nets deployed. Given the above uncertainties regarding the specification of the proposal, STECF is unable to comment on the potential efficacy of this measure.

(iv) *fitting all French fishing vessels under license catching sole in VIIIId with a Vessel Monitoring System (VMS).*

This is not addressed in the document, and STECF cannot evaluate the impact of this measure. Nevertheless, it is obvious that any area closure must be closely monitored and controlled and a VMS is likely to be necessary for effective monitoring and enforcement.

(v) *implementing permanent fishing closures in four sole nursery areas.*

This measure is well documented in the Vermard et al. (2014) document. The nurseries are well identified, and their ecological importance is recognised (the sole is considered to be “nursery-dependent”, i.e. the size and quality of these nurseries play a vital role in the productivity of the stock). Nevertheless, the expected increase in recruitment following nurseries closures cannot be quantified.

It is estimated by Vermard et al. (2014) that around 1/3 of the catches are taken in these nurseries (average 2010-2012). The differences between nurseries and outside areas in terms of size

composition and discard ratio appear minor. Some simulation work was presented, simulating the impact of the closures while assuming a redistribution of effort in the other areas. It is estimated that the closures would then bring an increase of SSB around 22% and a decrease of fishing mortality and catches around 15% in the medium term.

(vi) *nullifying the effort deployed so far in these nursery areas so as to avoid its displacement to adjacent areas.*

The impact of this measure hasn't been directly estimated, but it aims at preventing the loss of the expected positive impacts of the nurseries closures because of an increase in fishing pressure in the rest of the fishing area. It could therefore be assumed that this measure could bring a decrease of 1/3 of the fishing mortality; instead of the 13-15% estimated above if effort is displaced. STECF underlines though that fishing mortality is linked to the most limiting of either effort or TAC, so if the TAC is not adjusted accordingly, the nullifying of effort deployed in the area might not bring the expected reduction of F if total catches are unchanged.

Summary

STECF has reviewed the various measures proposed by the French and Belgian authorities aiming at decreasing fishing mortality towards F_{MSY} and recovering the sole VIIId stock above precautionary levels. To achieve MSY fishing mortality needs to be reduced by 45% compared to the 2014 level.

According to the ICES advice, a 32% reduction in TAC in 2016 compared to the agreed 2015 TAC, would result in achieving F_{MSY} in 2016. STECF considers that the measures above need to be considered as measures designed to ensure that the advised TAC for 2016 is not exceeded, while at the same time, avoiding an early closure of the fishery and/or a massive increase in discards. STECF notes that without restricting landings in 2016 to the level advised by ICES, the measures proposed by the French Authorities may only bring about a decrease in fishing efficiency and increased costs, but not necessarily a 45% decrease in the fishing mortality.

STECF notes also that "reaching MSY as soon as possible" implies a decrease of marketable catches in order to reduce fishing mortality. Measures helping to reduce undersized catches and discards would have a beneficial effect on the stock and on catches in the medium-term, but will not contribute to reaching F_{MSY} in the short-term.

Among the measures proposed by the French authorities, the nurseries closure can potentially bring the largest reduction of fishing mortality (one third of the fishing mortality induced by French vessels), provided that effort is not displaced elsewhere and that the advised TAC is adhered to without increase in discards. The other measures can potentially also bring substantial reduction of fishing mortality through reduction of fishing effort and/or fishing capacity. Although STECF could not quantify the impact of all the proposed measures or their cumulative effect, they may have the potential to help the French fishery to stay within the advised TAC, while avoiding an early closure of the fishery. France accounted for 54% of the sole landings in 2014; If France achieves a reduction of 45% of its fishing mortality that would provide a reduction of 24% of the total fishing mortality for the stock.

Conversely, the selectivity measure proposed by the Belgian authorities is not likely to decrease fishing mortality in the short-term. Belgium accounted for more than 30% of the total landings from

the stock in 2014, and additional measures might be necessary to contribute to the reduction of marketable catches required for the entire stock. The Statement mentions that Belgium has also committed to the permanent fishing closures, but no information has been provided regarding the level of Belgian catches in the areas that are being proposed for closure to protect sole nursery grounds. STECF notes though that Belgium catches are likely to be limited, given that the nurseries are mainly located within the French 3 nautical miles area.

TOR 3 Assess the effect of the French management measures on the economic performance of the various French métiers exploiting the eastern Channel sole stock.

Based on available data for the AER 2015 report, STECF has considered which fleet segments are fishing sole in the eastern Channel 7.d. and compared the landing value of sole with the total value of landings in order to analyse their economic dependency for sole.

For France data were available for two years only (2012 and 2013). The total French landing weight of sole was 2,598 t in 2012 and 2,876 t in 2013 giving rise to a landing value of 26.0 million Euros and 25.6 million Euros respectively. The French quota utilisation was 77% in 2012 and 82% in 2013.

Based on the two available years, 35 fleet segments had landings of sole. However, only two of these had a dependency for sole above 20% in both years: the trammel- and gillnetters of size 10-12m (VL10-12 DFN) and the beam trawlers 12-18m (VL12-18 TBB). Six fleet segments had dependencies between 10-20%, while the remaining fleet segments only had an economic dependency on sole below 10%.

Reducing the TAC for sole will to a varying degree have an economic effect for the fleets fishing for sole in VIIId. However, it is only the two fleet segments mentioned above, which are expected to be economically impacted to a high extent by the implemented management measures. Some of the effects might be offset by switching their activity towards other types of fisheries, which do not result in bycatches of sole. However, STECF notes that individual vessels might be impacted more than reflected in the available aggregated values, depending on their catch composition and alternative fishing opportunities.

Economic information is only available for the VL10-12 DFN fleet segment, which was categorised as having a “reasonable” profitability in 2013 (Net profit margin of 0-10%). Separating out the profitability associated with activity directed towards sole for the VL10-12 DFN fleet in isolation from activity directed towards other species (or from overall activity) is not possible. Hence, STECF is unable to evaluate whether the sole directed effort is a more profitable activity compared to the other activities engaged in by this fleet. If that is the case, the reduction in profitability of the fleet arising through reduced fishing opportunities for sole in conjunction with the accompanying measures, will be greater than the reduction in revenue estimated from a reduced TAC

STECF conclusions

STECF notes that the measures put forward by the French authorities represent useful actions to help achieve a reduction of catches and fishing mortality in 2016. STECF also notes that such measures need to be implemented in addition to and not as a replacement for a reduction in TAC. Implementing the measures without a decrease in TAC is unlikely to deliver a reduction in total fishing mortality to the advised level and will only decrease the catching efficiency of the businesses that are affected by such measures. Conversely, a decrease in the TAC alone will create

increased competition within the fishery to catch sole and if enforced, may lead to an early closure of the fishery with associated socio-economic impacts. Such impacts are likely to be considerable, given the medium to high dependency of many fleet segments on sole, and the limited alternatives available.

STECF considers therefore that the measures proposed may help to distribute the burden of a reduced TAC across the whole fleet in 2015 and 2016, and thus reduce the extent of the expected economic impacts over the period.

STECF notes that similar additional measures might be required for Belgium and UK in order to achieve equivalent reductions in catches in the short-term.

The permanent closure of the nurseries, provided there are measures that negate the effect of effort displacement, is expected to improve the productivity of the stock, but the magnitude of any improvement in the stock cannot be quantified

STECF concludes that with the economic data currently available, it is not possible to assess the quantitative economic impacts on the fleet segments that will be affected by the measures proposed by the French Authorities or the reduction in TAC. However, based on the available information, the economic impacts are likely to be greatest for the two fleet segments (VL10-12 DFN and VL12-18 TBB) that have the highest dependency on sole (> 20% of their revenue).

6.2. Assessment of NWWAC's advice for a management strategy for the sole stock in VIIId

This request is closely linked to item 6.1 Assessment of French management commitments for the sole stock in VIIId and STECF's recent assessment of Belgian selectivity measures for sole in VIIId⁸.

Background

The stock of sole in VIIId is exploited by France, Belgium and the United Kingdom⁹. During the Fisheries Council in December 2014, the French and the Belgian authorities issued a statement in which they committed to taking management measures to preserve the fisheries and the sole stock in VIIId (see 'Documents'). The Belgian management measures were assessed by STECF during the April 2015 Plenary. Some of the fleets segments depend very highly on this stock and the preliminary ICES advice indicates that further TAC reductions should be considered in 2016. The Commission therefore requested the parties involved (Member States, national industries and the NWWAC) to address the mismatch between the dependency of some of the fleet segments and the decreasing TAC observed in recent years. The NWWAC presented a proposal for a management strategy in June 2015.

Background documentation can be found on: <https://stecf.jrc.ec.europa.eu/plen1502>

⁸ See pp. 34-46 of http://stecf.jrc.ec.europa.eu/documents/43805/991908/2015-04_STECF+PLEN+15-01_JRC95802.pdf

⁹ TAC shares: FR: 54%, BE: 27%, UK: 19%.

Request to STECF

The STECF is requested to assess the management strategy recommended by the NWWAC (in essence, reduce the TAC by 14% to 3,000 t for 2016 and keep it constant until 2020). The STECF is invited to make any additional comments it considers suitable.

1. Assess when the proposed constant TAC would allow reaching of MSY, and if the "2020 at the latest" deadline would be met.
2. If the proposed constant TAC alone does not allow MSY by 2020 at the latest, the STECF is requested to:
 - a. Assess the respective merits and contributions of the additional measures proposed by the NWWAC (see NWWAC's management strategy p.3, options 1 to 7), in particular having regard to their potential impact on the metiers exploiting this stock.
 - b. Review the other options presented by IFREMER as regards the reaching of MSY in 2016, 2017, 2018 and 2019 and assess their respective merits and contributions, in particular having regard to their potential impact on the metiers exploiting this stock.
3. Assess the effect of the management strategy recommended by the NWWAC (see NWWAC's management strategy p.3, points A. and B. in chapter 'Advice') on the economic performance of the various metiers exploiting the eastern Channel sole stock.

STECF response

TOR 1. Assess when the proposed constant TAC would allow reaching of MSY, and if the "2020 at the latest" deadline would be met.

Answering this ToR requires at minima an extended deterministic forecast (as is e.g. used in the Vermard et al, (2015) working document provided by IFREMER and the document provided by CEFAS) or, better, a stochastic MSE (Management Strategy Evaluation) with variability in future recruitment and an annual "TAC loop". In an MSE, the TAC is estimated each year based on the projected biomass, simulating an assessment and short term forecast taking place each year, instead of a medium-term projection with fixed pre-defined exploitation levels, this approach provides a stochastic projection, allowing for estimation of uncertainty and risk. A deterministic forecast can coarsely be compared to the median of a MSE, implying that if e.g. the biomass is estimated to be above B_{pa} in 2020 in the forecast, that means in reality that *there is at least a 50% probability that biomass is above B_{pa}* , but that does not give any information whether the risk is above or below the standard 95% precautionary threshold.

As explained in ToR 6.1, STECF supplemented the analyses presented in Vermard et al. (2015) with a stochastic MSE based on the latest assessment (2015 assessment used in 2016 advice). The comparison of the projections with F_{MSY} in 2016 vs. a constant TAC at 3000 t is given in **Error! eference source not found.**

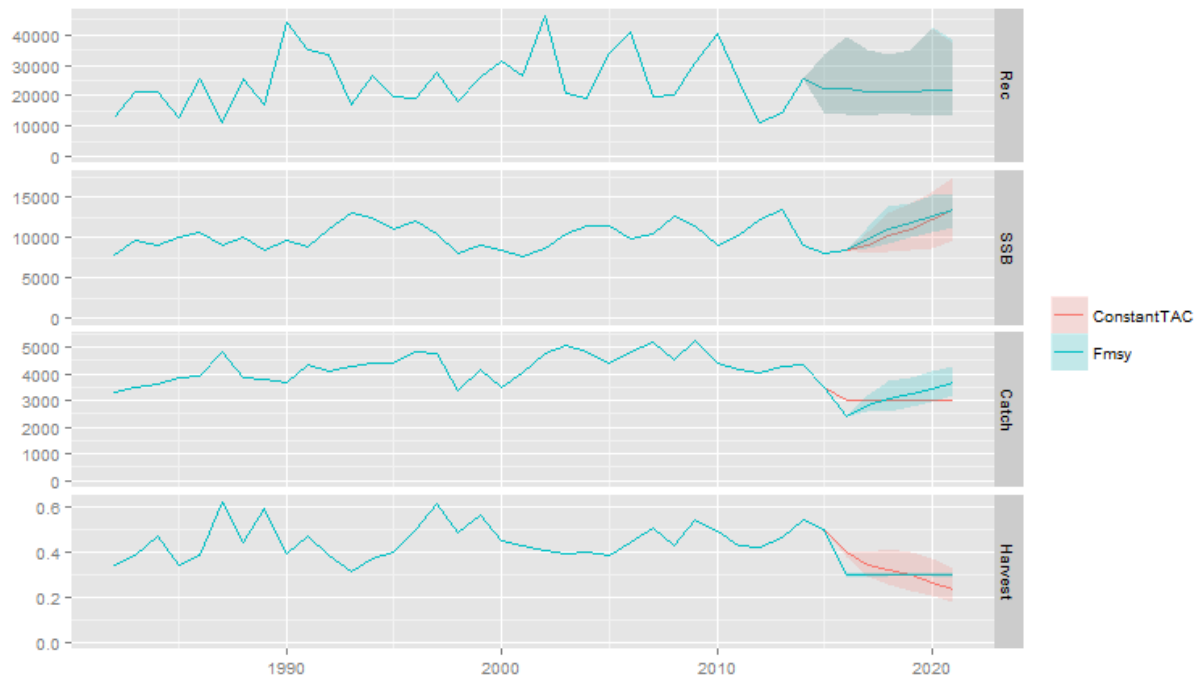


Figure 6.2-1. Comparison of scenarios between F_{MSY} applied from 2016 and TAC constant at 3,000 t. Shaded areas display 10-90% quantiles (NB “catch” refer here to landings as discards are not included in the assessment; harvest refers to fishing mortality rate).

Assuming a varying recruitment fluctuating around the historic average over the next five years, a constant TAC at 3,000 t would provide lower SSB levels than the F_{MSY} scenario in the short-term. Furthermore, there is an increased risk that SSB is will fall below MSY $B_{trigger}$ during the period 2017-2020 (probability close to 10% in 2017-2018, slightly below 5% afterwards), compared to the F_{MSY} scenario where this probability is at or less than 1%.

The F_{MSY} scenario may potentially deliver landings higher than 3,000 t by 2017 if the coming recruitments are rather good (upper limit of the green area in Figure 6.2.1. above), and by 2018 if incoming recruitments are around average (median dark green line). If incoming recruitments are rather poor, it may be only by about 2020 that the landings will reach 3,000 t (lower limit of the green area).

Under the fixed TAC scenario, F_{MSY} at 0.3 would be reached on average by 2019, but there remains a 30% probability that F will still be above F_{MSY} ($F \geq 0.31$) in 2020, and 15% probability that it is above 0.35 (**Error! Reference source not found.**)

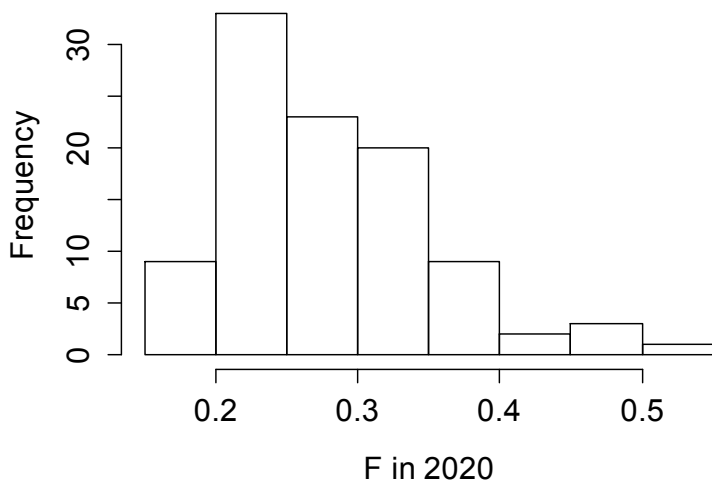


Figure 6.2-2. Probability distribution of F in 2020 in the Constant TAC scenario (100 iterations)

In comparison, STECF notes that a constant TAC of 2750 tonnes (a 19% reduction compared to the TAC in 2015) gives a 5% probability of F being above F_{MSY} in 2020, assuming that recruitment is fluctuating around the historical average.

All the results above are obtained assuming that recruitment is fluctuating around the historical average. Should the recruitments be below average, as observed in 2012 and 2013, the outcome would be more pessimistic, and in reality, the probability of reaching F_{MSY} by 2020 at the latest would be further reduced.

ToR 2. If the proposed constant TAC alone does not allow MSY by 2020 at the latest, the STECF is requested to:

- c. Assess the respective merits and contributions of the additional measures proposed by the NWWAC (see NWWAC's management strategy p.3, options 1 to 7), in particular having regard to their potential impact on the métiers exploiting this stock.**
- d. Review the other options presented by IFREMER as regards the reaching of MSY in 2016, 2017, 2018 and 2019 and assess their respective merits and contributions, in particular having regard to their potential impact on the métiers exploiting this stock.**

ToR 2c

NWWAC has suggested additional measures. STECF did not have the time and the possibility to provide a comprehensive quantitative response, but the results of the evaluation undertaken is as follows:

1. *Closed nursery areas on the French coast as already defined.*

This scenario has been investigated and is reported in Section 6.1 above. The closed areas have the potential to decrease French catches by around 1/3, provided that effort is not displaced elsewhere. A 33% reduction of the French landings alone is forecast to provide an 18% reduction of the total landings of sole (corresponding to landings of 2,860 t in 2016). This is lower than the proposed constant TAC of 3,000 t and if adhered to would contribute to further reducing fishing mortality in the short term.

2. *Nursery areas on the UK coast to be defined, to be closed seasonally or year-round.*

No information was presented on this option and STECF could not evaluate its impact.

3. *For beam trawlers – if fitted, a lengthening piece should consist of at least 3 meters of 120 mm, as evaluated by STECF.*

This measure has been evaluated in PLEN 15-01 and in ToR 6.1. This measure is likely to deliver stock increase in the medium-term through improved escapement of small fish, but will not contribute to reaching F_{MSY} in the short term.

4. *Length of static gear should be maximized to avoid increase (like 1 km/m vessel length),*

This measure is discussed above in ToR 6.1. Due to some inconsistencies in the data provided, STECF could not fully evaluate this measure quantitatively, but it may have a substantial effect on the fishing capacity but this is highly dependent on whether other parameters are limited, in particular whether there is a limit on the overall number of nets that can be deployed as well effective limitation on soak time. STECF notes that if these factors are not considered, then any restriction on the length of individual nets based on the vessel length could be negated.

5. *Biomass safeguard – in case the TAC rule in itself would not be evaluated to reach F_{MSY} as planned, then a biomass threshold could be included in the rule under B in order to reduce risks of depleting biomass to less than 5%,*

STECF was unable to quantitatively investigate the likely effects of this rule, but notes that the probability of falling below $MSY B_{trigger}$ is low for all simulations undertaken, and therefore such a rule is unlikely to have a major impact on the results.

6. *Recreational sole fisheries may be restricted or closed,*

STECF did not have any information supporting this measure, and does not know the magnitude of recreational catches. Hence any potential impacts cannot be assessed at present.

7. *Redress lack of scientific data/surveys.*

This measure will potentially contribute to obtaining better estimates of recruitment which may prove useful for improving uncertainty in short-term forecasts, but will not have any influence on whether MSY can be achieved in the short-term.

ToR 2d

Calculations regarding a staged reduction in fishing mortality between 2016 and 2020 have been presented both in the IFREMER and CEFAS documents, STECF notes that these calculations have been performed using deterministic short-term forecast assuming constant recruitment and no TAC loop, and do not capture risk and uncertainty.

STECF underlines that this question is largely a policy issue rather than a scientific one, given that none of the scenarios presented in the working documents is likely to deliver substantial changes in the risk of biomass falling below B_{pa} .

STECF notes that according to the CEFAS projection, staged implementation is predicted to lead to a decrease in predicted landings (i.e. an implied decrease in TAC) in the period 2017 to 2019 and associated reductions in F . Conversely, achieving F_{MSY} in 2016 is expected to be followed by subsequent increases in landings from 2017 due to the increase in stock biomass. (Assuming average recruitment conditions; a suite of low recruitment years might jeopardise this estimation).

In both of the above cases, the fleets exploiting the stock will be impacted.

ToR 3. Assess the effect of the management strategy recommended by the NWWAC (see NWWAC's management strategy p.3, points A. and B. in chapter 'Advice') on the economic performance of the various métiers exploiting the eastern Channel sole stock.

Giving the lack of economic data from France, STECF is unable to give a comprehensive assessment of the potential economic outcomes related to the proposed management strategies. However, the STECF comments in Section 6.1 of this report and those related to the Belgian fleet found in STECF PLEN 15-01 are also of relevance for this point.

STECF conclusions

STECF recognises that there is no easy solution to the difficulties faced by the fleets exploiting the sole stock in VIId, especially for those that are dependent on sole catches for a significant proportion of their revenue. The advice on fishing opportunities is characteristic of an overexploited stock, where advised catches and stock biomass are reliant on few year classes. Hence, a few consecutive poor year classes give rise to advice to reduce F , in order to build stock biomass and consequent advice for lower catches. A rapid rebuilding of the stock biomass comprised of several year classes would minimise the risk of such a situation occurring in future. Such rebuilding can only be achieved through a decrease in fishing mortality that allows a greater proportion of the individuals in recruiting year-classes to survive fishing and contribute to the adult biomass, thereby securing higher and stable yields in the medium-term.

Option B (constant TAC of 3,000t) put forward by the NWWAC aims at mitigating the short-term adverse effects of the reduction of the TAC advised for 2016. This option will likely deliver some decrease in the fishing mortality and some increase in the sole biomass but is not predicted to deliver F_{MSY} in 2015. Furthermore, there is a significant risk that option B will not deliver F_{MSY} by 2020 if recruitment remains at or below the long term average. In comparison, a lower constant TAC around 2,750 t is estimated to reduce the risk of not achieving F_{MSY} by 2020 to below 5%.

6.3. Western cod of the Baltic Sea

Background

One of the objectives of the new Common Fisheries Policy (CFP) is to ensure that the exploitation of living marine biological resources restores and maintains populations of harvested species above levels which can produce the maximum sustainable yield.

In case of urgency relating to a serious threat to the conservation of marine biological resources based on evidence, the new CFP further empowers the Commission to adopt, through implementing acts, measures to alleviate the threat. Appropriate scientific bodies should be consulted on the state of the stock.

ICES 2016 advice for the western cod of the Baltic Sea indicates that the stock is no longer within safe biological limits (even below the B_{lim} level). ICES advises a significant reduction of commercial catches to move towards MSY. At the same time ICES indicates that the development of spatial management plan for clupeid stocks affecting eastern cod stock in subdivisions 25 and 26 could improve condition of cod stock.

Background documentation can be found on: <https://stecf.jrc.ec.europa.eu/plen1502>

Request to the STECF

1. Can the STECF identify fisheries in which there would be unwanted catches of the western cod stock, and suggest ways in which these unwanted catches could be effectively reduced, for example by seasonal closures? Would the inclusion of pelagic fisheries in such closures be of benefit for the conservation of western Baltic cod?
2. The ICES advice considers catches by recreational fisheries, but only those based on German data. Can the STECF estimate the recreational catches by other countries, and assess the impact of recreational catches on the western cod stock?

STECF response

1. Can the STECF identify fisheries in which there would be unwanted catches of the western cod stock, and suggest ways in which these unwanted catches could be effectively reduced, for example by seasonal closures? Would the inclusion of pelagic fisheries in such closures be of benefit for the conservation of western Baltic cod?

STECF notes that following response is based on information already available in the 2015 ICES advice and report of WGBFAS (2015).

STECF notes that ICES report (i.e. WGBFAS report:

<http://ices.dk/community/groups/Pages/WGBFAS.aspx>) includes data on cod discards (by weight and numbers) separated by active and passive gears but no information about discards at the level of fisheries and area is available. STECF notes that the majority of the catches from the Western Baltic cod stock are from the directed otter trawl fishery, together with significant catches from recreational fisheries. Based on the commercial catch and recreational catches of Germany reported

by ICES, commercial and recreational catches account for 77% and 23% respectively. STECF notes that there are additional recreational catches from Sweden and Denmark, but due to the general paucity in available data, it is not possible to directly contrast these with the data presented by ICES (2015).

In recent years, the unwanted catch (discards) in the commercial fishery has on average been only 4% of the total catch from the stock (average 2012-2014). STECF therefore considers that measures to reduce the unwanted catch to less than 4% is likely to result in only a minor reduction in fishing mortality on western Baltic cod.

Based on its MSY approach, ICES advises that catches (commercial and recreational) from the western Baltic cod stock in 2016 should be no more than 5,385¹⁰ t.

(<http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2015/2015/cod-2224.pdf>). STECF notes that if the advised catch for 2016 (combined commercial and recreational) is not exceeded, the SSB of Western Baltic cod is forecast to be above MSY B_{trigger} in 2017 (i.e. $SSB_{2017} = 43\,505$; MSY $B_{\text{trigger}} = B_{\text{pa}} = 38,400$ t).

STECF notes that in addition to its advice on total catches, ICES has outlined a possible method to derive and allocate the TAC for cod in the Western Baltic management area (Subdivisions 22-24) which managers may wish to consider as a means to control fishing mortality on the western Baltic cod stock.

Given that the recreational fishery on average accounts for at least 23% (Swedish and Danish catches excluded) of the total catch, managers may also wish to consider introducing measures to restrict the recreational catch e.g. through bag limits.

STECF considers that the link between condition of cod and density of pelagic fisheries has been analysed and demonstrated only for the Eastern Baltic cod (Casini et al., 2011; Eero et al., 2014). Furthermore, STECF notes that the condition factor of Western Baltic cod, in contrast to the Eastern Baltic Stock, does not show any general decline in recent years, except for the oldest fish. Therefore, STECF consider that the inclusion of pelagic fisheries in possible closures to protect Western Baltic cod would not contribute to the conservation of the Western Baltic cod stock.

2. *The ICES advice considers catches by recreational fisheries, but only those based on German data. Can the STECF estimate the recreational catches by other countries, and assess the impact of recreational catches on the western cod stock?*

STECF notes that currently the recreational catch included in the assessment represents German data only, the amount varying between 1,800 to 3,100 t in the years 2005–2013 (ICES, 2015; Strehlow et al., 2012). In 2012, the capture from Danish recreational fishermen was estimated close to 820 t of cod in the Western Baltic. A large part of the estimated recreational catch (340 t) was taken in the Sound (SD 23) by anglers. Swedish recreational catches in SD 23 were estimated to be around 132 t in 2013 (ICES 2014). Danish and Swedish recreational data are currently not included in the assessment, but STECF consider that efforts to incorporate these data as well should be made in the future. Therefore, STECF is not in the position during the plenary to provide a time series of

¹⁰ STECF notes that this is likely to be revised due to updated ICES advice

the Danish and Swedish recreational catches in order to assess the impact of recreational catches on the Western Baltic cod stock.

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- Strehlow, H. V., Schultz, N., Zimmermann, C., and Hammer, C. 2012. Cod catches taken by the German recreational fishery in the western Baltic Sea, 2005–2010: implications for stock assessment and management. *ICES Journal of Marine Science*, 69: 1769–1780.

6.4. Evaluation of national measures taken under Art 13(6) of the cod plan

Background

In accordance with Article 13.2 of Council Regulation 1342/2008 establishes a long-term plan for cod stocks and the fisheries exploiting these stocks the Member States may increase the maximum allowable fishing effort within applicable effort groups. Member States are required to notify the Commission of any planned increase of the fishing effort allocation by April 30 of the year during which such compensation for effort adjustment shall take place. The notification shall include details of the vessels operating under the special conditions referred to in Article 13 (2) (a-d), the fishing effort per effort group that the Member State expects to be carried out by those vessels during the year and the conditions under which the effort of the vessels is being monitored, including control arrangements.

Under Article 13.7 the Commission shall request STECF to compare annually the reduction in cod mortality resulting from the application of point (c) of Article 13 (2) of the cod plan with the reduction it would have expected to occur as a result of the effort adjustment referred to in Article 12(4).

Member States are required to submit by March each year a report on the amounts of effort used within the actions during the previous year.

Information on the respective measures has now been submitted by United Kingdom, France, Ireland, and Denmark.

Background documentation can be found on: <https://stecf.jrc.ec.europa.eu/plen1502>

Request to the STECF

Based on information provided by the United Kingdom, France, Ireland and Denmark justifying fishing effort increases for 2014 under the conditions laid down in article 13.2 (c) of the cod plan (Council Regulation (EC) No 1342/2008), and the reports of effort allocated under these measures, STECF is requested to assess the effectiveness of the relevant cod avoidance measures undertaken pursuant to Article 13.2 (c). In carrying out its assessment, the STECF is requested to compare the impact on cod mortality which results from the application of this provision (cod avoidance or discard reduction plan) with the reduction it would have expected to occur as a result of the fishing effort adjustment referred to in article 12.4 of the cod plan.

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

STECF response

Previous STECF comments (see PLEN-13-02) regarding the difficulties associated with the evaluation of the effects of the Article 13.2(c) provisions remain relevant but will not be reiterated here. Last year (PLEN-14-03) STECF carried out an evaluation in response to the same ToR using the partial F values for the affected fleets as computed by EWG-14-13; these values were compared with i) the required reduction under the cod plan and ii) the observed change in overall F for the stock concerned. STECF used the same approach this year as partial F values from EWG-15-08 for the affected fleets were available during the meeting except for the Kattegat and the Irish Sea due to the absence of ICES assessment for those two areas.

France

France provided a note stating that the only provision under consideration was Article 13.2(b). France submitted tables documenting the effort notified and used under Article 13 by the respective fleets in the respective areas in 2014, plus lists of the individual vessels concerned and information on control measures.

France has not used conditions laid down in Article 13.2(c) of the Regulation.

Ireland

Ireland provided:

- (i) a report presenting the measures used under Article 13.2 conditions in ICES areas VIa and VIIa; the report, however, does not specify which of the conditions (a-d) of Article 13.2 were used. The main findings for area VIa are that almost 50% of TR1 effort is west of the management line and almost all of the TR2 effort has been permanently transferred to TR1. In area VIIa all vessels using TR2 gear are required to use one of three types of cod selective measures, namely a ‘Swedish’ grid; the inclined separator panel or a SELTRA 300 panel.
- (ii) a list of 54 vessels using an inclined separator panel with TR2 gear in area VIIa.
- (iii) Tables describing effort allocations for the different fleet segments and areas

Denmark

As in previous years, Denmark provided substantive submissions including descriptive narratives, an analysis (see below), effort data for the various gear types, and documentation on control measures. Denmark utilized Article 13.2(c) in the Kattegat TR2 fleet under a comprehensive Danish Cod Avoidance Plan since 2010 with the following measures:

1. Closed area in the Kattegat
2. Closed area in the Sound
3. Use of square mesh panel in the Kattegat (October- December)
4. Use of fishing pools in eliminating discards
5. Use of selective gear (Seltra 180 mm) in the Kattegat (January-September)

Using a modelling approach (described in the peer-reviewed paper Vinther and Eero 2013), the Danish documents report an expected reduction in fishing mortality in 2014 to 21% of the baseline (2008). Year-on-year application of 25% reductions since 2009 would have resulted in a reduction by 2014 to 20% of the baseline. Nevertheless, STECF reiterates from last year (PLEN-14-03) that no attempt was made to estimate the actual, observed reduction.

UK

As in previous years, the UK provided substantive submissions including descriptive narratives, effort data, and gear descriptions. There is a separate document on gear descriptions by DARD (Northern Ireland) and one on the Scottish Conservation Credits Scheme by Scotland. The UK utilized the provisions of Article 13.2(b), 13.2(c), and 13.2(d) for TR1 and TR2 in the North Sea and Eastern Channel, the West of Scotland, and the Irish Sea.

		Sea area / category					
		North Sea (area b)		Irish sea (area c)		West of Scotland (area d)	
		TR1	TR2	TR1	TR2	TR1	TR2
Actions	13(a)	-	-	-	-	-	-
	13(b)	341,327	407,400	-	8,899	4,174	24,225
	13(c)	4,859,654	4,934,208	22,600	1,558,546	1,585,371	692,324
	13(d)	-	-	-	-	415,626	-
	TOTAL	5,200,981	5,341,608	22,600	1,567,445	2,005,173	716,549

In the documentation these actions are further broken down by each Fisheries Administration, by sea area and by activity type.

In Scotland there were six categories of action under Article 13.2(c):

- No fishing within mandatory seasonal closures and Real Time Closures
- Fishing trips where fishing took place exclusively beyond a specified ‘deep water line’ in Areas IIa and IVa;
- Fishing trips where fishing took place exclusively south of 59 degree latitude in Area VIa;
- Fishing trips where the area of capture was exclusively within Area IVa and where landings constituted of not less than 40 per cent of Monkfish and/or Megrin;
- The exclusive use of specified selective gears while fishing with a category of regulated gear; and,
- Participation in a trial of fully documented cod fisheries (catch quotas).

In Northern Ireland there were two categories of action under Article 13.2(c):

- No fishing within mandatory seasonal closures, Real Time Closures and compliance with a voluntary seasonal closure in the Irish Sea;
- The exclusive use of specified selective gears while fishing with a category of regulated gear.

In England there were three categories of action under Article 13.2(c):

- The mandatory compliance with all UK Government seasonal and real time fishery closures,

- Use of selective fishing gear,
- Participation in trials for fully documents fisheries (catch quotas).

A separate UK document on the Scottish Conservation Credit Scheme provides several analyses that attempt to quantify the impact of the measures in the North Sea. The main conclusions of that report are:

- Preliminary results are presented of observations made in the North Sea during the Scottish Conservation Credits programme in 2014.
- It is not possible to evaluate fully the effects of individual measures.
- 94 RTCs were put in place in 2014- fewer than in the previous year.
- The contribution to overall mortality reduction by TR1 vessels adopting selective gears in 2014 is likely to be modest reflecting the fact that only a limited number of boats use these gears. Analysis of catch rates observed across the observed TR1 vessels using selective gears in the North Sea, suggests that overall catch rate has not generally increased from the 2008 level despite the fact that the stock (SSB) has been increasing in the period 2008 to present. This may be arising from a combination of gear and avoidance behaviours.

Partial F for MS fleet segments using of Article 13.2

In the Tables 6.4.1, 6.4.2, 6.4.3 and 6.4.4, for each of the four management areas, the partial F values of the affected fleets and the year-on-year changes in partial F are reported, and compared with (i) the required reduction under the cod plans, and (ii) the observed change in overall F for the stock concerned. STECF comments are included in those tables.

In the ToR STECF is requested to assess the effects of only condition c from Article 13.2. When preparing the tables, STECF has included the others conditions a, b and d from Article 13.2 in order to evaluate the relative importance of condition c for each area concerned. As the assessment of cod in ICES IIIaS is based on relative changes in F rather than in terms of absolute values, the changes year-on-year changes in partial F are relative to a starting value of 1 for the first year of implementation (2008). This then permits for an evaluation of the impacts of Article 13.2 in a relative sense from the first year of the cod plan. All subsequent changes are *relative* to that value so the values presented in Table 6.4.1 should not be interpreted as absolute values of F.

Table 6.4.1 - Area 2a (ICES IIIaS)

Year	2008	2009	2010	2011	2012	2013	2014	STECF Comments
Plan F (2008 F set =1)	1	0.750	0.563	0.422	0.316	0.237	0.202	Analysis based on relative assessment so all changes relative to a starting <i>relative</i> F of 1 in 2008. Note that this is not the absolute F
Annual change		-0.250	-0.250	-0.250	-0.250	-0.250	-0.150	
ICES F (2008 F set =1)	1	0.932	0.785	0.575	0.498	0.386	0.288	Relative F has declined substantially since 2008 and is now 29% of the initial F
Annual change		-0.068	-0.157	-0.268	-0.133	-0.225	-0.254	
DNK – TR2 'none' as proportion of cod catch	0.478	0.260						
DNK – TR2 13.2 (c) as proportion of cod catch			0.733	0.450	0.641	0.480	0.705	
Annual change				-0.386	0.426	-0.251	0.468	
ICES F * (proportion of cod catch)	0.478	0.242	0.575	0.258	0.319	0.185	0.203	
ICES F * (proportion of cod catch) -- relative to 2008 value	1	0.507	1.203	0.540	0.668	0.388	0.425	

Table 6.4.2 - Area 2b (ICES IIIaN, IV and VIId)

	2008	2009	2010	2011	2012	2013	2014	STECF comments
Plan F	0.631	0.41	0.4	0.4	0.4	0.4	0.4	
Annual change		-0.35	-0.05	0	0	0	0	
ICES F (assessment)	0.631	0.616	0.531	0.432	0.393	0.385	0.393	Target F reached for that area from 2012
Annual change		-0.024	-0.14	-0.19	-0.09	-0.02	+0.02	
Partial F of MS fleet segment and derogation								
DE – TR1 13.2 (b)		0.00163	0.00169	0.00188	0.00138	0.00144	0.00156	Total decrease of partial F (8%)
Annual change			+0.04	+0.11	-0.27	-0.04	+0.08	
DE – TR2 13.2 (b)		0.00002	0.00026	0.0001	0.00001	0.00001		
Annual change			+12	-0.62	-0.9	0		
FRA – TR1 13.2 (b)					0.00004	0.00087	0.00155	
Annual change						+20.7	+0.78	Increase of partial F but low contribution to cod mortality
FRA – TR2 13.2 (b)					0.00001	0.00001	0.00001	No change of partial F but very low contribution to cod mortality
Annual change						0	0	
ENG – BT1 13.2 (b)			0.00001	0.00003	0.00004	0.00001	0.00001	
Annual change				+2	+0.33	-0.75	0	
ENG – BT2 13.2 (b)		0.00005	0.00056	0.00044	0.00032	0.00026	0.0003	Decrease of Partial F from 2010 (46%) after large increase in 2010. Very low contribution to F
Annual change			+10.2	-0.21	-0.27	-0.19	+0.15	
ENG – GN1 13.2 (b)						0.00001		
ENG – TR1 13.2 (b)		0.00074	0.00069	0.00077	0.00052	0.00032	0.00029	Reduction of partial F of 61% from 2009
Annual change			-0.07	+0.12	-0.32	-0.38	-0.09	
ENG – TR1 13.2 (c)		0.01284	0.01584	0.0124	0.00884	0.01906	0.02384	Increase of partial F from 2012

Annual change			+0.23	-0.22	-0.29	+1.16	+0.25	
ENG – TR2 13.2 (b)		0.00056	0.0012	0.0011	0.00049	0.00025	0.00018	Reduction of partial F of 85% from 2009 and low contribution to cod mortality
Annual change			+1.14	-0.08	-0.55	-0.49	-0.28	
ENG – TR2 13.2 (c)		0.00354	0.00194	0.00157	0.0009	0.00038	0.0007	Reduction of partial F of 64% from 2009
Annual change			-0.45	-0.19	-0.43	-0.58	+0.84	
NIR – TR1 13.2 (b)		0.00006	0.00002	0	0	0.00001		
Annual change			-0.67					
NIR – TR1 13.2 (c)		0.00001	0					
Annual change								
NIR – TR2 13.2 (a)					0	0.00002		
NIR – TR2 13.2 (b)		0.00011	0	0.00001	0			
NIR – TR2 13.2 (c)		0.00116	0.00039	0.0001			0.00012	
Annual change								
SCO – TR1 13.2 (b)		0.00644	0.00675	0.00111				Only condition (c) has been used in 2014. Under that condition the total reduction of partial F (from 2009) is 22%. A decrease of 19% has been assessed between 2013 and 2014
Annual change			+0.05	-0.84				
SCO – TR1 13.2 (c)		0.15733	0.14592	0.10639	0.12358	0.14027	0.11382	
Annual change			-0.07	-0.27	+0.16	+0.14	-0.19	
SCO – TR2 13.2 (b)		0.0039	0.01414	0.00572				Increase of partial F from 2019
Annual change			+2.63	-0.60				
SCO – TR2 13.2 (c)		0.01021	0.001	0.00531	0.01091	0.00382	0.0139	
Annual change			-0.90	+4.31	+1.05	-0.65	+2.64	

Table 6.4.3 - Area 2c (ICES VIIa)

	2008	2009	2010	2011	2012	2013	2014	STECF comments
Plan F	1.24	0.93	0.698	0.524	0.393	0.295	0.221	
Annual change		-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	
ICES F (assessment)	1.24	1.22	1.19	1.16	1.16	1.15	NA	No ICES assessment for 2014 Low reduction of F during the period
Annual change		-0.02	-0.02	-0.03	0	-0.01		
Partial F of MS fleet segment and derogation								
IE - TR2 13.2 (a)		0.00161	0.03678	0.03212	0.02649	0.02607		
Annual change			+21.84	-0.13	-0.18	-0.02		
ENG –TR1 13.2(b)		0.00002	0.00001		0.00065			
Annual change			-0.5		+65			
ENG –TR1 13.2(c)		0.00462	0.00844	0.00361	0.00058	0.00024		
Annual change			+0.83	-0.57	-0.84	-0.59		
ENG –TR2 13.2(b)			0.00166	0.0004	0.00244	0		
Annual change				-0.76	+5.1			
ENG –TR2 13.2(c)		0.00156	0.00044	0.00047	0.00034	0.00015		
Annual change			-0.72	+0.07	-0.28	-0.56		
NIR – TR1 13.2(a)						0.02166		
NIR – TR1 13.2(b)			0.00008	0.00192	0.001	0.00901		
Annual change				+23	-0.48	+8.01		
NIR – TR1 13.2(c)		0.38001	0.17592	0.0638	0.00797	0.00013		
Annual change			-0.54	-0.64	-0.88	-0.98		
NIR – TR2 13.2(a)					0.00089	0.10387		

Annual change						+10.7		
NIR – TR2 13.2(b)		0.02565	0.0209	0.01216	0.16599			
Annual change			-0.19	-0.42	+12.65			
NIR – TR2 13.2(c)		0.12024	0.09849	0.02943	0.01659			
Annual change			-0.18	-0.70	-0.44			
SCO – TR1 13.2 (c)					0.00043			
SCO – TR2 13.2 (b)		0.00481	0.0001	0.00072	0.00382			
Annual change			-0.98	+6.2	+4.3			
SCO – TR2 13.2 (c)					0.00012	0.00113		
Annual change						+8.4		

Table 6.4.4 - Area 2d (ICES VIa and Vb EU)

	2008	2009	2010	2011	2012	2013	2014	STECF comments
Plan F	1.035	0.776	0.582	0.436	0.327	0.245	0.184	
Annual change		-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	
ICES F (assessment)	1.035	0.874	0.815	1.098	0.879	0.879	0.891	
Annual change		-0.15	-0.07	+0.35	-0.2	0	+0.01	
Partial F of MS fleet segment and derogation								
DE – TR1 13.2(b)			0.00002		0.00042			
Annual change								
FR - TR1 13.2 (b)					0.01319	0.00007	0.01331	After a decrease of partial F in 2013, during 2014 partial F reached the same level than in 2012
Annual change						-0.99	+189	
IE - TR1 13.2 (d)		0.06094	0.08837	0.195	0.00043	0.00085	0.00105	Increase in 2014 but large reduction (98%) of partial F from 2009
Annual change			+0.45	+1.21	-0.998	+0.98	+0.24	
SCO – TR1 13.2 (b)		0.01726	0.01221	0.08892				
SCO – TR1 13.2 (c)		0.03049	0.03634	0.05325	0.07068	0.15809	0.06592	Increase of partial F in 2013 and during the total period from 2009.
Annual change			+0.19	+0.47	+0.33	+1.24	-0.58	
SCO – TR1 13.2 (d)		0.38394	0.28219	0.67929	0.52532	0.41989	0.65286	Main contributor to cod mortality. Increase in 2014.
Annual change			-0.26	+1.41	-0.23	-0.20	+0.55	
SCO – TR2 13.2 (b)		0.02414	0.00208	0.00304	0.01619	0	0	Only condition (c) has been used from 2013. After increase of partial F from 2010 to 2013, STECF notes a decrease (75%) in 2014
Annual change			-0.91	+0.46	+4.33			
SCO – TR2 13.2 (c)		0.009	0.00036	0.00088	0.05619	0.20065	0.04948	
Annual change			-0.96	+1.44	+62.85	+2.57	-0.75	

STECF comments and conclusions

Previous STECF comments (see PLEN-13-02) regarding the difficulties associated with the evaluation of the effects of the Article 13.2(c) provisions remain relevant but will not be reiterated here.

No ICES assessment has been provided for areas 2a (Kattegat) and 2c (Irish Sea). Therefore STECF cannot estimate the actual reduction in partial F by Article 13.2 (c) actions in 2014 for comparisons with the required reduction in F or the change in overall F for those areas.

In area 2a (Kattegat) only Denmark used condition 13.2 (c) and no other condition through Article 13 is utilized. STECF notes that the partial F was 11.9% in 2011, which was the last year where an assessment was provided by ICES. That value is lower than the plan F for the same year. No ICES assessment has been made from 2012 onwards.

In area 2b (North Sea and Eastern Channel), plan F (0.4) has been reached in 2012. The sum of partial F used under the different conditions from Article 13.2 is 0.156. STECF notes that the main contributor is the TR1 Scottish fleet operating under condition 13.2(c) which has a partial F of 0.114 which represent 73% of the sum of partial F for all fleet segments using Article 13.2 in 2014 and 29% of (total) F; for that fleet a decrease of partial F of 19% has been assessed between 2013 and 2014. TR1 and TR2 fleets operating under condition 13.2(c) which together have a partial F of 0.152 represent 39% of F in 2014.

In area 2c (Irish Sea) no ICES assessment has been made for 2014. In 2013 the plan F (0.295) has not been reached. Assessed F was 1.15 in 2013. The sum of partial F used under the different conditions from Article 13.2 was 0.161.

In area 2d (West of Scotland) plan F (0.184) has not been reached. Assessed F is 0.89 in 2014. The sum of partial F used under the different conditions from Article 13.2 is 0.78. STECF notes that the main contributor is the TR1 Scottish fleet operating under condition 13.2(d) operating east of the “line” which has a partial F of 0.65 which represent 83% of the sum of partial F for all fleet segments using article 13.2 and 73% of (total) F in 2014. TR1 and TR2 Scottish fleets operating under condition 13.2(c) which together have a partial F of 0.115 represent 13% of F in 2014.

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

Background

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 Sweden, the United Kingdom, Ireland and Poland 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.

Poland reported to COM that in 2014 management period Polish group of vessels exempted under Art11 did not fish for saithe in the area concerned. Nevertheless, Poland would like to maintain in force the exemption from the effort regime for its group of vessels.

Background documentation can be found on: <https://stecf.jrc.ec.europa.eu/plen1502>

Request to the STECF

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 observations

Article 4 of Regulation 237/2010 requires Member States to report on activities carried out by the group or groups of vessels which have been excluded from the effort regime in accordance with Article 11(2)(b) of Regulation 1342/2008. Report should include details of the vessels involved and their activities or technical characteristics leading to cod catches of less than 1.5% of their total catch and the monitoring procedures used to ensure that these vessels comply with the condition for exclusion.

Observer schemes should collect a range of fisheries data concentrating on vessels that have been excluded from the effort regime. The report shall be sent in accordance with the requirements set out in Tables 1 and 3 of Annex I of the implementing regulation.

Data complying with Table 1 and Table 3 format have been received from France, The United Kingdom, Ireland and Sweden. An annual report was not received by Sweden and Scotland, while only the requests of France and Ireland are accompanied by a description of the group of vessels.

However, none of the MS provided information on the monitoring procedures and the system for controlling the group of vessels to be excluded from the application of the effort regime. Finally, all the requests are not accompanied by detailed information on the technical attributes of the gear.

France (Trawlers targeting saithe and deep-water species in West Scotland (Vb-VIa), TR1 greater than or equal to 100 mm (EC Reg. No 1342/2008))

In the report it is noted that the group of vessels concerned is made of 7 TR1 trawlers, while in Table 1 information of only 6 vessels are reported (i.e. information on one vessel is missing).

In the report, catches and landings terms are often used with the same meaning (see paragraph 4 and Figure 2). STECF notes that, according to the data provided mean landings of cod did not exceed the 1.5 % (0.31 %). However as only landings data are presented, it is not possible to determine whether cod catches exceeded 1.5 % of the catch of all species as specified by Article 11 of Regulation (EC) No 1342/2008.

STECF notes that the representativeness of the observed trip is not provided and it is not possible to appraise if the sampling intensity was adequate (as detailed in the Table 4 of Annex I of the EC Reg. No. 237/2010). A minor discrepancy was observed for the mean cod catch rate, which was 1.23 % (cod catch = 33.48 kg; total catch = 2,729 kg) and not 1.27 % as stated in the report.

STECF conclusion

STECF cannot conclude if the groups of vessels concerned have been complying with the conditions set out in the decision on exclusion because no information on the total cod catches was provided. No data on the total number of trips sampled of the number of trips undertaken by that gear group was provided so it is not possible to determine the level of sampling coverage.

French longliners targeting hake in West Scotland (Vb-VIa)

The group of vessels concerned is made of 2 ships, which are working throughout the year mainly in West Scotland area with bottom longlines. The total sampling intensity is 23 % (i.e. 66 sampled days on 287 total days at sea). In the trips observed in 2014, the cod catch rate in the observed trips is estimated at 0.026 %.

STECF conclusion

STECF notes that the cod catch rate in 2014 of the French longliners targeting hake fishing in the West of Scotland was less than 1.5%.

Irish TR1 (120 mm) vessels operating in Division VIa

The group of vessels concerned comprised of 5 vessels. One vessel was sold in early 2014 and has been replaced but it is not expected to resume fishing until early May 2015. The total sampling intensity was not specified. Three vessels were subjected to 13 observer trips, data shows that overall the vessels maintained their mean cod catch rate below the specified 1.5 % threshold at 0.88 %.

STECF conclusion

STECF notes that the cod catch rate in 2014 of the Irish TR1 operating in VIa was less than 1.5 %. STECF notes that while there was information of the total number of trips sampled, no data on the

total number of trips undertaken by that gear group was provided so it is not possible to determine the level of sampling coverage.

Irish TR2 (300 mm SELTRA trawl) vessels in VIIa

A list of 14 vessels concerns this fleet. The total sampling effort was not specified in the report, although STECF notes that two sampling trips (without any information on the number of days) were obtained on one vessel. The average cod catch rate over these two trips was 0.8 % (i.e. average of 0.30 and 1.71 %).

STECF conclusion

STECF notes that the cod catch rate in 2014 of the Irish TR2 using SELTRA 300 gear was less than 1.5 %. STECF notes that while there was information of the total number of trips sampled, no data on the total number of trips undertaken by that gear group was provided so it is not possible to determine the level of sampling coverage.

TR2 Scottish vessels

Marine Scotland submitted the Explanatory tables accordingly to the Article 4(3) (Table 1 and 3). These tables have been provided in individual worksheets in an accompanying Excel file. An annual report for detailing the data in the worksheets was not submitted.

STECF conclusions

Information provided in the dataset have not been properly detailed in the report, however STECF was able to calculate cod catch rates by group of gear and by area.

The data concern 90 vessels (Table 1), fishing with TR2 in areas (b) (ii) and (d). STECF found some discrepancies on the effort data by area (i.e. according to Table 1, the total effort in 2d Minches of Area d, is 702614 and not 703433 as used in Table 3).

According to Table 3, 745 hauls were monitored, which results in 10.79 % of sampling intensity. A catch of 2,692 kg of cod was reported during the observed trips in a total catch of 1,075 tons. The data submitted by Marine Scotland constitutes evidence suggesting that it is highly likely that the vessels in 2014 maintained cod catches below 1.5%.

Gear	Mesh size [mm]	Area	Subarea	Nr.	Samp. Int. (%)	Catch [kg]		Rate
						Cod	Total	
TR2	80	(b) (ii)	-	538	28.9%	1,892	915,352	0.21%
		(d)	2d Clyde	22	1.6%	112	17,814	0.63%
		(d)	2d Minches	185	17.3%	689	141,741	0.49%
TOTAL				745	10.79%	2,692	1,074,907	0.25%

Grid Swedish (mesh size 70 mm) vessels

Sweden submitted just the Explanatory tables accordingly to the Article 4(3) (Table 1 and Table 3). These tables have been provided in individual worksheets in an accompanying Excel file. The report was not submitted.

STECF conclusions

Information provided in the Excel worksheets have not been properly detailed in a report, however STECF was able to calculate cod catch rates by area. The data concern 81 vessels targeting *Nephrops* (Table 1), fishing with the grid and 70 mm in areas (a) and (bi).

According to Table 3, 26 trips were observed. The Table indicates that 0.31 % of sampling intensity was observed. No cod was caught during the observed trips. Provided that the results presented by the Swedish Authorities are representative of the entire group of vessels, it appears that, in 2014 cod catches were less than 1.5%.

Gear	Mesh size [mm]	Area	Nr.	Samp. Int. (%)	Catch [kg]		Rate
					Cod	Total	
Grid	70	a)	14	0.50%	0	2,369	0.00%
		b i)	12	0.20%	0	1,597	0.00%
TOTAL			26	0.31%	0	3,966	0.00%

6.6. Fishing effort ceilings allocated in Sole and Plaice fisheries of the North Sea

Background

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

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

Request to the STECF

STECF is requested:

- to advise on the maximum level of fishing effort necessary to take catches of the plaice and sole equal to the EU share of the TACs adopted according to the multi-annual plan for plaice and sole in the North Sea (R (EC) No 676/2007);
- to report on the annual level of fishing effort deployed by vessels catching plaice and sole, and to report on the types of fishing gear used in such fisheries;
- to provide the ranking of the gear groupings as provided in Annex IIa of the [FO regulation](#) according to contributions of those gears to plaice and sole (separately) catches and landings in 2014.

STECF response

STECF observes that similar advice has been requested since 2007 (see STECF winter plenary reports from 2007 up to and including 2011 and the STECF summer plenary report of 2012 to 2014; STECF review of scientific advice reports from 2007 up to and including 2014). STECF follows the same approach for the current request.

STECF notes that the TAC advice (following the regulation [R (EC) No 676/2007]) given for North Sea sole implies a 20% reduction in F in 2016 relative to F in 2015; this is forecast to be achieved with a zero change in TAC. The TAC advice (following the regulation [R (EC) No 676/2007]) given for North Sea plaice implies an increase of 64% in F in 2016 relative to F in 2015.

Assuming (as before [STECF review of scientific advice since 2007 until 2014]) a proportional relationship between fishing mortality and effort in kW*days, and a constant EU share of the TAC for plaice, STECF considers that the best estimate of the maximum level of fishing effort necessary to take catches equal to the EU shares of the TACs, would be equivalent to a 20% reduction in effort in 2016 relative to 2015 when considering sole in isolation and a 64% increase when considering plaice in isolation.

Plaice is mainly caught together with sole in a mixed beam trawl fishery. Therefore, the **maximum** level of fishing effort necessary to take catches of **both species** equal to the respective EU shares of their TACs, would be equivalent to an increase in effort in 2016 relative to 2015 of 64%. STECF notes that this amount of effort would likely lead to a mismatch between effort and the sole TAC adopted according to the flatfish plan [R (EC) No 676/2007], potentially leading to overquota sole catches (assuming the same proportional change in catch as F, the sole TAC would be overshoot by around 13 kilotonnes, or around 100%).

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

addition to that required to take the sole TAC, it would be possible to redeploy that effort within a spatial management regime (subject to any constraint resulting from the NS cod plan).

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

The ranking of regulated gears in terms of relative catch of plaice and sole are given in tables Figure 6.1-1 and Figure 6.1-2 respectively. The meaning of the gear groupings is as follows:

- BT1: beam trawls with mesh size equal to or larger than 120 mm
- BT2: beam trawls with mesh size equal to or larger than 80 mm and less than 120 mm
- GN1: gill nets
- GT1: trammel nets
- LL1: longlines
- TR1: bottom trawl with mesh size equal to or larger than 100 mm
- TR2: bottom trawls with mesh size equal to or larger than 70 mm and less than 100 mm
- TR3: bottom trawls with mesh size equal to or larger than 16 mm and less than 32 mm

The deployed level of effort (kW*days) in the North Sea for these gears over the period 2003-2014 is presented in Table 6.6-3 and Table 6.6-4 and Figure 6.1-1 below.

Table 6.6-1. Regulated gears in the North Sea ranked according to share of plaice catch in 2014, i.e. ranking made based on 2014 catch shares. Values in the years (2003-2014) give the proportion of plaice catch by gear in that year.

Reg Area	Species	Reg Gear	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	2009 Rel	2010 Rel	2011 Rel	2012 Rel	2013 Rel	2014 Rel
3B2	PLE	BT2	0.73	0.75	0.61	0.67	0.72	0.68	0.73	0.71	0.42	0.53	0.57	0.5
3B2	PLE	TR1	0.06	0.07	0.06	0.12	0.09	0.15	0.14	0.16	0.14	0.2	0.22	0.21
3B2	PLE	TR2	0.1	0.09	0.06	0.08	0.1	0.1	0.07	0.07	0.39	0.1	0.09	0.17
3B2	PLE	BT1	0.06	0.05	0.04	0.08	0.06	0.04	0.04	0.03	0.03	0.06	0.08	0.08
3B2	PLE	GT1	0.01	0.01	0.04	0.01	0.01	0	0.01	0.01	0.01	0.02	0.03	0.02
3B2	PLE	GN1	0.04	0.03	0.18	0.03	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01
3B2	PLE	TR3	0	0	0	0	0	0	0	0	0	0	0	0
3B2	PLE	LL1	0	0	0	0	0	0	0	0	0	0	0	0

Table 6.6-2. Regulated gears in the North Sea ranked according to share of sole catch in 2014, i.e. ranking made based on 2014 catch shares. Values in the years (2003-2014) give the proportion of sole catch by gear in that year.

3B2	SOL	BT2	0.9	0.91	0.89	0.88	0.9	0.87	0.88	0.91	0.88	0.85	0.42	0.87
3B2	SOL	GT1	0.03	0.03	0.04	0.05	0.04	0.05	0.05	0.02	0.04	0.04	0.02	0.05
3B2	SOL	GN1	0.04	0.04	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.06	0.03	0.04
3B2	SOL	TR2	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0	0.02
3B2	SOL	BT1	0.01	0	0	0	0	0	0	0	0	0	0	0.01
3B2	SOL	TR1	0	0	0	0	0	0	0	0	0	0	0	0
3B2	SOL	TR3	0	0	0	0	0	0	0	0	0	0	0	0
3B2	SOL	LL1	0	0	0	0	0	0	0	0	0	0	0	0

Table 6.6-3. Effort ('000 kWdays) of the regulated gear in the North Sea (2003-2014). Gears presented in order of ranking for plaice catches.

Reg area	Reg gear	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
3B2	BT2	60346	59373	58960	50362	48377	36065	36874	36242	31570	27386	29453	27269
3B2	TR1	31732	25414	24714	25178	21604	24341	24208	21513	20600	20235	19016	20029
3B2	TR2	19369	18609	17248	16131	16233	16433	14847	13500	11645	9669	7358	7971
3B2	BT1	5675	4967	4613	5347	3254	2039	1673	1631	1525	2799	3331	3283
3B2	GT1	970	1039	1056	1974	1821	1143	1228	840	926	1017	1115	1251
3B2	GN1	3434	3518	3359	3304	2309	2484	2463	2555	2615	2427	2213	2133
3B2	TR3	3153	3085	2429	1790	834	928	614	1139	365	526	884	995
3B2	LL1	265	168	188	120	44	421	765	416	235	125	107	221

Table 6.6-4. Effort ('000 kWdays) of the regulated gear in the North Sea (2003-2014). Gears presented in order of ranking for sole catches.

Reg area	Reg gear	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
3B2	BT2	60346	59373	58960	50362	48377	36065	36874	36242	31570	27386	29453	27269
3B2	GT1	970	1039	1056	1974	1821	1143	1228	840	926	1017	1115	1251
3B2	GN1	3434	3518	3359	3304	2309	2484	2463	2555	2615	2427	2213	2133
3B2	TR2	19369	18609	17248	16131	16233	16433	14847	13500	11645	9669	7358	7971
3B2	BT1	5675	4967	4613	5347	3254	2039	1673	1631	1525	2799	3331	3283
3B2	TR1	31732	25414	24714	25178	21604	24341	24208	21513	20600	20235	19016	20029
3B2	TR3	3153	3085	2429	1790	834	928	614	1139	365	526	884	995
3B2	LL1	265	168	188	120	44	421	765	416	235	125	107	221

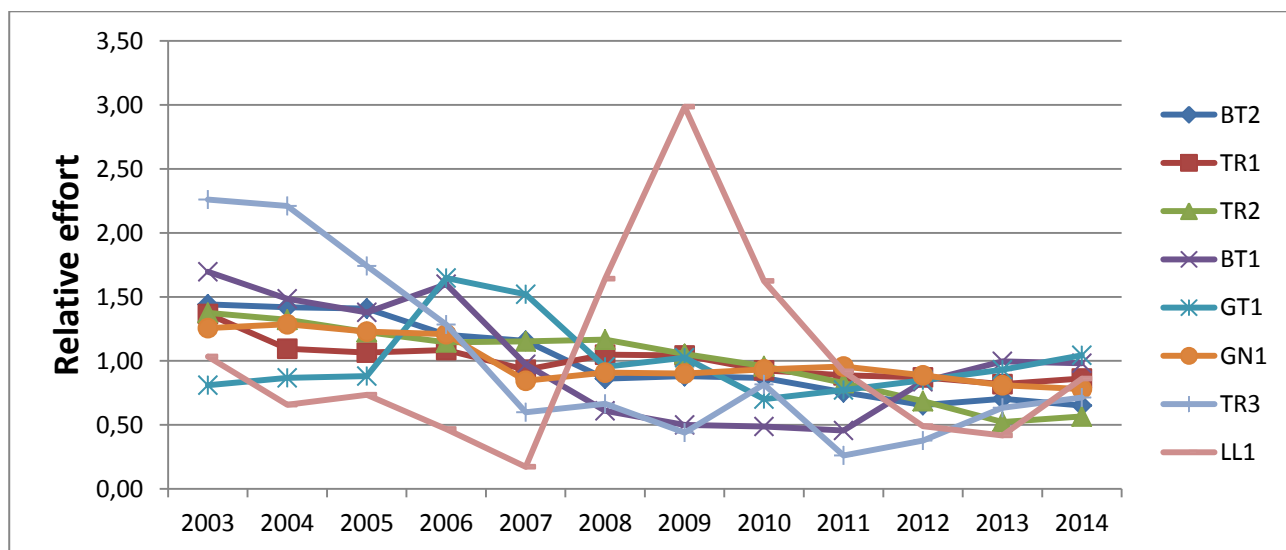


Figure 6.6-1. Trends in effort for the regulated gear in the North Sea (2003-2014). Each line is relative to the average of the time series.

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6.7. Multi-annual plan for small pelagic fisheries in the Northern Adriatic

Request to STECF

STECF is requested to review the report of the ad-hoc contract, evaluate the findings and make any appropriate comments and recommendations.

Background documentation can be found on: <https://stecf.jrc.ec.europa.eu/plen1502>

STECF summary observations

On the basis of the findings presented in the report of contract (Commitment No. S12.699950),

STECF concludes with respect to the following Terms of Reference.

ToR 1. Preliminary work

1.1 Review of most up to date stock assessments for anchovy and sardine

STECF notes that contractor has undertaken a comprehensive review of the assessment for both sardine and anchovy and concludes:

- The updated anchovy assessment better reflects the timing of spawning and recruitment;
- The assumed timing of the sardine assessment requires further revision to allow for reference point estimation and management strategy simulation;
- The acoustic survey for both species requires in-depth revision with the goal of improving cohort tracking;

1.2 Proposal of most scientifically sound MSY values and ranges

STECF notes that:

- The contractor has conducted a thorough investigation of reference point estimation for both stocks, particularly with respect to environmental autocorrelation;
- Two methods for estimating reference points for anchovy have been proposed both of which provide F_{MSY} values lower than the current GFCM management plan;
- Further management strategy evaluation work is required to test assumptions on the stock-recruit relationship underlying the anchovy F_{MSY} reference points;
- Revision of the assumed timing in the sardine assessments will allow estimation of more accurate sardine reference points than were achievable on the basis of the current assessment.

ToR 2. Support the Impact Assessment

STECF notes that the contractor has developed a management strategy evaluation framework that includes realistic recruitment variability. On the basis of the anchovy simulations in the ad-hoc contract report, STECF notes that:

- The current management plan does not appear to be implemented in practice so the results of comparing the baseline to other scenarios may be misleading;
- High risks of SSB falling below B_{lim} are obtained in most scenarios, reflecting recruitment variability;
- Testing management strategies that safeguard SSB of falling below B_{lim} with small probabilities (e.g., shorter advice to implementation cycles, escapement strategies with a capped F) should be a high priority.

The STECF summary observations are further elaborated below:

Anchovy assessment

STECF notes that for anchovy, the input catch-at-age data displayed moderate internal consistency (cohort tracking) that drives the assessment; in contrast, the MEDIAS acoustic survey displayed no internal consistency and is considerably down-weighted in the current assessment. Understanding why there is a lack of consistency in this survey should be a high priority.

The current assessment for anchovy displayed large retrospective patterns with the spawning stock biomass overestimated and fishing mortality underestimated year-on-year. These retrospective patterns persisted in the statistical catch-at-age model. Plausible reasons for the retrospective pattern include the influence of the unusually high proportion of 2 year old fish from 2007 to 2009. While these year-classes have passed through the fishery, their influence on the stock estimates of the SAM and SCA fits could remain. Moreover, STECF reiterates previous recommendations to run a combined assessment across GSA 17 and 18 (EWG-reference).

Given that the data entering the anchovy assessment are in split-year format (June 1st start of year and assumed spawning date), there is no need for a proportion of mortality occurring prior to spawning for anchovy. In addition, the proportion mature at age 0 on June 1st should be set to zero.

Sardine assessment

STECF notes that the assessment for sardine displayed acceptable retrospective patterns. The assessment could not, however, be replicated in a re-run of FLSAM nor in alternative methods for the purpose of comparison (statistical catch-at-age, VPA). The low internal consistency of the sardine catch-at-age data and largely absent internal consistency of the MEDIAS surveys contribute to the lack of acceptable alternative fits for sardine.

The current assessment data for sardine is in calendar year format (January 1st start of year) and the proportion of mortality before spawning is set to 0.5. These imply spawning occurs June 1st and fish spawned then recruit to the fishery the following January aged half-a-year and all spawn the following June. If spawning for sardine occurs October-March, the spawning date should be set to January 1st in the assessment. A graphical representation of the various timelines of the biology, fishery and assessment would clarify the procedure (see North Sea sprat diagram on page 561 of: ICES 2015a). This may improve the simulations for sardine, so that reference points can be estimated. Again, STECF reiterates previous recommendations to run a combined assessment across GSA 17 and 18 (STECF 14-08).

Reference point estimation

Anchovy

STECF notes that the raw stock-recruit relationship for anchovy displayed an almost linear increase of recruitment over SSB. Based on the raw SR data, the estimate for F_{MSY} would be very low. It is clear, however, that there is considerable autocorrelation in the stock-recruit relationship. Fitting a time-varying slope at the origin using Peterman's productivity method (Peterman et al., 2003) allows for varying productivity to be estimated while fitting the stock-recruit relationship. Considerably more compensation is displayed using the SR curve thus derived. The resultant F_{MSY} reference point based on the Kalman filter Ricker ($F_{MSY,kf} = 0.482$) is lower than the current target for fishing mortality ($F_{tar} = 0.64$; based on F_{bar} age 1-2 and Patterson's $E = F/Z = 0.4$ (Patterson, 1992)). A fixed breakpoint (mean SSB (ICES 2015)) hockey stick gave a lower estimate for F_{MSY} (hockey = 0.372) than $F_{MSY,kf}$.

STECF notes that recruitment over-fishing thresholds are difficult to define on the basis of the SSB and recruitment data. Using the Ricker Kalman filter or fixed breakpoint hockey stick, a threshold may be defined as half the maximum recruitment from the mean form. Thus the estimated limit reference points $B_{lim}, R_{max/2}$ from the Kalman filter is slightly higher than that used by GFCM (B_{loss}), which is the lowest observed biomass from which a recovery has occurred. Although the B_{lim} values from the two methods are comparable, STECF considers that a B_{lim} based on $R_{max/2}$ has a theoretical and empirically tested basis and is preferred (Myers et al. 1994) Precautionary or trigger reference points based on the uncertainty of the assessment may not be precautionary enough given the retrospective bias. The GFCM approach of setting $B_{pa} = 2 B_{lim}$ should be further tested in the proposed MSE framework.

Sardine

Based on the current assessment settings, particularly with respect to timing of spawning, maturation and recruitment, sustainable deterministic or stochastic populations of sardine could not

be simulated. The reason being that anything other than very low rates of fishing mortality requires more recruits per spawner than the stock-recruit relationship currently allows for. Until the timing of the sardine assessment is corrected reference points cannot be derived.

Assessment of the management plan

Anchovy

Variable recruitment dynamics dominated the projections and resulted in high probabilities of the stock biomass falling below B_{lim} under a two-year effort setting management cycle. STECF considers that this reflects a natural variability and that a two-year advice cycle may not prevent the stock falling below a limit threshold with resultant impacts on yield. This is common in other short-lived, highly variable species (ICES, 2015b) where biomass escapement strategies with capped F are often implemented. Furthermore, given that the current management plan doesn't appear to be implemented in practice the results of comparing the baseline to other scenarios may be misleading.

Sardine

As noted above, the sardine stock could not be simulated forward under anything other than very low fishing mortalities. This is due to the timing of spawning and recruitment assumed in the current assessment.

STECF conclusions

STECF suggests that the timing of spawning, recruitment and maturation with respect to the fishery and assessment be re-evaluated for the assessment of both anchovy and sardine. STECF suggests that the catch data raising (including ageing) for these years should be reviewed during the next assessment of these stocks. For sardine, this should assist in simulating realistic populations under various fishing mortality rates to derive reference points, as was done for anchovy. At that point candidate MSY reference points should be available for both species.

STECF considers that additional management strategy evaluations are required to test the influence of the stock-recruitment relationship (SR) on the F_{MSY} reference points. STECF considers highly likely that following simulations of the recruitment dynamics, high probabilities of falling below B_{lim} will be estimated for sardine (as were estimated for anchovy). STECF considers that testing management strategies that safeguard SSB of falling below B_{lim} with small probabilities (e.g., shorter advice to implementation cycles, escapement strategies with a capped F) should be a high priority.

STECF suggests that an escapement strategy be investigated through MSE to assess whether this offers a better approach for management.

STECF considers that management strategies such as a biomass escapement strategy with a capped F may assist in mitigating for the natural recruitment variability. These methods work via forecasting SSB forward to the end of the fishery as implemented, for example, in North Sea sprat (ICES 2015). A management strategy evaluation based on fixed proportion (e.g., F_{MSY}) or fixed escapement should then be tested via MSE. Such an approach however, will require a reliable a consistent index of abundance (survey index), which is not the case. Without an improved survey, the escapement advice would rely on the estimates of age zero fish based predominantly on the catch-at-age data. The escapement strategy will likely rely on.

STECF notes that to allow the development and testing of an escapement strategy to mitigate for recruitment variability in these stocks, STECF suggests that appropriate experts review the following: acoustic survey design, age estimation, consistency of the protocols implemented by the Italian and Croatian teams and merging procedures for anchovy and sardine in the MEDIAS acoustic survey.

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6.8. Conformity of the national management plans with the CFP

Background

Under the Council Regulation (EC) No 1967/2006 (hereafter referred to as "the Mediterranean Regulation"), Member States shall adopt management plans for fisheries conducted by trawl nets, boat seines, shore seines, surrounding nets and dredges within their territorial waters. Measures to be included shall pursue a sustainable exploitation of the marine biological resources while minimizing the impact on marine ecosystems.

Since January 2014, the Common Fisheries Policy (CFP) introduces new requirements for the exploitation of fishery resources. The principal aim is to ensure high long-term fishing yields for all stocks by 2015 where possible, and at the latest by 2020. This is referred to as maximum sustainable yield (MSY). Moreover, the CFP pursue the reduction of unwanted catches and wasteful practices to the minimum or the avoidance them altogether, through the gradual introduction of a landing obligation. Lastly, the regionalisation approach has a key role when Members States with a direct management interest may agree to submit joint recommendations (e.g. discard plans) for achieving the objectives of the relevant Union conservation measures.

At the time of the ad-hoc request, the EU Member States had adopted 28 national management plans in the Mediterranean Sea involving fisheries with trawl nets, purse seiners and other type of surrounding nets, and boat seines. Moreover, 13 national management plans were in advanced stage of preparation for fisheries conducted by purse seiners, dredges, boat seines, and shore seines (Table 1). These management plans have been prepared under the provisions of the Mediterranean Regulation and most of them contain limited information on the new obligations of the CFP such as MSY, landing obligation or regionalisation. It was thus necessary to carry out an ad-hoc request for scientific advice to support an evaluation on the conformity of the national management plans (adopted and in advanced stage of preparation) with the requirements of the new CFP.

The main objectives of the ad-hoc request were: (1) the assessment of the conformity of the national management plans, adopted or prepared under the Mediterranean Regulation, with the requirements of the Common Fisheries Policy, as established in Regulation (EU) No 1380/2013; and (2) the assessment of the feasibility for the preparation of multiannual plans at the European level in the Mediterranean Sea, including at regional or sub-regional level.

Background documentation can be found on: <https://stecf.jrc.ec.europa.eu/plen1502>

Table 6.8-1. List of national management plans

(A) National management plans adopted (*at the time of the ad-hoc request*)

	Country	Fishing gear	Region	Year of adoption	Language
1	Croatia	Trawler	Territorial waters	2014	EN
2	Cyprus	Trawler	Territorial waters	2012	EN
3	Greece	Trawler	Territorial waters	2014	EN
4	Greece	Purse seiner	Territorial waters	2013	EN
5	France	Trawler	Territorial waters	2013	FR
6	Italy	Pelagic - Trawlers and purse seiners	GSA 09	2011 *	IT
7	Italy	Pelagic - Trawlers and purse seiners	GSA 10	2011 *	IT
8	Italy	Pelagic - Trawlers and purse seiners	GSA 16	2011 *	IT
9	Italy	Pelagic - Trawlers and purse seiners	GSA 17 and GSA 18	2011 *	IT
10	Italy	Demersal trawler	GSA 09	2011 *	IT
11	Italy	Demersal trawler	GSA 10	2011 *	IT
12	Italy	Demersal trawler	GSA 11	2011 *	IT
13	Italy	Demersal trawler	GSA 17	2011 *	IT
14	Italy	Demersal trawler	GSA 18	2011 *	IT
15	Italy	Demersal trawler	GSA 19	2011 *	IT
16	Italy	Demersal trawler	> 18 m	2011 *	IT
17	Italy	Demersal trawler	< 18 m	2011 *	IT
18	Italy	Boat seine	Liguria-Tuscany	2011 *	IT
19	Malta	Trawler	Territorial waters	2013	EN
20	Malta	Purse seiner	Territorial waters	2013	EN
21	Malta	Purse seiner	Territorial waters	2013	EN
22	Slovenia	Trawler	Territorial waters	2013	EN
23	Slovenia	Purse seiner	Territorial waters	2013	EN
24	Spain	Trawler	Territorial waters	2013	ES
25	Spain	Purse seiner	Territorial waters	2013	ES
26	Spain	Boat seine	Murcia	2013	EN
27	Spain	Boat seine	Baleares	2013	EN
28	Spain	Boat seine	Catalonia	2014	EN

(B) National management plans in preparation (at the time of the ad-hoc request)

	Country	Fishing gear	Region	Language
1	Croatia	Purse seiner	Territorial waters	EN
2	Croatia	Coastal fisheries	Territorial waters	EN
3	France	Purse seiner	Territorial waters	EN
4	France	Mechanised dredges	Territorial waters	EN
5	France	Gangui	Provence-Alpes-Côte d'Azur	EN
6	France	Shore seines	Languedoc-Roussillon & Provence-Alpes-Côte	EN
7	Greece	Boat seines	Territorial waters	EN
8	Italy	Dredges	Adriatic coast	IT
9	Italy	Boat seines	Gulf of Manfredonia	IT
10	Spain	Mechanised dredges	Valencia	EN
11	Spain	Mechanised dredges	Andalusia	EN
12	Spain	Mechanised dredges	Catalonia	ES
13	Spain	Boat dredges	Catalonia	ES

Request to STECF

The STECF is asked to review the evaluation on the conformity of the national management plans for trawlers (France, Italy and Spain) and pelagic trawlers and purse seiners (Italy, Croatia, and Slovenia)¹¹ with the CFP, evaluate the findings and make any appropriate comments and suggestions.

For the national management plans abovementioned and where shared stocks have been identified, the STECF is also requested to comment on whether there are scientific elements from the point of view of the population dynamics and fisheries exploitation to support a "shift" from national management plans towards multiannual plans.

Objectives of the *ad hoc* specific contract

1. The main objective is to evaluate the conformity of the national management plans, adopted or prepared under the Mediterranean Regulation, with the requirements of the Common Fisheries Policy, as established in Regulation (EU) No 1380/2013.
2. Moreover, evaluate the feasibility for the preparation of joint multiannual plans at the European level in the Mediterranean Sea, including at regional and/or sub-regional level.

The results are presented in two parts. The first one (A) is in the form of a table that provides a list of fourteen elements, including comments about each point and a list of possible conservation and

¹¹ Table 1.A: national management plans in rows No_5, No_9, No_10, No_11, No_12, No_23 and No_24; and Table 1.B: national management plan in row No 1.

technical measures to be integrated in the NMP. In the second part (B), a description of possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table A, and to achieve the objectives of the Common Fisheries Policy, is included.

STECF general observations

STECF notes that, despite the fact that many stocks fall under the scope of the National Management Plans considered below, the majority of the assessed stocks in the Mediterranean are currently exploited at very high levels of fishing mortality, which are not compatible with the objectives with the new CFP (Regulation (EU) 1380/2013). STECF acknowledges that many of these plans have been implemented under the requirements of Council Regulation (EC) No 1967/2006 and therefore before the recent reform of the Common Fisheries Policy (Regulation (EU) 1380/2013). As such there is a requirement to realign their objectives with the new CFP. It is noted however, that under the previous CFP (Regulation (EC) No 2371/2002), article 2.1 specifies that the precautionary approach be applied “*in taking measures designed to protect and conserve living aquatic resources, to provide for their sustainable exploitation*”. Given the current and historic exploitation status observed across the majority of assessed stocks, STECF considers that there has been a general failure in achieving the objectives laid down in the previous CFP and that many of these stocks require a rebuilding plan as a matter of urgency.

STECF acknowledges that there are a number of regional complexities due to straddling stocks; there are however, several stocks assessed by STECF and GFCM, for which the EU has sole competence and hence fall fully within the scope of the CFP. Furthermore, complexities surrounding multi-species/ multi-fleet fisheries; stock boundary definitions; and lack of analytical assessments are issues which are not unique to the Mediterranean and therefore are insufficient to justify the current lack of progress in effective management.

STECF considers that the majority of management plans developed at the level of Member State fisheries and/or gear types, such as those presented here, cannot be evaluated with respect to the MSY objectives. Such objectives have to take into account the dynamics of the stocks and all of the fisheries exploiting them. In many cases, stocks are exploited by multiple fisheries and Member States. Therefore, STECF considers that for shared stocks, fisheries’ management plans need to take into account the impacts of all fleets and countries involved in the fisheries exploiting such stocks.

STECF reiterates its previous observations (PLEN 14-03) that the current divisions of the Mediterranean Sea as defined by GFCM are generally arbitrary, often coinciding with National borders (i.e. Spain-France, France-Italy), while in other cases they embrace large islands (i.e. Sardinia). Knowledge of species distributions, spawning concentrations, nursery areas, distribution of fishing activity and catches and connectivity defined as the level of dependence of fish production and population dynamics on dispersal and/or migration among areas had a limited (if any) influence on the current delineation of GFCM-GSAs. While significant advances have been made in the area of stock definition, for example through the STOCKMED project (Fiorentino *et al*, 2014) uncertainty remains. Given the arbitrary and geo-political delineation of the existing NMP structure, STECF considers it likely that many stocks are transboundary relative to the current boundaries of National Management Plans. Given that management plans should aim to encompass the geographic scope of the stocks and the fleets exploiting them, STECF considers that in general,

broader scale regional based management plans, which encapsulate all fleets exploiting the stocks identified within the plans, are more appropriate.

In addition, STECF notes that for several minor stocks, undertaking full analytical assessment will not be feasible due to limitations in the availability of appropriate data which may never become available because of the associated costs of collection relative to the value of the fishery. Consequently, for such data-limited stocks, it will not necessarily be possible to quantitatively assess their status in relation to MSY and in such cases, it will not be possible to assess the performance of any management plan with respect to MSY objectives. Hence, in such cases the performance of the fishery management plans will need to be assessed against the stock response of the main target species of each fishery.

STECF notes that where catch (or landings) and effort information are available, CPUE or other biomass indicators could be used to prescribe management actions, i.e. actions prescribed through a harvest control rule where management actions are specified according to trends in CPUE or where available, survey indices.

STECF considers that, unless changes in (i) geographic scope of existing management plans are expanded at an appropriate regional level so as to cover all fleets exploiting the resources, and; (ii) operational changes to improve the implementation of management plans significantly and; (iii) to align them to international standards (i.e. formulations of harvest control rules, definition of limit and target reference points for F and SSB, testing of management plan performances through MSE, etc) then the likelihood of achieving the objectives of the new CFP are very remote.

STECF has been asked to comment on whether the National Management Plans (NMPs) contain the following 14 specific elements:

1. Part A.1. Scope, in terms of stocks, fishery and geographical area
2. Part A. 2.1. Sustainable fishing activities in the long term
3. Part A. 2.2(a). Precautionary approach
4. Part A. 2.2(b). Maximum Sustainable Yield approach
5. Part A. 2.3. Ecosystem- based approach
6. Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass (yes)
7. Part A.4. Clear time frames to reach quantifiable targets
8. Part A.5 Conservation reference points
9. Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.
10. Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.
11. Part A.8. Minimisation of Unwanted catches
12. Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan
13. Part A.10. Fish stock recovery areas
14. Part A.11. Collection of Scientific data

While the 2nd element (part B) provides additional comments on each of the elements above

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF observations on individual plans

MANAGEMENT PLANS TRAWL in GSA 9, 10 and 11 and PELAGIC TRAWL AND PURSE SEINE in GSA 17 and 18 (Adriatic Sea)

These Italian NMPs were submitted the Italian Ministry for Agricultural, Food and Forestry in 2008 and adopted in 2011. The aim of these NMPs is to restore stocks to within safe biological limits and to guarantee a long term sustainable exploitation. These NMPs were reviewed by the STECF in its Plenary of April 2009 (Plen-09-01). These observations are repeated below.

GSA09 – TRAWL FISHERY

The overall objective is to reduce the exploitation rate from 0.66 (current estimate) to 0.35 (target reference point). Estimated exploitation rates are based on MEDITS and GRUND survey data. However, no explanation is given regarding the methods used to derive the overall exploitation rates. Hence STECF is unable to evaluate whether such methods are appropriate or reliable. Furthermore, the means to achieve a reduction in exploitation rate for the species complex in GSA 9 remains unclear.

The Management Plan for GSA 09 includes measures already in force (50 m minimum depth for trawling, fishing on weekends not allowed, minimum legal sizes...), and includes an existing derogation from Council Regulation (EC) 1967/2006. The Decommissioning Plan (overall 8% reduction in fishing capacity) appears to have already been agreed within the Italian Operational Programme for Fishing.

No clear information is given about the regulations in force in GSA09. It is apparent that some of the simulations consider regulatory measures already in force. Should this be the case, the results of the simulations are likely to be misleading. For example, if a temporal closure is already implemented even by part of the fleet, simulation of a closure for the same period will simply reflect the status quo without any effect on the exploitation rate. To effect a reduction in exploitation rate using a temporary closure would mean an extension to the period of closure that already exists. This will apply both to the stock response and the estimated economic performance since the output of ALADYM simulation model is used as input to the economic model.

From the simulations undertaken, the most effective means to achieve an increase in hake biomass is to implement an increase in mesh size to 50 mm. However, under the other scenarios considered in the simulations (permanent and temporary cessation of activity, and status quo) hake biomass is not expected to achieve the levels estimated in 1994.

With regard to red mullet, biomass, spawning biomass and landings are predicted to increase under all scenarios (including status quo). Deep-water pink shrimp biomass and spawning biomass is predicted to stabilize in all cases (including status quo); and landings would follow the same trend in all cases, with and without the implementation of the proposed management measures.

With respect to the Management Plan for the purse seining, STECF agrees with the statement in the proposal that “the analyses contained in this Management Plan, which are based upon simulations of stock trends with differing fishing mortality and different recruitment assumptions, should therefore be viewed as provisional and subject to review as soon as further information is available”.

GSA 10 – TRAWL FISHERY

The Plan relates to demersal trawlers registered in Campania and Tyrrhenian Calabria. The vessels over 18 m OL, registered in northern coastal Sicily are not included and are not referred to. STECF notes that the reported current exploitation rate of 0.66 is the same value as that reported in the plans for other GSAs. STECF is unable to ascertain how this estimate has been derived and is therefore unable to comment on its reliability.

The existing temporal closure in GSA 10 is not compulsory for all vessels, and has therefore only affected certain areas and boats in certain years and for various time periods. No information is provided on the number of vessels that have complied with the temporary closure. The Plan proposes a 45 days closure in September-October and 20 days closure in April-May. However, in the absence of information on the effects of the previous temporary closure on fishing effort, STECF is unable to assess the likely consequences of the closure referred to in the Management Plan.

A plan for the adjustment of fishing capacity, as well as the implementation of biological protection zones and nursery areas seem to have been already agreed within the Italian Operational Plan, but STECF is not able to assess the effects of these measures due to a lack of appropriate data.

GSA 11 – TRAWL FISHERY

The Plan is referred to the demersal trawlers registered in Sardinia. The fleet is reported to include 157 vessels. According to the data provided, in the period between 2004 to 2006 there was an increasing in fishing capacity (+6.1% in GT and +5.21% in Kw), STECF notes that the capacity increase is likely to have been accompanied by a change, most likely an increase in technological efficiency (technological creep), but any such factors have not been considered in the analysis.

The current exploitation rate is reported to be 0.47, which suggests that a reduction in fishing capacity may not be necessary. Nevertheless STECF notes that the Plan includes a proposal to decommission of 8% of the fishing capacity as a precautionary measure.

The Plan proposes a 45-day closure in March-April for vessel less than 30 GT and 45 days in September-October for larger vessels. An additional closure for all vessels of 20 days in the period April-May or June-July is also proposed.

A large number of species are exploited by the Sardinian trawl fisheries. However, selected biological data are available for European hake, Red shrimp, Blue and Red shrimp, Deepwater Rose Shrimp and Red mullet only. Furthermore, production data are presented for only 9 species and for 2006. Data for all the other species listed in Appendix XII of the DCR (now in Appendix VII of the DCF) are absent.

The other fisheries included in the Plan in GSA 19 are not among those listed in Article 19 (1) of Council Regulation (EC) No.1967/2006. In addition, the proposals relating to such fisheries are unclear.

GSA 18 & 17 – PELAGIC TRAWLING AND SEINE FISHING

Recent stock assessments of anchovy and sardine in the Adriatic Sea (most recent assessments were presented in SGMED-08-04) indicate that, while anchovy seems to be exploited sustainably, sardine is overexploited, showing a sharp decreasing trend in SSB and recruitment during the last decade. Both stocks are shared between Italy and the States on the Eastern Adriatic coast.

Because small pelagic fisheries in the Adriatic are multispecies (i.e., effort on sardine and anchovy should be considered together) there is need to reduce the overall fishing effort on pelagic resources in order to allow the sardine stock to recover.

Given that sardine is mostly fished by the Croatian fleet in the eastern part of the Adriatic, there is an urgent need that Italy collaborates with countries in the eastern part of the Adriatic, especially Croatia, in the assessment of small pelagic fish stocks and management of their fleets. This is not considered at all in the management plan. However, setting objectives for the Italian fisheries independently of the Croatian fisheries is unlikely to achieve the desired objectives. STECF therefore recommends that management arrangements for the Adriatic should be agreed through the GFCM level.

No management plan is provided for the purse seine fishing targeting bluefin tuna in the Northern, Central and Southern Adriatic Sea.

MANAGEMENT PLAN FOR TRAWLS IN GSA 9 - Ligurian Sea, Northern and Central Tyrrhenian Sea

The area interested by Plan is the GSA9, i.e. the sea off the Administrative Regions of Liguria, Tuscany and Latium.

STECF observations

Of the fourteen points assessed (part A), the ad-hoc report considers that six of them were considered as present and well described in the plan , seven were considered as partially present in the Plan, and one was considered as absent.

Part A.1. Scope, in terms of stocks, fishery and geographical area

STECF notes that the scope in terms of the stocks to be covered, the fisheries exploiting them as well as general information on the economic status and environmental context is provided. However, STECF notes that it is not possible to determine whether the scope of the plan covers all the relevant species as no information regarding catch composition or catch rates has been provided in the ad hoc contract.

Part A. 2.1. Sustainable fishing activities in the long term

The ad hoc contract notes that the objective of the plan is to re-position the stocks within safe biological limits and to include biological target and limit reference points to achieve this objective. The ad hoc contract notes that the objectives of the plan should be expanded to consider article 2.1 of Regulation (EU) No 1380/2013, namely achieving economic, social and employment benefits.

Part A. 2.2(a). Precautionary approach

The ad hoc contract notes that measures in place in the NMP aim to reduce the overall fishing capacity by 5.5% from 2011 levels and that these are in line with the PA. STECF has no means of assessing whether this is the case and notes that the proposed capacity reductions are unlikely to deliver substantial reductions in fishing mortality.

Part A. 2.2(b). Maximum Sustainable Yield approach

The ad-hoc report notes that the current and optimal biological status of the stocks were detected as mean weighed current values of exploitation rates among all considered stocks ($E=0.6$). STECF notes that this implies that the optimal harvest rate has been achieved when average across all stocks, which is not consistent with the objectives of the CFP for which F_{MSY} should be achieved for each stock in order to be in line with the objectives of the CFP. STECF agrees with the ad hoc report in that targets laid out in the NMP should be updated using the latest MSY or related proxies.

Part A. 2.3. Ecosystem- based approach

The ad hoc contract notes that no information is presented relating to catch composition or catch rates. STECF notes that it is therefore not possible to determine the extent of the technical interactions between the fleets and commercial and non-commercial species. The ad hoc contract notes that “*the NMP doesn't foresee any integrated approach (target species, by catch, ecosystem indicators) to manage the fishery within ecologically meaningful boundaries*”. STECF is unclear as to the intention or meaning of this statement and considers that this requires further elaboration.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

The ad hoc contract notes that a series of biological, economic indicators are included in the NMP and that the plan, when implemented, foreseen that these would be met by 2013. STECF is not in a position to assess whether these have been met or not, but STECF agrees with the ad hoc contract that the current biological reference points, which are based on a fixed harvest ratio and a Spawner Per Recruit target, should be changed and based on achieving a fishing mortality rate consistent with the MSY approach (i.e. F_{MSY} target) and to also include a target based on SSB. STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$.

Part A.4. Clear time frames to reach quantifiable targets

STECF notes that the plan was implemented before the recent reform of the CFP and therefore the target dates laid down in the plan are outdated with respect to achieving the maximum sustainable exploitation rate by 2015 where possible and, on a progressive, incremental basis at the latest and by 2020. STECF agrees with the ad hoc contract that the timeframe to meet these targets as specified in the NMP need to be updated.

Part A.5 Conservation reference points

The ad hoc contract notes that the existing plan contains a number of biological limit and target reference points. STECF considers that these should be re-evaluated in light of the objectives of the CFP. STECF agrees with the ad hoc contract that precautionary reference points, intermediate between target and limit reference points be introduced.

Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

The ad hoc contract notes that safeguards and remedial actions are only generically indicated, without providing a clear timeframe for their implementation. STECCF notes that article 10(d) of Regulation (EU) No 1380/2013 specified that “*safeguards to ensure that quantifiable targets are met as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk*” STECF agrees with the ad hoc contract that measures and quantifiable targets consistent with objectives of the CFP are implemented in a clear and well described manner and that these are invoked when appropriate e.g. when SSB falls below $MSY B_{trigger}$ for example.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.

STECF notes that NMP has been adopted before the entry in force of the EC Reg. 1380/2013, therefore the aspects related to landing obligation (estimation/characterisation of discards and to the discard practices) have not been included. The ad-hoc contract notes that there is no information on discards of the species potentially subjected to landing obligation. STECF notes that Article 15.1(d) of Regulation (EU) No 1380/2013 specifies that from 1 January 2017, the species which define the fisheries will be subject to the landing obligation and that from 1 January 2019 at the latest all other species should be covered. STECF considers that the fisheries and the species to be affected by the Landing Obligation should be specified in the revised NMP, in accordance with the provisions of Article 15.5.

Part A.8. Minimisation of Unwanted catches

The ad hoc contract notes that the technical measures included in this plan are mostly based on the provisions contained in Regulation (EC) No 1967/06. It is noted that additional measures have been included, such as a limitation of fishing capacity (withdraw of vessels), limitations on fishing activity (seasonal fishing closure) and also the introduction of area closures (e.g. area inside 4 nautical miles from the coast). The ad hoc contract notes that other possible candidate measures are the enforcement of the obligation of the use of the square mesh 40 mm cod-end and a clear definition of the minimum length of the cod-end. STECF notes that in the absence of discard data it is not possible to determine the extent of unwanted catches in the fisheries covered by this NMP.

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that a series of biologic, economic and social indicators have been identified for the periodic monitoring of progress based of the EU DCF activities. Without specific details of the indicators, STECF is unable to assess whether these are relevant or appropriate for monitoring progress towards achieving the objectives of the plan.

Part A.10. Fish stock recovery areas

The ad hoc contract notes that there are six existing small closed areas or no take zones in the existing NMP and there is a proposal for close coastal areas within 4nm of the coast. The ad hoc contract considers that further measures for the protection of critical and sensitive habitats is required. STECF has no basis to assess the basis for such measures.

Part A.11. Collection of Scientific data

As noted in the ad hoc contract the NMP is supported by the provisions of the EU Data Collection Framework (Regulation (EC) No 199/2008).

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF notes that additional and more detailed comments have been provided in the ad hoc contract. These are summarised in the responses provided above.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for demersal species in GSA 9 provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however, considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB, reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

Regarding the geographic scope of the plan, STECF reiterates the general conclusion that given the geo-political delineation of the existing NMP, STECF considers it likely that many demersal stocks are transboundary relative to the current boundaries of the NMP. Given that management plans should aim to encompass the geographic scope of the stocks and the fleets exploiting them, STECF considers that broader scale regional based management plans are more appropriate and are in accordance with the precautionary approach so as to ensure that all fleets are subject to the provisions of the plans.

MANAGEMENT PLAN FOR TRAWLS IN GSA 10 - the sea off Calabria and Campania administrative regions.

STECF comments

Of the fourteen elements assessed (part A), the ad-hoc report notes that six of them were considered as present and well described in the plan; seven were considered as partially present in the Plan; and one was considered as absent.

Part A. Item 1. Scope, in terms of stocks, fishery and geographical area

The plan covers GSA10, i.e. the Central- Southern Tyrrhenian. It comprises the coasts of Campania, Basilicata and Calabria. STECF notes that any future NMP for GSA 10 should include the whole sub- area (the NMP submitted in 2008 did not consider the fishing activity in northern Sicily). STECF notes that the scope in terms of the stocks to be covered, the fisheries exploiting them as well as general information on the economic status and environmental context is provided. The species contained within the scope of the plan are European hake, red mullet, pink shrimp, Norway lobster and red shrimp. However, STECF notes that it is not possible to determine whether this covers all relevant species as no information regarding catch composition or catch rates has been provided in the ad hoc contract.

Part A. 2.1. Sustainable fishing activities in the long term

The ad hoc contract notes that the objective of the plan is to re-position the stocks within safe biological limits and to include biological target and limit reference points to achieve this objective. The ad hoc contract notes that the objectives of the plan should be expanded to consider article 2.1 of Regulation (EU) No 1380/2013, namely achieving economic, social and employment benefits.

Part A. 2.2. (a) Precautionary approach

The ad hoc contract notes that measures to reduce overall capacity by 17% are in line with the PA. STECF has no means of assessing whether this is the case and how such a reduction is likely to impact on fishing mortality but notes that such reductions in capacity are unlikely to deliver similar reductions in fishing mortality without additional measures.

Part A. 2.2(b). Maximum Sustainable Yield approach

The ad-hoc report notes that the current and optimal biological status of the stocks were detected as mean weighed current values of exploitation rates among all considered stocks ($E=0.6$). STECF notes that this implies that the optimal harvest rate has been achieved when average across all stocks, which is not consistent with the objectives of the CFP for which F_{MSY} should be achieved for each stock. STECF agrees with the ad hoc report in that targets laid out in the NMP should be updated using the latest MSY or related proxies.

Part A. 2.3. Ecosystem- based approach

The ad hoc contract notes that information is presented relating to catch composition or catch rates. STECF notes that it is therefore not possible to determine the extent of the technical interactions between the fleets and commercial and non-commercial species. The ad hoc contract notes that “*the NMP doesn't foresee any integrated approach (target species, by catch, ecosystem indicators) to manage the fishery within ecologically meaningful boundaries*”. STECF is unclear as to the intention or meaning of this statement and considers that this requires further elaboration.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

The ad hoc contract notes that a series of biological, economic indicators are included in the NMP and that the plan, when implemented, foreseen that these would be met by 2013. STECF is not in a position to assess whether these have been met or not, but STECF agrees with the ad hoc contract that the current biological reference points, which are based on a fixed harvest ratio and a Spawner Per Recruit target, should be changed and based on achieving a fishing mortality rate consistent with the MSY approach (i.e. F_{MSY} target) and to also include a target based on SSB. STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$.

Part A. 5. Conservation reference points

STECF notes that the plan was implemented before the recent reform of the CFP and therefore the target dates laid down in the plan are outdated with respect to achieving the maximum sustainable exploitation rate by 2015 where possible and, on a progressive, incremental basis at the latest and by 2020. STECF agrees with the ad hoc contract that the timeframe to meet these targets as specified in the NMP need to be updated.

Part A. 6. Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

The ad hoc contract notes that safeguards and remedial actions are only generically indicated, without providing a clear timeframe for their implementation. STECCF notes that article 10(d) of Regulation (EU) No 1380/2013 specified that “*safeguards to ensure that quantifiable targets are met as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk*” STECF agrees with the ad hoc contract that measures and quantifiable targets consistent with objectives of the CFP are implemented in a clear and well described manner and that these are invoked when appropriate e.g. when SSB falls below $MSY B_{trigger}$ for example.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation

STECF notes that NMP has been adopted before the entry in force of the EC Reg. 1380/2013, therefore the aspects related to landing obligation (estimation/characterisation of discards and to the discard practices) have not been included. The ad-hoc contract notes that there is no information on discards of the species potentially subjected to landing obligation. STECF notes that Article 15.1(d) of Regulation (EU) No 1380/2013 specifies that from 1 January 2017, the species which define the fisheries will be subject to the landing obligation and that from 1 January 2019 at the latest all other species should be covered. STECF considers that the fisheries and the species to be affected by the Landing Obligation should be specified in the revised NMP, in accordance with the provisions of Article 15.5.

Part A.8. Minimisation of unwanted catches

The ad hoc contract notes that the technical measures included in this plan are mostly based on the provisions contained in Regulation (EC) No 1967/06. It is noted that additional measures have been included, such as a limitation of fishing capacity (withdraw of vessels), limitations on fishing

activity (seasonal fishing closure) and also the introduction of area closures (e.g. area inside 4 nautical miles from the coast). The ad hoc contract notes that other possible candidate measures are the enforcement of the obligation of the use of the square mesh 40 mm cod-end and a clear definition of the minimum length of the cod-end. STECF notes that in the absence of discard data it is not possible to determine the extent of unwanted catches in the fisheries covered by this NMP.

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that a series of biologic, economic and social indicators have been identified for the periodic monitoring of progress based of the EU DCF activities. Without specific details of the indicators, STECF is unable to assess whether these are relevant or appropriate for monitoring progress towards the objectives of the plan.

Part A.10. Fish stock recovery areas

The ad hoc contract notes that there are two existing closed areas or no take zones in the existing NMP and there is a proposal for close coastal areas within 4nm of the coast and nursery areas for four commercially important stocks are identified for potential management measures. The ad hoc contract considers that further measures for the protection of critical and sensitive habitats is required. Without further information being made available, STECF has no basis to assess the need for such measures.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for demersal species in GSA 10 provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however, considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB, reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

Regarding the geographic scope of the plan, STECF reiterates the general conclusion that given the geo-political delineation of the existing NMP, STECF considers it likely that many demersal stocks are transboundary relative to the current boundaries of the NMP. Given that management plans should aim to encompass the geographic scope of the stocks and the fleets exploiting them, STECF considers that broader scale regional based management plans are more appropriate and are in accordance with the precautionary approach so as to ensure that all fleets are subject to the provisions of the plans.

MANAGEMENT PLAN FOR TRAWLS IN GSA 11 – Italy, Sardinia

STECF observations

Of the fourteen elements assessed (part A), the ad-hoc report notes that seven of them were considered as present and well described in the plan; five were considered as partially present in the Plan; and two were considered as absent.

Part A.1. Scope, in terms of stocks, fishery and geographical area

STECF notes that the scope in terms of the stocks to be covered, an evaluation of the current exploitation rate, the fisheries exploiting them as well as general information on the economic status and environmental context is provided. The geographical scope of the plan covers GSA 11 which includes all the seas surrounding Sardinia. STECF notes that this encompasses two different sea basins, the Algerian-Provençal (11.1) and Tyrrhenian basins (11.2), linked by the Sardinia Channel. However, STECF notes that it is not possible to determine whether the scope of the plan covers all the relevant species as no information regarding catch composition or catch rates has been provided in the ad hoc contract.

Part A. 2.1. Sustainable fishing activities in the long term

The ad hoc contract notes that the objective of the plan is an improvement in the spawning stock biomass of the species contained within the scope of the NMP. The ad hoc contract notes that further information on catch structure and fishing effort by different fleet segments including small scale fisheries should be integrated. It is unclear to STECF how such information should be integrated in the NMP or for what purpose. Further clarification may be required. The ad hoc contract notes that the objectives of the plan should be expanded to consider article 2.1 of Regulation (EU) No 1380/2013, namely achieving economic, social and employment benefits. Given the general paucity of information, STECF is unable to determine whether the objectives are consistent with the objectives of article 2.2 of Regulation (EU) No 1380/2013 namely ensuring that the exploitation of living marine biological resources restores and maintains populations of harvested species above levels that can produce the maximum sustainable yield.

Part A. 2.2(a). Precautionary approach

The ad hoc contract notes that measures to reduce overall capacity by 5.5% or 8% of the 2011 capacity are in line with the PA. STECF has no means of assessing whether this is the case, or what fleets the 5.5% or 8% apply to and why there are two options identified in the report of the ad hoc contract, 5.5% or 8%. STECF notes that such reductions are unlikely to deliver substantial reductions in fishing mortality.

Part A. 2.2(b). Maximum Sustainable Yield approach

The ad-hoc report notes that the current and optimal biological status of the stocks were detected as mean weighed current values of exploitation rates among all considered stocks, STECF notes that the optimal biological harvest ratio is not specified in the report of the ad hoc contract. STECF notes that this implies that the optimal harvest rate has been achieved when average across all stocks, which is not consistent with the objectives of the CFP for which F_{MSY} should be achieved

for each stock. STECF agrees with the ad hoc report in that targets laid out in the NMP should be updated using the latest MSY or related proxies.

Part A. 2.3. Ecosystem- based approach

The ad hoc contract notes that information is presented relating to catch composition or catch rates. STECF notes that it is therefore not possible to determine the extent of the technical interactions between the fleets and commercial and non-commercial species. The ad hoc contract notes that “*the NMP doesn't foresee any integrated approach (target species, by catch, ecosystem indicators) to manage the fishery within ecologically meaningful boundaries*”. STECF is unclear as to the intention or meaning of this statement and considers that this requires further elaboration and clarification. The ad hoc contract notes that there is a requirement to introduce a monitoring programme to investigate the ecosystem indicators, sensitive species and essential fish habitats.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

The ad hoc contract notes that quantifiable biological reference points based on exploitation rates and a Spawner per Recruit target are included in the NMP and that the plan, when implemented, foresees that these would be met by 2013. STECF is not in a position to assess whether these have been met or not, but STECF agrees with the ad hoc contract that the current biological reference points, should be changed and based on achieving a fishing mortality rate consistent with the MSY approach (i.e. F_{MSY} target) and to also include a target based on SSB. STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$.

Part A.4. Clear time frames to reach quantifiable targets

STECF notes that the plan was implemented before the recent reform of the CFP and therefore the target dates laid down in the plan are outdated with respect to achieving the maximum sustainable exploitation rate by 2015 where possible and, on a progressive, incremental basis at the latest and by 2020. STECF agrees with the ad hoc contract that the timeframe to meet these targets as specified in the NMP need to be updated.

Part A.5 Conservation reference points

The ad hoc contract notes that the existing plan contains a number of biological limit and target reference points. STECF considers that these should be re-evaluated in light of the objectives of the CFP. STECF agrees with the ad hoc contract that precautionary reference points, intermediate between target and limit reference points be introduced.

Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

The ad hoc contract notes that safeguards and remedial actions are only generically indicated, without providing a clear timeframe for their implementation. STECF notes that article 10(d) of Regulation (EU) No 1380/2013 specified that “*safeguards to ensure that quantifiable targets are met as well as remedial action, where needed, including for situations where the deteriorating*

quality of data or non-availability put the sustainability of the stock at risk” STECF agrees with the ad hoc contract that measures and quantifiable targets consistent with objectives of the CFP are implemented in a clear and well described manner and that these are invoked when appropriate e.g. when SSB falls below $MSY B_{trigger}$ for example.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.

STECF notes that NMP has been adopted before the entry in force of the EC Reg. 1380/2013, therefore the aspects related to landing obligation (estimation/characterisation of discards and to the discard practices) have not been included. The ad-hoc contract notes that there is no information on discards of the species potentially subjected to landing obligation. STECF notes that Article 15.1(d) of Regulation (EU) No 1380/2013 specifies that from 1 January 2017, the species which define the fisheries will be subject to the landing obligation and that from 1 January 2019 at the latest all other species should be covered. The ad hoc contract proposes a number of generic conservation measures including the possibility of improvements in gear selectivity, assessment of discard survival etc. Given the generic nature of the proposal, STECF is unable to assess the extent to which these would assist with the future introduction of the landing obligation. STECF considers that the fisheries and the species to be affected by the Landing Obligation should be specified in the revised NMP, in accordance with the provisions of Article 15.5.

Part A.8. Minimisation of Unwanted catches

The ad hoc contract notes that a number of nursery areas, which are of importance to demersal species, have been identified in the plan. It is unclear to STECF whether these closures are proposed or whether they exist already. The ad hoc contract proposes a number of generic conservation measures including the possibility of improvements in gear selectivity, assessment of discard survival etc. Given the generic nature of the proposal, STECF is unable to assess the extent to which these would assist with the minimisation of unwanted catches.

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that a series of biologic, economic and social indicators have been identified for the periodic monitoring of progress based of the EU DCF activities. Without specific details of the indicators, STECF is unable to assess whether these are relevant or appropriate for monitoring progress towards the objectives of the plan.

Part A.10. Fish stock recovery areas

The ad hoc contract notes that nursery areas of commercially relevant demersal species (i.e. *Merluccius merluccius*, *Aristaeomorpha foliacea*, *Aristeus antennatus*), are identified for potential management measures. However the possible closure of additional fish stock recovery areas is only generically indicated. As such, STECF has no basis to assess the potential impact of such measures.

Part A.11. Collection of Scientific data

As noted in the ad hoc contract the NMP is supported by the provisions of the EU Data Collection Framework (Regulation (EC) No 199/2008).

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF notes that additional and more detailed comments have been provided in the ad hoc contract. These are summarised in the responses provided above.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for demersal species in GSA 11 provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however, considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB, reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

Regarding the geographic scope of the plan, STECF reiterates the general conclusion that given the geo-political delineation of the existing NMP, STECF considers it likely that many demersal stocks are transboundary relative to the current boundaries of the NMP. Given that management plans should aim to encompass the geographic scope of the stocks and the fleets exploiting them, STECF considers that broader scale regional based management plans are more appropriate and are in accordance with the precautionary approach so as to ensure that all fleets are subject to the provisions of the plans.

MANAGEMENT PLAN PELAGIC TRAWL AND PURSE SEINE in GSA 17 and 18 (Adriatic Sea)

STECF observations

Of the fourteen points assessed (part A), the ad-hoc report considers that six of them were considered as present and well described in the plan, four were considered as partially present in the Plan, and one was considered as absent.

Part A.1. Scope, in terms of stocks, fishery and geographical area

STECF notes that the scope in terms of the stocks to be covered and the fisheries exploiting is provided. However, STECF notes that the stocks are exploited by fleets from different countries; Italy, Slovenia, Croatia, Montenegro and Albania in the Adriatic Sea. STECF agrees with the ad hoc contract that as these stocks are exploited by different countries, it is necessary to undertake a regional approach to the management of these resources. STECF therefore considers that in order to effectively manage these stocks, a regional management plan should be considered.

Part A. 2.1. Sustainable fishing activities in the long term

The ad hoc contract notes that the objective of the NMP is to maintain the fishery within the safety limits of the stocks and to guarantee a long term sustainable exploitation. The ad hoc contract notes that the objectives of the plan should be expanded to consider article 2.1 of Regulation (EU) No 1380/2013, namely achieving economic, social and employment benefits. Given the general paucity of information, STECF is unable to determine whether the objectives are consistent with the objectives of article 2.2 of Regulation (EU) No 1380/2013 namely ensuring that the exploitation of living marine biological resources restores and maintains populations of harvested species above levels that can produce the maximum sustainable yield.

Part A. 2.2(a). Precautionary approach

The ad hoc contract identifies this element as not being fulfilled. STECF therefore considers that in the future development of a regional management plan for these stocks, PA and MSY reference points for F and SSB should be derived. Furthermore, work undertaken for the purposes of ToR 6.7 (Multi-annual plan for small pelagic fisheries in the Northern Adriatic) indicates that the current management plan doesn't appear to be implemented in practice and that at current level of F as well as at level of F stipulated in the current management plan there are high risks of SSB falling below B_{lim} .

Part A. 2.2(b). Maximum Sustainable Yield approach

The ad hoc contract notes that both stocks are subject to analytical assessments and that biomass limit points (B_{lim}) have been identified. STECF notes that the derivation of F_{MSY} target reference points for sardine required further work, but that two candidate F_{MSY} reference points for anchovy have been identified under a recent ad hoc contract which is considered in section 6.7 of this report. STECF notes that this work will be explored further during the next EWG on Mediterranean assessments part 1 (EWG 15-11).

Part A. 2.3. Ecosystem- based approach

STECF also notes that the ad hoc contract further recommends that, for the requirements of an ecosystem-based approach, the NMP should include elements that promote fishing with low impact on the marine ecosystem and take into account ecosystem indicators. However, no specific proposals are made in the study. STECF notes that small pelagic fish are very abundant in the Adriatic Sea and play an important role in the food web. Their abundance is likely to control the abundance of larger predatory fish, marine mammals and seabirds. STECF notes that, apart from anchovy and sardine, several other pelagic species (sprats, mackerels, horse mackerels) are caught by purse seines and pelagic trawls for which no information is presented in the NMP. The impact of Adriatic small pelagic fisheries on by-catch species is unknown.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

The ad hoc contract notes that NMP has defined targets for fishing pressure and biomass based on a target harvest rate and a Minimum Biological Acceptable Level) and also economic (gross profit per vessel and added value per employee) and social (number of fishermen and labour cost per employee) reference points. STECF considers that the current targets for fishing mortality are not consistent with the objectives of article 2.2. of Regulation (EU) No 1380/2013 and that these should be updated in light of new and emerging scientific advice (see section 6.7). STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$. Given the short lived nature of this species STECF also considers that management approaches which aim to shorten the advice to implementation cycles, or biomass escapement strategies with a capped F should be considered as a priority given the relatively high risk of SSB falling below B_{lim} under the current management regime.

Part A.4. Clear time frames to reach quantifiable targets

STECF notes that the plan was implemented before the recent reform of the CFP and therefore the target dates laid down in the plan are outdated with respect to achieving the maximum sustainable exploitation rate by 2015 where possible and, on a progressive, incremental basis at the latest and by 2020. STECF agrees with the ad hoc contract that the timeframe to meet these targets as specified in the NMP need to be updated.

Part A.5 Conservation reference points

The ad hoc contract notes that the existing plan contains a number of biological limit and target reference points. STECF considers that these should be re-evaluated in light of the objectives of the CFP and the emergent work identified in section 6.7 of this report. STECF agrees with the ad hoc contract that precautionary reference points, intermediate between target and limit reference points be introduced. STECF notes that the ad hoc contract states that “This [*introduction of precautionary, target and limit reference points*] will consist in introducing uncertainty to estimate Threshold reference points, which can be used as a flag against the risk to overcome LRP.” It is unclear to STECF what is intended in this suggestion and further clarification is required.

Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

The ad hoc contract notes that” the measure to be implements as a fixed number authorized vessels, reduction of 3% in fishing capacity (GT) of the fleet and reduction from 5 to 4 of the weekly fishing days. Any delay in the execution of the program and / or the failure to achieve the targets for recovery of biological resources monitored by scientific research, will be reviewed by the management authority. The results of scientific monitoring will be reported to the management authority, who will analyze the underlying reasons for the failure to achieve the objectives set and the possible reprogramming of the interventions. The NMP foresees remedial actions in case the targets are not reached, based on temporary fishing closure and further reduction of fishing activity, details on the implementation are not fully specified.” STECF notes that it is unclear whether the

provisions to limit vessel activity from 5 to 4 days have already been implemented. If it does prove to be the case this cannot be viewed as an additional measure that can contribute to future reductions in fishing mortality.

STECF notes that the NMP foresees remedial actions in situations when targets are not reached (temporary fishing closure and further reduction of fishing activity). However, details on the exact implementation of these actions are not specified. Furthermore, STECF considers that the “advice-management-implementation” cycle described above is unlikely to be sufficiently responsive to deal with potential deterioration in SSB of short lived species as it is reliant on the outcomes of the assessment cycle that may only detect such declines after the event. STECF reiterates the points mentioned in section A.3 above regarding the need to shorten the advice-implementation cycle or the introduction of escapement strategies.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.

STECF notes that since 1 January 2015 anchovy and sardine fisheries are subject to the landing obligation. Based on the joint recommendations submitted by the relevant Member State and as specified in the Commission Delegated Regulation (EU No 1392/2014 the following de minimis provisions apply:

(b) in the northern Adriatic Sea, up to 5 % of the total annual catches of species subject to minimum sizes in the small pelagic mid-water trawl and purse seines fisheries set out in point 2 of the Annex;

(c) in the southern Adriatic and Ionian Sea: (i) up to 3 % of the total annual catches of species subject to minimum sizes in the small pelagic purse seines fisheries; and (ii) up to 7 % in 2015 and 2016 and up to 6 % in 2017 of the total annual catches of species subject to minimum sizes in the small pelagic mid-water trawl fisheries, set out in point 3 of the Annex;

Part A.8. Minimisation of Unwanted catches

The ad hoc contract notes that the nurseries of anchovy are concentrated within 3 nm from the coast, an area where purse seine and pelagic trawl are prohibited. STECF notes that there is no information presented regarding the species composition of the landings or the discarded components of the catch

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that a series of biologic, economic and social indicators have been identified for the periodic monitoring of progress based of the EU DCF activities. Without specific details of the indicators, STECF is unable to assess whether these are relevant or appropriate for monitoring progress towards the objectives of the plan.

Part A.10. Fish stock recovery areas

See point A.8 above.

Part A.11. Collection of Scientific data

As noted in the ad hoc contract the NMP is supported by the provisions of the EU Data Collection Framework (Regulation (EC) No 199/2008).

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF notes that additional and more detailed comments have been provided in the ad hoc contract. These are summarised in the responses provided above.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for small pelagic species in GSA 17 and 18 and provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however, considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB, reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

STECF concludes that a joint, multiannual plan (MAP) for small pelagic fisheries (purse seines and pelagic trawlers) in GSA 17 and GSA 18 should be agreed by Italy, Slovenia, Croatia, Montenegro and Albania and implemented in the Adriatic Sea as a whole.

MANAGEMENT PLAN GSA 17 - Adriatic Sea: Croatian management plan for surrounding purse seine nets - “srdelara”.

STECF observations

Of the fourteen points assessed (part A), the ad-hoc report considers that eight of them were considered as present and well described in the plan, two were considered as partially present in the Plan, and one was considered as absent.

Part A.1. Scope, in terms of stocks, fishery and geographical area

STECF notes that the scope in terms of the stocks to be covered and the fisheries exploiting them is provided. However, STECF notes that the stocks are exploited by fleets from different countries; Italy, Slovenia, Croatia, Montenegro and Albania in the Adriatic Sea. STECF notes that these stocks are exploited by different countries, and considers it appropriate to develop a regional approach to the management of these resources. STECF therefore considers that in order to effectively manage these stocks, a regional management plan should be considered.

Part A. 2.1. Sustainable fishing activities in the long term

The ad hoc contract notes that the objective of the NMP is to maintain the fishery within the safe biological limits to guarantee a long term sustainable exploitation. The ad hoc contract notes that the NMP contemplates a limitation of fishing effort to levels considered consistent to MSY, based on the regulation of fishing activity, fishing capacity limitations, minimum conservation sizes, area/period of fishing limitations, prohibiting the use of the purse seine to only two days prior and two days after the dark moon period. STECF notes that while such measures can reduce removals and are expected to positively influence the status of the stocks it is not possible to determine whether such measures will attain F_{MSY} . Furthermore, STECF notes that the application of such measures exclusively by the Croatian fleet, are unlikely to achieve the desired objective if other countries engaged in the fishery are not subject to rules that effectively limit fishing mortality. STECF agrees with the ad hoc contract that a regional management plan should be developed for these shared stocks.

Part A. 2.2(a). Precautionary approach

The ad hoc contract notes that the exploitation rate $E = F/Z = 0.4$ (Patterson, 1992) is here considered a precautionary fishing mortality reference point. Furthermore, work undertaken for the purposes of ToR 6.7 (Multi-annual plan for small pelagic fisheries in the Northern Adriatic) indicates that the current management plans do not appear to be implemented in practice and that, at current level of F as well as at level of F stipulated in the current management plan, there are high risks of SSB falling below B_{lim} . STECF agrees with the ad hoc report that the identification of threshold and limit reference points or other adequate reference values for the main commercial and by-catch stocks is required at the regional level and thus a management plan, which covers all fisheries for sardine and anchovy in GSA 17 and 18, should be developed for these shared stocks.

Part A. 2.2(b). Maximum Sustainable Yield approach

STECF notes that the derivation of F_{MSY} target reference points for sardine required further work, but that two candidate F_{MSY} reference points for anchovy have been identified under a recent ad hoc contract which is considered in section 6.7 of this report. STECF notes that further work is required and this will be undertaken during the next EWG on the assessment of Mediterranean Assessments part 1 (EWG 15-11).

Part A. 2.3. Ecosystem- based approach

STECF notes that the NMP prohibits the prohibition of fishing on sensible habitats as *Posidonia* beds or in shallow waters in accordance with Regulation (EC) No 1967/2006 but that a derogation

exists for operations at depths shallower than would be permitted given the depth of the purse seine used. It is noted that no assessment of the potential impact on the seabed and benthic communities has been conducted. STECF agrees with ad hoc report that an evaluation on the impact of the fishery on pelagic and benthic communities should be carried out and that the NMP should be amended based on these findings. Moreover STECF suggests that the impact of fishing small pelagic fish on other parts of the ecosystem (larger predatory fish, marine mammals and seabirds) should be evaluated.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

The ad hoc contract notes that NMP has defined targets for fishing pressure ($E=0.4$) and that biomass limits have been attempted in recent years. STECF considers that the current targets for fishing mortality are not consistent with the objectives of article 2.2. of Regulation (EU) No 1380/2013 and that these should be updated in light of new and emerging scientific advice (see section 6.7). STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$. Given the short lived nature of this species STECF also considers that management approaches which aim to shorten the advice to implementation cycles, or biomass escapement strategies with a capped F should be considered as a priority given the relatively high risk of SSB falling below B_{lim} under the current management regime.

Part A.4. Clear time frames to reach quantifiable targets

STECF notes that the plan has been defined to cover a 3 year period. STECF agrees with the ad hoc report in that the time frame should be defined as part of a regional plan and that necessary measures or safeguards are included to trigger remedial actions when the objectives of the plan are not being met.

Part A.5 Conservation reference points

The ad hoc contract notes that the existing reference points are highly uncertain. STECF considers that these should be re-evaluated in light of the objectives of the CFP and the emergent work identified in section 6.7 of this report. STECF agrees with the ad hoc contract that precautionary reference points, intermediate between target and limit reference points be introduced (see A.3).

Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

STECF notes that the NMP foresees remedial actions in situations when targets are not reached (temporary fishing closure and further reduction of fishing activity). However, details on the exact implementation of these actions are not specified. Furthermore, STECF considers that the “advice-management-implementation” cycle as described is unlikely to be sufficiently responsive to deal with potential deterioration in SSB of short lived species as it is reliant on the outcomes of the assessment cycle that may only detect such declines after the event. STECF reiterates the points mentioned in section A.3 above regarding the need to shorten the advice-implementation cycle or the introduction of escapement strategies.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.

STECF notes that since 1 January 2015 anchovy and sardine fisheries are subject to the landing obligation. Based on the joint recommendations submitted by the relevant Member State and as specified in the Commission Delegated Regulation (EU No 1392/2014 the following de minimis provisions apply:

- (b) in the northern Adriatic Sea, up to 5 % of the total annual catches of species subject to minimum sizes in the small pelagic mid-water trawl and purse seines fisheries set out in point 2 of the Annex;

Part A.8. Minimisation of Unwanted catches

The ad hoc report notes that minimum mesh size and minimum landings size “allows for a good exploitation pattern”. STECF notes that this is predicated on the fact that fish below minimum size caught and subsequently discarded survive and that similarly fish escaping through meshes also survive the process. STECF notes that survival studies have shown that survival rates are low in both cases for such gears and species and that using mesh size and minimum size as a means of controlling the exploitation pattern is unlikely to yield the expected benefits.

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that a series of biologic indicators have been identified for the periodic monitoring of progress based trends in biomass, exploitation rate and recruitment. STECF is unable to assess whether these are relevant or appropriate for monitoring progress towards the objectives of the plan but notes the strong year effects evident in the acoustic surveys may not necessarily provide a stable or reliable index of trends in biomass (see section 6.7).

Part A.10. Fish stock recovery areas

The ad hoc report notes that protected areas have not been defined and notes that the spawning areas based on fishery dependent and independent information should be identified. STECF considers that this may present possibilities to develop additional management spatial and temporal measures. However, STECF considers that a responsive management approach based for example on an escapement strategy with a capped F may offer an approach to reducing the risk of stock declines in the first instance.

Part A.11. Collection of Scientific data

As noted in the ad hoc contract the NMP is supported by the provisions of the EU Data Collection Framework (Regulation (EC) No 199/2008) and that fleet activity will be monitored through VMS.

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF notes that additional and more detailed comments have been provided in the ad hoc contract. These are summarised in the responses provided above.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for small pelagic species (sardine and anchovy) in GSA 17 provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB, reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

STECF concludes that a joint, multiannual plan (MAP) for small pelagic fisheries (purse seines and pelagic trawlers) in GSA 17 and GSA 18 should be agreed by Italy, Slovenia, Croatia, Montenegro and Albania and implemented in the Adriatic Sea as a whole.

MANAGEMENT PLAN GSA 17 - Adriatic Sea: Management plan of the Republic of Slovenia for certain fisheries within its territorial waters – 2013

STECF Observations

Of the fourteen points assessed (part A), the ad-hoc report considers that five of them were considered as present and well described in the plan, and nine were considered as absent.

Part A.1. Scope, in terms of stocks, fishery and geographical area

STECF notes that the scope in terms of the stocks to be covered, the fisheries exploiting them and the geographic distribution of the fisheries is described. However, STECF notes that it is not possible to determine whether the scope of the plan covers all the relevant species as no information regarding catch composition or catch rates has been provided in the ad hoc contract.

Part A. 2.1. Sustainable fishing activities in the long term

The ad hoc contract notes that the objective of the plan is for a reduction in fishing capacity in order to adjust and reduce fishing pressure on small pelagic. The ad hoc report notes that a reduction in

effort has taken place in the last few years and that the Slovenian catch of anchovy and sardine accounts for a negligible (0.07% in 2012) of the overall international catch and therefore any future reductions in effort or capacity is unlikely to have any detectable impact on the stocks of anchovy or sardine. STECF notes however, that no information is provided on mullets but it is argued that previous reductions in capacity will have benefited these stocks also. STECF has no basis to assess the potential impact of the recent capacity reduction on the long term sustainability of mullets stocks. STECF notes that the ad hoc report notes that length frequency information of the catch should be monitored and provided in the management plan. STECF is unclear to the purpose of such data and how it can be integrated into a management plan.

Part A. 2.2(a). Precautionary approach

The ad hoc contract notes that a derogation for the size of purse used by the Slovenian purse seine fleet is requested in the plan and that this is required for the capture of mullet in inshore areas. STECF is unable to comment on the potential impact of such a derogation. STECF notes that there is little information concerning the stock status of mullets which appear to be the principle target species for this fishery.

Part A. 2.2(b). Maximum Sustainable Yield approach

The ad hoc report acknowledges the difficulties associated with the determination of F_{MSY} targets for small pelagics and complying with the requirements of the CFP (article 2, point 2) at a national level, STECF agrees with the report of the ad hoc contract in that F_{MSY} targets can only be achieved through the formulation of a regional management plan.

The ad hoc report also notes that for mullets it may be sufficient to implement the MSY approach on a local level as these species are localised within the Slovenia national waters. STECF has no basis to determine whether the stocks of mullet in this area constitute discrete stocks and notes that there are no assessments currently available from which to determine catches or effort that would be consistent with the F_{MSY} .

Part A. 2.3. Ecosystem- based approach

The report of the ad hoc contract notes that in general, the impact of purse seine on the marine environment is lower than other type of fishing gear and notes that Slovenian purse seiners operate far from protected areas and phanerogams beds. Nevertheless, no studies are yet available to assess the impact of the derogation on the environment and on the stocks of grey mullets and other by catch species inhabiting shallower waters. STECF agrees with the report of the ad hoc contract that Regulation (EC) No 1967/2006 which specifies the net dimension for purse seiners foresees a reduction of the impact on the ecosystem: therefore, the implication of the derogation requested from the country should be explored and documented.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

The ad hoc contract notes that a time frame for a reduction in effort was established in the existing NMP, which ended in 2013. The ad hoc report notes that the effort reductions were achieved but that given the negligible level of catches, that these reductions will have had a negligible impact on the stocks of small pelagic. STECF notes that the current biological reference points, which are

based on a fixed harvest ratio and a Spawner Per Recruit target, should be changed and based on achieving a fishing mortality rate consistent with the MSY approach (i.e. F_{MSY} target) and to also include a target based on SSB. STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$. STECF considers that these elements should form the basis of a regional management plan encompassing all countries engaged in the fisheries for anchovy and sardine. The report of the ad hoc contract notes that presently there are no quantifiable targets available for mullets in GSA 17. STECF agrees with the report of the ad hoc contract that once quantifiable targets have been established, these should be implemented within a MP and that the timeframe to achieve these should be consistent with the objectives of the CFP.

Part A.4. Clear time frames to reach quantifiable targets

STECF notes that the plan was implemented before the recent reform of the CFP and therefore the target dates laid down in the plan are outdated with respect to achieving the maximum sustainable exploitation rate by 2015 where possible and, on a progressive, incremental basis at the latest and by 2020. STECF agrees with the ad hoc contract that the timeframe to meet these targets as specified in the NMP needs to be updated.

Part A.5 Conservation reference points

The ad hoc contract notes that the existing plan contains a number of biological limit and target reference points for anchovy and sardine. STECF considers that these should be re-evaluated in light of the objectives of the CFP and emerging research (see section 6.7). STECF agrees with the ad hoc report that the identification of threshold and limit reference points or other adequate reference values for the main commercial and by-catch stocks is required at the regional level and thus a management plan, which covers all fisheries for sardine and anchovy in GSA 17 and 18, should be developed for these shared stocks.

STECF notes that there are no conservation reference points available for mullet stocks in GSA 17.

Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

The ad hoc contract notes that clear indications to prevent the possibility of an increase in fishing effort are given in the NMPs. STECF notes that there is insufficient information to assess how these safeguards are implemented within the existing NMP. The report of the ad hoc contract notes that safeguard measures for mullets species, which are also target species and for which no information are available, should be enforced. STECF is unable to determine which measures are to be enforced, nor how they are applied in practice. For anchovy and sardine, STECF considers that measures and quantifiable targets consistent with objectives of the CFP are implemented in a clear and well described manner and that these are invoked when appropriate e.g. when SSB falls below $MSY B_{trigger}$ for example within a regional management plan which covers all fisheries for sardine and anchovy in GSA 17 and 18 as a whole.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.

STECF notes that since 1 January 2015 anchovy and sardine fisheries are subject to the landing obligation. Based on the joint recommendations submitted by the relevant Member State and as specified in the Commission Delegated Regulation (EU No 1392/2014) the following de minimis provisions apply:

(b) in the northern Adriatic Sea, up to 5 % of the total annual catches of species subject to minimum sizes in the small pelagic mid-water trawl and purse seines fisheries set out in point 2 of the Annex;

With regards to mullets, STECF notes that Article 15.1(d) of Regulation (EU) No 1380/2013 specifies that from 1 January 2017, the species which define the fisheries will be subject to the landing obligation and that from 1 January 2019 at the latest all other species should be covered. STECF considers that the fisheries and the species to be affected by the Landing Obligation should be specified in the revised NMP, in accordance with the provisions of Article 15.5.

Part A.8. Minimisation of Unwanted catches

The report of the ad hoc contract notes that by-catch for purse seine is in general negligible due to the high selectivity of the fishing gear. However the impact, in terms of unwanted catches, when the purse seine is used to target mullet species needs to be addressed. Due to lack of information, STECF is not able to assess the potential scale of unwanted catches in the mullet fishery, nor can STECF identify potential technical measures that could be deployed to minimise the retention of unwanted catches in a purse seine fishery. STECF considers that catches should be monitored to assess the scale of unwanted catches and that tactical and technical mitigation measures should be explored if appropriate.

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that anchovy and sardine CPUE is identified as a potential indicator in the NMP. The report of the ad hoc contract suggests that biologic indicators based on trends in biomass, exploitation rate and recruitment available from the assessment be used for the monitoring of progress in achieving the objectives of the plan. STECF considers these relevant for monitoring progress but notes the strong year effects evident in the acoustic surveys may not necessarily provide a stable or reliable index of trends in biomass (see section 6.7).

Part A.10. Fish stock recovery areas

The report of the ad hoc contract notes that there are two marine protected areas defined in Slovenian Inland waters. STECF agrees with the report of the ad hoc contract in that more details should be provided on the nature of these two protected areas and on the role these areas have for the ecosystem and the fisheries under considerations.

Part A.11. Collection of Scientific data

As noted in the ad hoc contract the NMP is supported by the provisions of the EU Data Collection Framework (Regulation (EC) No 199/2008).

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF notes that additional and more detailed comments have been provided in the ad hoc contract. These are summarised in the responses provided above.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for small pelagic (anchovy and sardine) in GSA 17 provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB, reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

STECF concludes that a joint, multiannual plan (MAP) for small pelagic fisheries (purse seines and pelagic trawlers) in GSA 17 and GSA 18 should be agreed by Italy, Slovenia, Croatia, Montenegro and Albania and implemented in the Adriatic Sea as a whole.

MANAGEMENT PLAN GSA7 - Trawling.

STECF observations

Of the fourteen points assessed (part A), the ad-hoc report considers that six of them were considered as present and well described in the plan, seven were considered as partially present in the Plan, and one was considered as absent.

Part A.1. Scope, in terms of stocks, fishery and geographical area

STECF notes that the scope in terms of the stocks to be covered (European Hake, anchovy and sardine), the demersal and pelagic fisheries exploiting is identified. However, STECF notes that it is not possible to determine whether the scope of the plan covers all the relevant species as no information regarding catch composition or catch rates has been provided in the ad hoc contract. STECF notes that both fisheries are mixed (in particular the demersal fishery), yet information on stock status is only provided for one stock, European hake. STECF agrees with the report of the ad

hoc contract that similar information be provided for other relevant demersal (e.g. red mullet, gurnards and Norway lobster) and pelagic species, anchovy and sardine and other pelagic species where relevant and that these should be considered within the scope of the plan.

Part A. 2.1. Sustainable fishing activities in the long term

The ad hoc contract notes that the objective of the plan is, by means of regulating fishing effort, to bring the hake stock within safe biological limits and to guarantee a long term sustainable exploitation (both for hake and small pelagics). STECF agrees with the report of the ad hoc contract in that the mechanisms to achieve these objectives are not clear. Furthermore, STECF notes that currently the hake stock is heavily overexploited ($F_{\text{current}} = 1.67$, $F_{\text{MSY}} = 0.17$). The report of the ad hoc contract notes that the objectives of the plan should be expanded to consider article 2.1 of Regulation (EU) No 1380/2013, namely achieving economic, social and employment benefits. However, STECF notes the complexities involved in maximising these objectives given the high levels of exploitation and the complex multi-species, multi-gear multi-national dimension of the fisheries in this GSA.

Part A. 2.2(a). Precautionary approach

The report of the ad hoc contract notes that for the management of small pelagic stocks, the exploitation of 40% of the adult biomass has been identified as limit reference point. STECF notes that this is not well defined or substantiated in the NMP and it is therefore not possible for STECF to determine whether this can be considered as precautionary. STECF notes that this does not accord with the approach proposed by Patterson (1992) who proposes an exploitation rate of 0.4 derived from the ratio of F/Z .

STECF notes that no precautionary biomass reference points have been derived for hake, but given the current high level of exploitation, the current plan cannot be considered to be in accordance with precautionary approach.

Part A. 2.2(b). Maximum Sustainable Yield approach

The report of the ad hoc contract considers that the management objective of fishing hake at F_{MSY} ($F_{0.1}$) is consistent with MSY objectives. For this species the current and the optimal exploitation status is noted in the NMP. This is based on identifying the highest theoretical equilibrium levels of fishing effort that can be continuously taken, on average, from a stock under existing average environmental conditions, without significantly affecting the reproduction process. STECF considers that this is not consistent with the objectives of article 2.2. Regulation (EU) No 138/2013 and that the existing targets should be replaced using the latest F_{MSY} proxy ($F = 0.17$). STECF notes that given the current high levels of exploitation, catches of hake need to be reduced substantially, coupled with possible improvements in exploitation pattern, in order for the NMP to be compliant with the provisions of the CFP.

Part A. 2.3. Ecosystem- based approach

The ad hoc contract notes that no information is presented relating to catch composition or catch rates. STECF notes that it is therefore not possible to determine the extent of the technical interactions between the fleets and commercial and non-commercial species. The ad hoc contract

notes that “*the NMP doesn't foresee any integrated approach (target species, by catch, ecosystem indicators) to manage the fishery within ecologically meaningful boundaries*”. STECF is unclear as to the intention or meaning of this statement and considers that this requires further elaboration. STECF agrees with the report of the ad hoc contract that information of the status of the stocks of other relevant demersal and small pelagic species should be provided as well as information on species composition of the catch and catches of vulnerable species.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

STECF agrees with the report of the ad hoc that the current biological targets for anchovy and sardine, which are based on a fixed harvest ratio of 40%, should be changed and based on achieving a fishing mortality rate consistent with the MSY approach (i.e. F_{MSY} target) together with a biomass limit point. The F_{MSY} proxy target for hake should be maintained. STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$.

Part A.4. Clear time frames to reach quantifiable targets

STECF notes that a timeframe of achieving F_{MSY} by 2015 or by 2020 at the latest is specified in the plan and this is in accordance with the provisions of the CFP.

Part A.5 Conservation reference points

STECF notes that no conservation reference points have been defined for demersal species.

STECF agrees with the report of the ad hoc contract that precautionary reference points, intermediate between target and limit reference points be introduced and that these should be used to specify safeguards against the risk of stocks falling below limit biomass levels (i.e. $MSY B_{trigger}$)

Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

The ad hoc contract notes that safeguards and remedial actions are only generically indicated, without providing a clear timeframe for their implementation. STECCF notes that article 10(d) of Regulation (EU) No 1380/2013 specified that “*safeguards to ensure that quantifiable targets are met as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk*” STECF agrees with the ad hoc contract that measures and quantifiable targets consistent with objectives of the CFP are implemented in a clear and well described manner and that these are invoked when appropriate e.g. when SSB falls below $MSY B_{trigger}$ for example.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.

The report of the ad-hoc contract notes that there is no information on discards of the species potentially subjected to landing obligation. STECF notes that for demersal species Article 15.1(d) of Regulation (EU) No 1380/2013 specifies that from 1 January 2017, the species which define the

fisheries will be subject to the landing obligation and that from 1 January 2019 at the latest all other species should be covered. STECF considers that the fisheries and the species to be affected by the Landing Obligation should be specified in the revised NMP, in accordance with the provisions of Article 15.5.

Regarding pelagic species, STECF notes that since 1 January 2015 anchovy and sardine fisheries are subject to the landing obligation. Based on the joint recommendations submitted by the relevant Member State and as specified in the Commission Delegated Regulation (EU No 1392/2014) the following de minimis provisions apply:

- (a) in the western Mediterranean Sea, up to 5 % of the total annual catches of species subject to minimum sizes in the small pelagic mid-water trawl and purse seines fisheries set out in point 1 of the Annex;

Part A.8. Minimisation of Unwanted catches

The report of the ad hoc contract notes that there is no information on the species composition of the catch, in particular on the discarded by catch. No specific measures to minimise the unwanted catches have been proposed. STECF agrees with the report of the ad hoc contract that there is a need to improve the exploitation pattern in all fisheries and that there is a need to introduce protection of areas where is high the risk to catch unwanted species (< MCRS and non-commercial/protected species) and that this would potentially assist in that accord. Furthermore, any improvements in selectivity would also help improve the current exploitation pattern of hake which is currently sub-optimal.

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that no specific biologic, economic and social indicators have been identified for the periodic monitoring and assessment of the plan. STECF agrees with the report of the ad hoc contract that biological and economic indicators are necessary for the effective implementation and ongoing evaluation of the NMP to determine how the plan is performing relative to specified objectives.

Part A.10. Fish stock recovery areas

The report of the ad hoc contract notes that there is one zone (with fishing regulated access, both for French and Spanish vessels) in deep waters, aimed at protecting the parental stock of hake. The NMP does not foresee the possible introduction of additional closed/restricted areas. STECF is unable to determine the efficacy of the existing measures.

Part A.11. Collection of Scientific data

As noted in the ad hoc contract the NMP is supported by the provisions of the EU Data Collection Framework (Regulation (EC) No 199/2008).

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF notes that additional and more detailed comments have been provided in the ad hoc contract. These are summarised in the responses provided above.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for small pelagics (anchovy and sardine) and hake in GSA 7 provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB, reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

Regarding the geographic scope of the plan, STECF reiterates the general conclusion that given the geo-political delineation of the existing NMP, STECF considers it likely that many demersal stocks are transboundary relative to the current boundaries of the NMP. Given that management plans should aim to encompass the geographic scope of the stocks and the fleets exploiting them, STECF considers that broader scale regional based management plans are more appropriate and are in accordance with the precautionary approach so as to ensure that all fleets are subject to the provisions of the plans.

STECF concludes that two separate regional, multiannual plans (MAPs), one for the mixed demersal and one for the pelagic fisheries in GSA 7 could be developed given that the stocks are exploited in multi-species, multi-gear, multi-national fisheries.

MANAGEMENT PLAN for Spanish trawlers in Territorial waters

STECF Observations

Of the fourteen points assessed (part A), the ad-hoc report considers that ten of them were considered as present and well described in the plan, one was considered as partially present in the Plan, and three were considered as absent.

Part A.1. Scope, in terms of stocks, fishery and geographical area

STECF notes that the scope of the management plan is comprehensive in terms of stocks, fisheries and geographical areas but F-based RPs have been set only in GSA5 and GSA 6 for the following 6 stocks. The following demersal stocks (*Merluccius merluccius*, *Mullus barbatus*, *Mullus surmulletus*, *Aristaeus antennatus*, *Parapenaeus longirostris*) are contained within the scope of the plan. STECF notes that the report of the ad hoc contract that any future revision to the plan should aim to have wider coverage in terms of stocks for which fishing mortality-based RP should be defined and extend or define RPs also for key stocks in GSAs1 and 2. STECF has no basis to determine which additional stocks should be included and notes that this will be dependent on the availability of scientific assessments, advice and management priorities.

Part A. 2.1. Sustainable fishing activities in the long term

The report of the ad hoc contract notes that the plan includes a mix of fishing effort limitations, catch limitations, fishing capacity limitations, area/period fishing limitations, enhancement of selection ability of gears, use of technical devices for avoiding excessive by-catch. STECF notes that the ad hoc contract does not contain any information regarding how these input and output controls are defined in the NMP, nor how they are applied in practice. STECF agrees with the report of the ad hoc contract that it is necessary that the plan should include bio-economic considerations to ensure environmental, economic and social sustainability as indicated in the art. 2.1 Regulation (EU) No 1380/2013. STECF notes that there are some assessments performed using non-equilibrium production models in the Balearic islands GSA5 (1965-2008) for hake, stripped red mullet, *Octopus vulgaris* and *Sepia* sp. However STECF is unable to determine whether this offers the scientific basis for long term sustainable fishing activities.

Part A. 2.2(a). Precautionary approach

STECF notes therefore that there are no defined PA reference points available for the stocks concerned.

Part A. 2.2(b). Maximum Sustainable Yield approach

The report of the ad hoc contract notes that the number of assessed stocks is limited. It is noted that there are some assessments performed using non-equilibrium production models in the Balearic islands GSA5 (1965-2008) for hake, stripped red mullet, *Octopus vulgaris* and *Sepia* sp.

STECF notes that for the stocks where F_{MSY} proxies are available (GSA 6 and GSA 7) and that these stocks should fall within the scope of the NMP. STECF notes that the current exploitation rates are well in excess of F_{MSY} . For these stocks the exploitation rates are not consistent with the provisions of article 2.2. of Regulation (EU) No 1380/2013.

Part A. 2.3. Ecosystem- based approach

The ad hoc contract notes that no information is presented relating to catch composition or catch rates. STECF notes that it is therefore not possible to determine the extent of the technical interactions between the fleets and commercial and non-commercial species. The report of the ad hoc contract notes that some indicators related to Ecosystem health and economic sustainability are

available. MEDITS trawl surveys protocol includes a list of data to be collected for the estimation of indicators of ecosystem health.

Part A.3. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass

The report of the ad hoc contract notes that estimates of fishing mortality and F_{MSY} reference points are available only for a limited number of stocks in the different GSAs. STECF notes however, assessments and F_{MSY} proxies are available for several important stocks and that these should be maintained in any revision of the NMP. Furthermore, STECF considers that the SSB reference point should be implemented as a safeguard measure to trigger additional measures when the stock falls below a specified SSB e.g. $MSY B_{trigger}$.

Part A.4. Clear time frames to reach quantifiable targets

The report of the ad hoc contract notes that a clear time frame is set at 31st Dec 2016 to reach the quantified reference points (F_{MSY}). A new deadline is foreseen in case the goals will not be reached. STECF notes that the provisions of article 2.2 of Regulation (EU) No 1380/2013 stipulates that F_{MSY} should be achieved by 2015 and by 2020 at the latest.

Part A.5 Conservation reference points

STECF notes that no conservation reference points have been defined for the species concerned.

STECF agrees with the report of the ad hoc contract that precautionary reference points, intermediate between target and limit reference points be developed and applied as safeguard triggers (and conservation reference points) expressed as reference stock sizes for the main species are required.

Part A.6 . Safeguards to ensure that quantifiable targets are met, as well as remedial action, where needed, including for situations where the deteriorating quality of data or non-availability put the sustainability of the stock at risk.

The ad hoc contract notes that The Spanish Fisheries Administration, based on yearly scientific advises, may extend the term of the Plan; review the previously defined levels of fishing effort; introduce new technical measures to enhance gears selectivity and reduction of discards; establish new areas or periods in which fishing activities are prohibited or restricted, with special attention to spawning and nurseries, define temporarily restrictions in access to certain fisheries that impact directly certain resources. It is also noted that whenever biological reference points for stocks have been achieved and maintained for two consecutive years reduction in capacity and/or fishing effort could be stopped in order to guarantee revenues and sustainability of a specific fishery.

Given the general lack of PA reference points noted above, it is unclear to STECF which reference points are being referred to and their biological basis and the efficacy of such an approach.

Part A.7. Conservation and technical measures to be taken in order to achieve the target sets out under the landing obligation.

The report of the ad-hoc contract notes that there is no information on discards of the species potentially subjected to landing obligation. STECF notes that for demersal species Article 15.1(d) of Regulation (EU) No 1380/2013 specifies that from 1 January 2017, the species which define the fisheries will be subject to the landing obligation and that from 1 January 2019 at the latest all other species should be covered. STECF considers that the fisheries and the species to be affected by the Landing Obligation should be specified in the revised NMP, in accordance with the provisions of Article 15.5.

STECF agrees with the report of the ad hoc contract that there is a requirement to identify the species and fleets that will be subject to the Landing Obligation and that these should be identified in a regional or national plan. STECF also notes the observations made in the report of the ad hoc contract that it would be beneficial to plan for selectivity experiments in order to reduce undesired discards.

Part A.8. Minimisation of Unwanted catches

The report of the ad hoc contract notes that new mesh size regulation (cod end mesh size of 50mm) has been recently introduced, and that time is required to assess the efficacy of the increase (from 40mm). It is also noted that depending on the outcome of scientific research and consultation with affected parties, gears with different selectivities or spatial management will be eventually adopted in order to minimize unwanted catches. STECF notes that the current exploitation pattern for hake is focused primarily on 0 and 1 year fish and that coupled with the high exploitation rate, the overall exploitation of hake in GSA 6 is not in accordance with the provisions of article 2.2. of Regulation (EU) No 1380/2013 (i.e. $F \gg F_{MSY}$).

Part A.9. Indicators for periodic monitoring and assessment of progress in achieving the targets of the plan

The ad hoc contract notes that trends in biomass trends, evolution of fishing mortality, F/Z , SSB, and recruitment are available for a number of stocks.

Part A.10. Fish stock recovery areas

The report of the ad hoc contract notes that there are no fish stock recovery areas.

Part A.11. Collection of Scientific data

As noted in the ad hoc contract the NMP is supported by the provisions of the EU Data Collection Framework (Regulation (EC) No 199/2008).

Part B. Describe possible conservation and technical measures to be integrated in the management plan in order to attain the missing elements identified in the previous table and to achieve the objectives of the Common Fisheries Policy (max. 2 pages)

STECF notes that additional and more detailed comments have been provided in the ad hoc contract. These are summarised in the responses provided above.

STECF conclusions

STECF considers that the review of the NMP undertaken by ad hoc contract for fisheries operating in Spanish territorial waters provides an adequate analysis to permit the identification of elements of the NMP that require updating and revision so as to be in accordance with the provisions of Regulation (EU) 1380/2013.

STECF concludes that the exploitation levels of the stocks studied are very high ($F > 1$) and concentrated on young ages. This substantial over-exploitation is severely undermining the potential yield that could be obtained from these stocks and is likely to keep the biological risk of collapse at high levels.

STECF concludes that hake in GSA 6 shows a clear pattern of decreasing recruitment and a high exploitation rate, which is estimated to be approximately 10 times F_{MSY} (STECF-14-17), and focused on recruits and individuals of age 1.

STECF considers that the review identified the presence or absence of the key elements required in a NMP. The review identified the presence or absence of the key elements required in a NMP, while also proposing measures that should be applied in order to improve the Plan and make it consistent with the objectives of the Common Fisheries Policy. STECF notes that some elements of the evaluation are unclear and may require further clarification.

While many of the required elements are identified as being present in the NMP, STECF however considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB , reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

Regarding the geographic scope of the plan, STECF reiterates the general conclusion that given the geo-political delineation of the existing NMP, STECF considers it likely that many demersal stocks are transboundary relative to the current boundaries of the NMP. Given that management plans should aim to encompass the geographic scope of the stocks and the fleets exploiting them, STECF considers that broader scale regional based management plans are more appropriate and are in accordance with the precautionary approach so as to ensure that all fleets are subject to the provisions of the plans.

STECF concludes that two separate regional, multiannual plans (MAPs), one for the mixed demersal and one for the pelagic fisheries in GSA 5 and 6 and GSA 1 and 2 should be developed given that the stocks are exploited in multi-species, multi-gear, multi-national fisheries.

STECF agrees with the report of the ad hoc report regarding the need for a regional multi annual plan and concludes that it is necessary to explore the possibility of a MAP for the area covered by the plan and hence suggests taking into account the findings of EWG 15-09 and the related STECF conclusions (contained in ToR 5.6).

STECF general conclusions

STECF notes that many of the existing NMPs were introduced prior to the implementation of the 2013 CFP and that these should be modified so as to conform to the provisions of article 10 of Regulation (EU) No 1380/2013.

STECF has reviewed the assessment of eight management plans for different fisheries in Croatia, France, Italy, Spain and Slovenia contained in the report of the ad hoc contract. STECF notes the key findings of the ad hoc contract assessment and highlights that the analysis of each NMPs has identified specific elements that will require modification and has made suggestions on additional and new measures that could be considered so as to conform to Regulation (EU) No 1380/2013.

The following generic issues have been identified as:

STECF notes that Target Reference Points are available for a limited number of species and that these should be updated where necessary based on the most recent scientific advice. Furthermore, STECF notes that since the implementation of many of these plans, more analytical assessments have become available covering a wider range of stocks. Where appropriate these should be considered in the development of the revised plans. STECF notes that in several cases, existing fishing mortality targets are not consistent with article 2 of Regulation (EU) No 1380/2013.

STECF notes that an analysis of the biological and economic impact of any new management measures should be included as part of the NMP. STECF notes that in many cases the impact of the fisheries on the marine habitat is not considered within current NNMPs. STECF considers that such impacts should be considered when developing new NMP's.

While many of the required elements are identified as being present in the NMP, STECF however considers that the specifications (e.g. harvest control rules, single stock limit and management reference points of F and SSB , reductions of the catches etc.) are insufficient to reach F_{MSY} by 2020 at the latest.

Regarding the geographic scope of the plans, STECF reiterates the general conclusion that given the geo-political delineation of the existing NMP, STECF considers it likely that many stocks are transboundary relative to the current boundaries of the NMP. Given that management plans should aim to encompass the geographic scope of the stocks and the fleets exploiting them, STECF considers that broader scale regional based management plans are more appropriate and are in accordance with the precautionary approach so as to ensure that all fleets are subject to the provisions of the plans.

STECF notes that the preparation of regional NMPs for shared stocks is an ongoing process and should be given high priority. In particular the regionalisation issues concerning Adriatic small pelagic fisheries and North Western Mediterranean demersal fisheries have been already been considered by EWG 15-09.

STECF concludes that the majority of assessed stocks in the Mediterranean are largely overexploited, with fishing mortality rates well in excess of F_{MSY} targets. STECF considers that in these cases, there is an urgent need to implement effective regional measures aimed at rebuilding these stocks.

6.9. Review of Regulation (EC) 812/2004 on incidental catches of cetaceans in fisheries

The Commission has reviewed Regulation (EC) 812/2004 on two occasions since its introduction in 2009 and 2011. The conclusions from these reviews were broadly similar. There have been improvements in the frequency and consistency of reporting by most Member States which has increased the knowledge of the extent of the problem. There is now a better understanding of fisheries where incidental catches are evident and others where monitoring shows there is no bycatch issue.

Despite this, the regulations still has a number of weaknesses. It is not necessarily targeted at the right fisheries or in the right areas and there remains an over reliance on the use of acoustic deterrent devices to mitigate bycatch. These devices have not delivered the desired results. Additionally only vessels greater than 12m are required to use these devices, yet there is scientific evidence that shows that significant numbers of cetaceans are incidentally caught by smaller vessels fishing in inshore waters. The result has been that incidental catches of cetaceans remain in a number of fisheries.

The Regulation has recently been amended by Regulation (EU) 579/2014. This was not an attempt to overhaul the Regulation but was a technical alignment of it with the Treaty on the Functioning of the European Union (TFEU). This amendment does include a legal obligation on the Commission to carry out a further review of the Regulation by the end of 2015. The review clause contained in Article 7 states:

"By 31 December 2015, the Commission shall review the effectiveness of the measures provided for in this Regulation and shall, if appropriate, submit to the European Parliament and to the Council an overarching legislative proposal for ensuring the effective protection of cetaceans".

As part of this review process STECF are requested to comment on the effectiveness of this regulation (both in terms of monitoring and mitigation measures) on the basis of recent reports from the ICES Working Group on Bycatch of Protected Species (WGBYC) and also recent ICES advice in respect of this Regulation as well as any other relevant information sources (e.g. ASCOBANS, Reporting under the Habitats Directive).

STECF observations

STECF considered the effectiveness of regulation EC 812/2004 as amended by EU 597/2014 in terms of (1) monitoring and (2) mitigation.

Monitoring

STECF observes that monitoring of the distribution and rate of cetacean bycatch has improved following the introduction of Regulation (EC) 812/2004 (amended by (EU) 579/2014) as detailed in ICES reviews (ICES, 2010) and previous STECF reports (STECF 2008, 2010). These improvements have continued with the analyses of data for 2012 and 2013 as submitted in the 2013 and 2014 reporting years (ICES, 2014a,b, 2015a,b). This has resulted in better quantification and understanding of bycatch rates. Despite the submission of an increasing amount of usable monitoring data by some Member States, understanding of the distribution and rate of bycatch remains incomplete or highly incomplete for some fisheries that are known or expected to have high bycatch rates. These include fisheries involving smaller vessels not covered by the Regulation, and

those fisheries where the data collected do not allow records of bycatch to be raised to rates for the fishery (ICES, 2014a,b, 2015a,b).

STECF observes that the most recent analyses of Member States annual reports to the EC by ICES (ICES, 2014a,b, 2015a,b) considered the 2013 and 2014 Member States reports, which reported data for the years 2012 and 2013 respectively. For 2012, most MS carried out monitoring but some did not publish all the relevant monitoring data for 2012 in the 2013 report. No 2012 reports were provided to the EC by Spain and Finland (ICES, 2014b). For 2013, most MS carried out monitoring but some did not publish all the relevant monitoring data for 2013 in the 2014 report. No 2014 reports were provided to the EC by France, Finland, Spain, or Sweden in advance of the ICES Working Group on Bycatch of Protected Species (WGBYC) meeting, but Sweden supplied their report directly to ICES for review (ICES, 2015b).

STECF observes that ICES could only estimate bycatch rates in relatively few fisheries from the Member State reports because the reports did not differentiate bycatch rates by vessel length or fleet sector. It was also challenging or not possible for ICES to link fleet sectors described in the MS reports to those for which effort data were available, because the fleets were not categorised in consistent and compatible ways. These issues prevented ICES (2014b) from assessing percentage coverage or raising individual bycatch records to fishery bycatch rates for several fisheries where bycatches were recorded. Raised bycatch rates from observations in static net fisheries would be more reliable if static gear effort was reported in terms of soak time and net length (ICES, 2014b) as specified in the regulation.

For smaller vessels (< 15m), STECF notes that Regulation 812/2004 requires data on incidental catches of cetaceans to be collected through scientific studies or pilot projects, but relatively few Member States report data for such vessels in practice. STECF has previously proposed that a systematic risk assessment for cetacean bycatch, covering all fleet segments including small vessel fisheries that are not currently monitored, would help to prioritise and target future monitoring (STECF, 2010).

STECF observes that the lack of reports from some major fishing nations on bycatch monitoring under Regulation (EC) 812/2004 has significantly compromised the ability of ICES to assess the overall impact of fisheries on cetaceans (ICES, 2014a,b, 2015b).

In relation to mechanisms for increasing the efficiency of monitoring, STECF has previously identified the benefits of integrating cetacean bycatch monitoring (and the monitoring of other sensitive species impacted by fisheries) with other fisheries monitoring. This would improve consistency between (1) the definition of the data that need to be collected to monitor the bycatch and effectiveness of bycatch mitigation for cetaceans and (2) other fisheries data (STECF, 2013, 2014). STECF agrees with the ICES advice that any integration of cetacean bycatch monitoring with other fisheries monitoring will need to ensure the maximum coverage of fleet segments where bycatch rates or absolute bycatch numbers are likely to be high.

STECF observes that increased harmonisation of the fleet segments and effort measurements used for cetacean bycatch and fishing effort monitoring would increase the probability that the sampled bycatch rates reported by Member States could be raised to derive total bycatch for the fleet segments. This issue was also raised by STECF (2010). However, given that ICES continue to identify high and potentially high cetacean bycatch rates by fleet sectors that are not monitored,

such harmonisation would need to be achieved in a way that ensured there was effective bycatch monitoring for all fleet segments where bycatch rates or absolute bycatch numbers are likely to be high.

Mitigation

STECF observes that in the period since the introduction of Regulation (EC) 812/2004 mitigation measures have been employed in some fisheries, but not all Member States are implementing the regulation as described (e.g. ICES, 2014a). During 2012, ADD were assumed to have been used by vessels in Denmark, Germany, Ireland, Latvia, Poland, and the United Kingdom (they may have been employed in Sweden as well, but as these were old ADD the batteries were assumed to have been exhausted before this time) (ICES 2013).

STECF agrees with the conclusion of ICES that the information provided in MS reports is not sufficient to allow the effectiveness of mitigation measures, when adopted, to be assessed (ICES 2014a). STECF notes that the effectiveness of acoustic deterrent devices (ADD aka "pingers") for all species of cetacean taken as bycatch has also not been assessed in targeted scientific studies of fisheries (ICES 2013).

STECF notes ICES comment that the specifications for ADD in the existing regulation could impede the development and adoption of more effective devices for reducing interaction between cetaceans and fishing gear, but STECF also notes that the flexibility afforded by article 3(1) of regulation (EC) 812/2004 can be used to further develop effective ADD specifications to account for technical and scientific progress in the development of ADD.

STECF conclusions

STECF concludes that regulation EC 812/2004, as amended by EU 597/2014, although not followed by all MS, has been effective in improving monitoring of cetacean bycatches and in quantifying and understanding the distribution and rate of cetacean bycatch in many fisheries and regions.

STECF concludes that regulation EC 812/2004, as amended by EU 597/2014, has not been effective in (i) providing monitoring data on cetacean bycatch for some fisheries where there is a high risk of cetacean bycatch or (ii) consistently providing data on sampling methods, sampled effort and bycatch for fleet segments in a way that allows the sampled bycatch rates reported by Member States to derive total bycatch for the fleet segments.

STECF concludes that harmonisation of the fleet segments and effort measurements used for cetacean bycatch and fishing effort monitoring would greatly increase the probability that sampled bycatch rates reported by Member States could be raised to derive total bycatch for the fleet segments. To improve assessment of bycatch rates and identification of priorities for mitigation, STECF concludes that any such harmonisation would need (1) to be progressed in a way that encouraged accurate and timely reporting by Member States and (2) to include effective bycatch monitoring of all fleet segments where bycatch rates or absolute bycatch numbers are likely to be high.

STECF concludes that the effectiveness of future bycatch monitoring would be increased if monitoring effort were risk-based and monitoring effort were more strongly focused on fisheries where bycatch rates or absolute bycatch numbers are likely to be high. This would involve proportionately more monitoring of bycatches by smaller vessels (< 15 m and other fleet segments that pose high risk).

STECF concludes that the raising of bycatch rates from observations of static net fisheries would be improved if the reporting of effort as specified in the regulation was complied with. This would allow for a metric based on net length and immersion time. STECF notes that this will need to be defined and standardised across all MS and fleet segments.

STECF concludes that the data collected pursuant to (EC) 812/2004 did not allow ICES to evaluate the performance of ADD in the fisheries where they were deployed.

STECF concludes that the flexibility afforded by article 3(1) of regulation (EC) 812/2004 can be used to further develop effective ADD specifications based on outcome (reduction in bycatch rates achieved in tests within fisheries with high bycatch rates).

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6.10. Possible merge of TR1 and TR2 gear groupings set out in Annex I

Background

In accordance with Annex I of Council Regulation (EC) No 1342/2008 (the cod plan), the maximum allowable fishing effort defined by a particular gear grouping and area is set for each Member State. These effort groups should be established on the basis of principles set out in Article 31, including homogeneity, effects of the fishing activities associated to the effort group and cost effectiveness with respect to the biological stocks captured.

The North Sea Member States group (Scheveningen group) have asked the Commission to review the interactions between the Cod Recovery Plan and the landing obligation. One of the issues they raise is related to the requirement to apply standard correction factors, established on the basis of historical catchability of the gears concerned, for the transfer of fishing effort between effort groups. Member States consider that this mechanism discourages fisherman from fishing more selectively (e.g. use larger mesh size) and they wish to allow fishing effort transfers from TR2 to TR1 effort groups on 1:1 basis (current rate is around 5:1). This would effectively amalgamate these into one large gear grouping.

According to Article 31 of the Regulation the Commission, based on the advice of STECF, may amend the Annex I to Council Regulation (EC) No 1342/2008 and if appropriate merge TR1 and TR2 gear groupings.

Request to the STECF

In this context the Commission requests STECF to:

- Comment on whether the current transfer rates between the TR1 and TR2 effort groups have an impact on the effective implementation of the landing obligation by dis-incentivising fishermen to use more selective gears?
- Is such a merger in the spirit of the principles set out in the Article 31 of the cod plan?
- List the pros and cons and possible consequences of merging the two effort groups by Member State .and to identify the consequences to their fleet and for main target and by-catch species caught in the demersal fisheries with the gears concerned.

STECF response

STECF considers that the transfer rates are based on the rationale that, historically, cod CPUE has been, in the case of the North Sea and 2EU, on average around 6 times higher in the TR1 gear group than in the TR2 gear group (the transfer rate being 0.171, ref FDI report). This difference in cod CPUE is not only caused by the mesh size, but also other characteristics of these gears and to a great extent by targeting behaviour and in which area and season the fisheries operate (see also section TOR 5.5 of this report). For example, historically, the TR2 gear group in the northern North Sea has typically deployed in a targeted *Nephrops* fishery catching cod as a bycatch, while the TR1 gear group has typically been deployed in a targeted whitefish fishery. Moreover, the TR2 *Nephrops* fishery operates under a catch composition rule that limits their cod bycatch to 5% of the total retained catch (Commission Regulation (EC) No. 2056/2001). The rationale behind the transfer rates is to prevent any potential increase in cod fishing mortality when member states wish to transfer effort from a low-CPUE fishery (e.g. TR2 *Nephrops*) to a high-CPUE fishery. The application of the transfer rates in the Northern North Sea when switching effort from the TR2 to TR1 fishery incurs a substantial penalty, as the transfer rule assumes that the TR2 effort will be deployed in such a way that it would result in a 600% increase in CPUE.

STECF notes that the CPUE's are based on averages derived across a range of fisheries within each gear group. In practice and in the absence of effort penalties, the realised change in cod mortality may be different than anticipated, depending on which fishery the effort is being deployed in. PLEN 11-03 noted that within a single gear group (TR1) there is variation in cod CPUE and that this variability increases substantially when comparisons are made between Member States and across areas. STECF 11-03 observed that TR1 fisheries with higher volumes of saithe and other species had a lower cod CPUE, while the TR1 fishery directed towards haddock, whiting and cod had a higher CPUE. While this may present an argument to split the TR1 gear grouping (see PLEN 11-03 for previous advice), the necessity for reasonable administrative burden, and the impracticalities of having multiple gear groupings as per the previous cod plan (Ulrich *et al.*, 2012), the current cod plan has opted to contain fewer gear groups, with the compromise that these may individually contain a relatively wide range of fisheries with differing cod CPUE. Notwithstanding arguments for splitting the TR1 gear group, it still accounts for 66% of the cod catch whilst the TR2 gear group accounts for 9% of the overall cod catch (ICES, 2015). STECF therefore considers that as long as the TR1 and TR2 gear groups continue to have these different cod catchabilities and resultant catches, the (annually updated) transfer rates remain appropriate for the purposes of the cod plan.

It could be argued that, if TR2 fishing operators, while continuing to carry out a typical *Nephrops* fishery and avoid cod bycatch, increased their mesh size in order to achieve higher selectivity (i.e. reduce catches of small *Nephrops* or fish), their cod CPUE would not increase six-fold, and therefore such a transfer rate would not be representative of the change in catchability for cod. On the other hand, if TR2 fishing operators are actually shifting away from a typical *Nephrops* fishery towards a more whitefish-oriented fishery and seek to increase their mesh size in order to avoid being subject to the 5% cod bycatch limitation, their cod CPUE may increase sixfold (because they effectively become typical TR1 fishers), and therefore the transfer rate may be appropriate in such a case. STECF notes that the two cases described here represent two extremes, whereas the actual result when current TR2 fishers increase their mesh size may lie somewhere between the two. In the case of a merger, it might be advisable to establish an alternative criterion to distinguish between high and low cod CPUE fisheries. This criterion could be a spatial one, separating areas of higher and lower cod CPUE. However, it should be kept in mind that the spatial distribution of cod is dynamic and that cod abundance in areas where it is currently low may increase in the future, e.g. when the stock recovers (already in PLEN-09-01, in its first evaluation of Article 11 of the cod

plan, STECF referred to this possibility as ‘depletion decoupling’). It is also not evident whether a spatial criterion on its own would be sufficient to effectively separate fisheries that have high and low cod catchabilities; skipper knowledge and targeting behaviour may play a role as well. At present, STECF is not in the position to predict what the cod CPUE would be of a *Nephrops*-targeting cod-avoiding fishery with mesh ≥ 100 mm.

Alternatively, if the TR1 and TR2 segments were to be merged, it would be precautionary to apply the transfer rate while doing so: for the North Sea and 2EU, for example, the TR2 kWdays could be reduced six-fold when merging them with the TR1 kWdays.

ToR 1:

Comment on whether the current transfer rates between the TR1 and TR2 effort groups have an impact on the effective implementation of the landing obligation by dis-incentivising fishermen to use more selective gears?

Taking into account the above considerations, the current transfer rates may indeed dis-incentivise fishermen deploying TR2 gear to use larger mesh sizes to reduce unwanted catches due to the effort penalty that would be incurred by the Member State. However, this assumes that the only option available for improving selectivity in the TR2 fleet is an increase in mesh size. For *Nephrops* fishermen with low reliance on a fish bycatch, no dis-incentive exists regarding alternative selective solutions (e.g. grids). In cases where a variety of fish species comprise an important bycatch, finding alternative selective solutions may be more challenging. STECF notes that whether the current transfer rates will have an impact on the effective implementation of the landing obligation is not possible to predict, as the fundamental requirement of the landing obligation is to land all catches. Effective implementation of such a provision is therefore entirely a control issue.

Although we might also note that any additional management measures such as specifying cod-avoidance gears or spatial measures is likely to result in an increased management burden, but the effects in terms of cost effectiveness cannot be determined.

ToR 2:

Is such a merger in the spirit of the principles set out in the Article 31 of the cod plan?

While STECF has no objective means to assess whether such a merger is in the spirit of Article 13, STECF makes the following observations. A merged TR segment consisting of, e.g., *Nephrops*-targeting cod-avoiding fishers as well as whitefish-targeting fishers is not likely to satisfy the requirement of Article 31(a) of being homogeneous with respect to the biological stocks captured, since the fisheries involved could well differ by up to an order of magnitude with regards to their cod CPUE and such a merger would result in an even more heterogeneous gear group. The merger is also unlikely to satisfy the requirement of Article 31(b) of being cost-efficient in terms of management burden relative to conservation needs. While STECF cannot assess whether necessary additional measures would be cost-efficient, STECF notes that any increase in fishing mortality on cod can only be avoided if either (i) the transfer rate would be applied before merger such that the current TR2 kWdays are reduced by that factor, or (ii) cod avoiding (e.g. *Nephrops* targeting) activity can be distinguished from whitefish fisheries based on some other agreed criterion than mesh size and be subject to different additional rules, which may increase the management burden. Such additional rules could involve spatial criteria (e.g. based on the identifiable *Nephrops* grounds)

or prescriptions of the use of cod-avoidance gears. In conclusion, the merger is not in the spirit of the principles set out in the Article 31 of the cod plan.

ToR 3:

List the pros and cons and possible consequences of merging the two effort groups by Member State and to identify the consequences to their fleet and for main target and by-catch species caught in the demersal fisheries with the gears concerned.

STECF did not have access to the data and information needed to assess the impact of merging the TR1 and TR2 effort gear groupings by Member State. However, STECF notes the following general pros and cons of such a merger.

Pros:

- The merger would provide the fishing operators with flexibility regarding their choice of mesh size without the potential for the respective Member States to incur an effort penalty, giving them the opportunity to fish more selectively with regards to small fish. Such flexibility may provide fishing operators with the means to reduce any potential impacts on their operations following the implementation of the Landing Obligation.

Cons:

- A merged TR group would be more heterogeneous, comprising a wider variety of fisheries than either of the individual current TR1 and TR2 groups.
- There is a risk of increasing fishing mortality on cod if more effort is directed to fishing activities with higher cod CPUE.
- If the current effort transfer rate were to be applied to the TR2 kWdays before merging them with the TR1 kWdays, this would result in a dramatic reduction of the kWdays available to the merged gear group.
- If additional measures, e.g. spatial constraints or cod-avoidance gear prescriptions, were to be implemented this may significantly increase the management burden. Especially since spatial criteria should take account of the dynamic nature of cod distribution (for example, a recovery of the cod stock may cause areas that were formerly of low CPUE to become high-CPUE areas).
- If the merger of the TR1 and TR2 groups would only be implemented for the cod stock in the North Sea, Skagerrak and Eastern Channel, inconsistencies will emerge regarding the effort groups in the management areas of the other three cod stocks.

7. STECF RECOMMENDATIONS FROM STECF-PLN-15-02

No new recommendations arose during discussions at the 49th plenary meeting of the STECF.

8. CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS

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