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52nd PLENARY MEETING REPORT (PLEN-16-02)

PLENARY MEETING,

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Abstract

Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries, C(2016) 1084, OJ C 74, 26.2.2016, p. 4–10. The Commission may consult the group on any matter relating to marine and fisheries biology, fishing gear technology, fisheries economics, fisheries governance, ecosystem effects of fisheries, aquaculture or similar disciplines. The Scientific, Technical and Economic Committee for Fisheries hold its 52nd plenary on 4-8 July 2016 in Brussels (Belgium).

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PLENARY MEETING

4-8 JULY 2016, BRUSSELS

1. INTRODUCTION

The STECF plenary took place at the Centre Borschette, rue de Froissart, Brussels, from 4 to 8 July 2016. The chair of the STECF, Clara Ulrich, opened the plenary session at 09:30h. The terms of reference for the meeting were reviewed and discussed with DG MARE focal points before and consequently the meeting agenda agreed. The session was managed through alternation of Plenary and working group meetings. Rapporteurs for each item on the agenda were appointed and are identified in the list of participants. The meeting closed at 16:00h on 8 July 2016.

2. LIST OF PARTICIPANTS

The meeting was attended by 27 members of the STECF, four invited experts and three JRC personnel. 14 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:

Haritz Arrizabalaga

Thomas Catchpole

Hazel Curtis

Georgi Daskalov

Jenny Nord

3. INFORMATION TO THE COMMITTEE

3.1 STECF website

The secretariat informed the committee on updates done on the STECF website since the previous plenary meeting. The general information pages of the main site now reflect the content of the 2016 Commission Decision on STECF and information on the committee members is displayed. On the report section of the STECF website a new search tool has been integrated.

4. ASSESSMENT OF STECF EWG REPORTS

4.1 EWG 16-03 and 16-07: 2016 Annual Economic Report (AER) of the EU fleet

Request to the STECF

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

STECF observations

STECF reviewed the 2016 Annual Economic Report on the EU Fishing fleet and notes that the EWG adequately addressed all the ToRs. STECF acknowledges the extensive work undertaken by all personnel involved in the preparation of the 2016 AER, which represents the most comprehensive overview of the structure and economic performance of EU Member States' fishing fleets prepared to date.

Although the data presented in this report have been produced after extensive data validation procedures by JRC and assessment by the two EWG's there is no guarantee made by STECF regarding the quality and completeness of the datasets, as this is under the responsibility of the MS.

STECF acknowledges that a significant amount of effort is required to quality check and correct the initial data uploaded by MS, before and during the first EWG. Data errors observed during the EWG can be corrected by the MS up to two weeks after the EWG. This process improves the quality of the data but may delay the completion of other tasks that are dependent of the database.

STECF notes that, although there are still some shortfalls in the data submitted by Member States, data delivery requirements in response to the 2016 call for economic data on the EU fishing fleet improved significantly and were more complete than those submitted under previous economic data calls. For the first time under the DCF, Spain provided effort data for the entire period 2011-2014. However, only 'fishing days' were provided by this MS (days at sea and other requested variables continue missing).

Furthermore, STECF notes that the data submitted by France, Greece, Ireland (for the under 10 m vessels only) and Spain were identified by the EWG as incomplete and could not be taken into account in all the EU and/or regional trend analyses presented in the 2016 AER. 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 may now appear different to those presented in the 2016 report. The absence of some data from some MS can change the direction of key trends for the overall EU fleet.

STECF observes that the figures showing trends in monetary values presented in the report have been adjusted for inflation and are shown in equivalent 2015 EURO values. STECF notes that the EWG discussed and agreed that the Consumer Price Index (CPI) is an appropriate index to use when adjustment for inflation is done. Since this was also done in last year's report and then raised by STECF as an issue for next year's EWG to evaluate, STECF still sees this as a pending issue for an evaluation (see ToR 6.2).

The 2016 AER presents the results of economic projections for fleets in the NE Atlantic for the years 2015 and 2016 based on the BEMEF model. The basis of the projections for 2016 include the agreed TACs for those years and take into account 2015 and 2016 average fuel and first-sale prices.

STECF observed that the approach of using "days at sea" to split fleet segment data by region has some drawbacks. It is based on the assumption that the cost structure, and/or costs per day at sea, are the same for all regions. If this is not the case, then the procedure may provide inappropriate results. Additionally, disaggregation to the regional level using days at sea cannot distinguish between days actually fishing and days spent traveling to or from fishing areas (steaming) and hence, high possibility of over or under-estimating costs and/or revenue to the region.

The EWG further considered several deviations in the methodologies for calculating some economic indicators and the use and estimation of capital costs that are applied in the AER compared to the report on the Balance between fleet capacity and fishing opportunities. These include Net profit, Return of Investment (RoI) and Return on Fixed Tangible Assets (RoFTA), and the use of different reference points, i.e. long-term interest rate, nominal, real or 5 year average. This was addressed by the EWG and a short outline of the main issues is provided in Annex 1 of the 2016 AER.

In particular STECF observes that the use of real interest rate can lead to use of negative rates hence for some countries resulting in positive opportunity cost of capital which gives estimates with higher net than the gross profits.

STECF observes that the 2016 AER contains a special chapter on investments (Annex 2) and a detailed account of the data transmission issues detected during the EWG 16-03 (Annex 3).

STECF conclusions

The 2016 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 up to date. STECF concludes that the report represents a large step forward and that the report will be of great help for managers, policy-makers, as well as others.

However, because data from a number of Member States, for example, France, Greece and Spain, i.e. some of the EU's biggest fishing nations, were excluded from the regional and EU overview trends reported in those overview sections may not represent true trends.

STECF concludes that the way the economic projections are done in the AER needs to be further analysed. This year and to some extent last year the projections were done with the BEMEF model, which cannot yet be considered a standard methodology by STECF. The BEMEF model must be evaluated in a benchmark meeting on assessment of economic methods for future economic requests before being applied again. Before this is done, STECF cannot fully endorse the results from this model that are currently presented in the report.

STECF concludes that the AER / EWG for next year should follow the same structure as this year.

STECF concludes that different data types are often collected at different spatio-temporal scales, which are also not necessarily the same scale as the ones needed to answer the various requests. This is a recurrent and common issue, and STECF endorses that the best expert decisions are made at the time when data must be aggregated or disaggregated.

STECF notes that progresses are ongoing to improve the merging procedures between economic, transversal and biological data (cf. ToR 6.4), and until these are fully operational, STECF concludes that the current methodology should be used.

STECF concludes that work needs to be done to harmonise methodologies for calculating economic indicators and economic costs between AER and the report on the Balance between fleet capacity and fishing opportunities. . STECF notes that the report on the Balance between fleet capacity and fishing opportunities is based on indicators calculated in line with the 2014 Balance Indicator Guidelines[1]. STECF acknowledges that there are no immediate plans by the Commission to revise the current suite of indicators or the Guidelines. Nevertheless, recognising that there may be a need to undertake such a revision, STECF considers a dedicated Expert Working Group should be held to address outstanding issues with Balance indicators. The need for harmonisation with economic indicators used in the AER process could be addressed at the same time

STECF concludes that the AER should maintain consistency and continue to apply the real interest rate when calculating the opportunity cost of capital, even when this implies negative values due to high inflation rates observed in some MS, as a result of the economic crises and instability. In cases of negative values on opportunity cost of capital occurs STECF concludes this should be clearly commented in text by the EWG to clarify the results found (done in previous years AER).

[1] Communication from the Commission to the European Parliament and the Council – Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy COM (2014) 545 final.

4.2 EWG 16-04: Methodology and data requirements for reporting on the Landing Obligation

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 observes that EWG16-04 did their outmost to address all of the ToRs in two parts. In the first part, the seven elements contained in Article 15(14) were discussed and the basis of a template for gathering information according to the Regulation is produced. In the second part, a series of additional metrics to provide a broader approach to evaluating the landing obligation (and the impacts of it) were suggested, including the possible tools and data sources for carrying out such analysis.

STECF observes that EWG 16-04 benefitted from the 2015 submissions from Member States and Advisory Councils since they provided some insights into the operation of the landing obligation. However, these submissions were generally lacking in structure and quantitative information making it difficult to undertake any substantive evaluation.

STECF notes that the EWG has developed a more structured template for the submission of Member States, Advisory Councils and other organisations.

STECF observes that many of the management measures affecting the landing obligation are being discussed, agreed and applied at Member States Regional Groups (rather than at individual Member State level). Furthermore, some of the compliance initiatives seeking to develop the operational approach to implementing the landing obligation are also being developed regionally and in close cooperation with European Fisheries Control Agency (EFCA). While Member States information on progress towards the landing obligation is clearly valuable, so too is information collated at the Regional Group level.

EWG 16-04 also discussed other metrics that might improve the monitoring of the landing obligation. STECF notes that the requirements of Article 15(14) focuses on certain aspects of the landing obligation and its potential impacts mostly ashore at port level. There is a lack of emphasis relating to the monitoring of effects and impacts of the landing obligation in terms of what happens at sea and in the environment. In particular impacts on catch and catch profiles, compliance, selectivity, spatial and temporal changes in fishing operations, longer term socio-economic and environmental effects are not covered.

STECF observes that EWG 16-04 provided a tabular summary of some of those additional metrics considered offering most potential, but this was not possible to do for all the additional metrics due to time constraints. If the objective of monitoring and reporting on progress towards implementing the landing obligation is to provide a holistic overview capable of addressing questions on all aspects of the policy, then information of this type is very important and collection, collation and presentation of it should be carried out.

STECF notes that some of the additional metrics, such as selectivity parameters of novel fishing gears and results from localised spatial avoidance schemes, will require Member States to submit new information. On the other hand, many of the proposed additional metrics rely on data which arise from ongoing data submission programmes and will not require the burden of new data collection. The strong linkage to data collected through the Data Collection Framework (DCF) and to databases underpinning the Annual Economic Report (AER), Fisheries-Dependent Information (FDI) and other such

programmes implies an ongoing requirement to ensure these databases are supported and maintained. Of equal importance is a sound understanding of the reliability and quality of these data. Clearly, the value of the information is drastically reduced if it does not represent the actual situation occurring at sea.

STECF notes that although a number of metrics were identified and discussed rather few of them were thought to be uniquely influenced by the landing obligation – more time is required to examine the scope for isolating and measuring the effects of the landing obligation in metrics potentially influenced by other factors.

STECF notes that the additional metrics might imply inputs from a rather broader range of stakeholders. For instance, Member States compliance operations data together with information by the European Fisheries Control Agency (EFCA) potentially provides important information on the performance of the landing obligation. In this context, STECF notes that much can be learned to improve the quality and relevance of monitoring reporting and evaluation from collaboration between science and compliance community.

STECF conclusions

STECF concludes that the template developed by the EWG, while fairly simple in format and restricted to key questions, represents a positive step in the direction of improving submissions from Member States and others to meet the requirements of Article 15(14). The nature of the questions and the fairly open approach provides a basis for gathering quantitative and semi-quantitative information and as such offers an improvement on the approach used in 2015.

STECF concludes that feedback on the progress within regional areas is critical to understanding how effective the implementation of landing obligation has been and what adjustments in approach might be necessary. Thus, if possible, it would be helpful to have submissions from the Member States groups as well as individually from Member States.

STECF concludes that since the additional metrics are not formally itemised in the current Regulation, some discussion with Member States and others will be required to ensure this information is collected in the future.

STECF furthermore concludes that although some important new metrics have been identified by EWG 16-04, the list should not be seen as exhaustive and Member States or other bodies may have access to information which they feel better helps to illustrate progress towards the landing obligation implementation or impacts of implementation, and should be encouraged to supply it.

Despite the good progress made by EWG 16-04, STECF concludes that further work is required to investigate and refine the list of candidate metrics, including scoping the possibility for isolating and measuring the effects of the landing obligation when the metrics are potentially influenced by other factors.

STECF concludes that because the additional metrics might imply inputs from a rather broader range of stakeholders, compared to the narrow focus of the regulation in requiring submissions only from Member States, Advisory Councils (AC) and Producer Organisations (PO), it might be helpful to consider how to engage these groups, and wider society, in the process of implementing and reporting on the landing obligation.

STECF recommendations

STECF recommends that the Commission encourages submissions from Member States groups, as well as from individual Member States, regarding the effectiveness of the implementation of the landing obligation.

STECF recommends that the Commission encourages all possible actors (MSs, EFCA), regional bodies, industry, science, NGOs, etc.) to work to ensure that catches are effectively monitored and that any shortfalls are adequately documented and clearly understood. This is particularly important for monitoring-at-sea programmes where all information associated with these programmes also requires to be collected (for example, observer refusal rates, coverage, cross checks with other sources of information such as CCTV etc.).

STECF recommends that the Commission facilitates further investigation of the list of candidate metrics, including identification of the metrics with the greatest potential to illustrate progress towards the implementation of the landing obligation.

4.3 EWG 16-05: Methodology for the stock assessments in the Mediterranean Sea

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.

Terms of reference of the EWG: The EWG was asked to work on the following tasks: (i) ranking of the importance of Mediterranean stocks; (ii) produce guidelines on type of assessment/indicator based on available data and priority; (iii) reconstruct a time series of historical catch and effort data for the stocks of anchovy and sardine in the Aegean Sea (GSA 22 and 23); (iv) provide a qualitative evaluation of the advantages and disadvantages, of applying different management regimes in the small pelagic fisheries in the Adriatic Sea; and (v) provide the lower and upper bounds of F_{MSY} for the demersal stocks of the Western Mediterranean Sea.

Specifically the EWG was asked to:

ToR 1-1 Identify the stocks (species/area) driving demersal and small pelagic fisheries and rank them in order of priority. For this purpose, it should be consulted the list and criteria suggested in STECF 15-06, as well as the approach used in EWG 15-19 (i.e. landing Weight/Value) and/or any alternative methods such as Productivity and Susceptibility Analysis (PSA);

ToR 1.2 Discuss and identify the most appropriate assessment method (from fully analytical to less-data rich assessment) that can be undertaken for each stock or group of stocks, the scientific advice that can be provided by such assessment methods and the ideal assessment frequency. Particular attention should be given to those stocks where an assessment: (i) has never been done or; (ii) was made long time ago (i.e. more than 4 years) or; (iii) has serious data limitations;

ToR 1.3 To the extent possible, reconstruct time series of historical catch and effort data for the stocks of anchovy and sardine in the Aegean Sea (GSA 22 and 23).

ToR 2.1 Provide a qualitative evaluation of the advantages and disadvantages, from biological, social and economic viewpoints, of applying different management regimes in the small pelagic fisheries in the Adriatic Sea. The management regimes should include at least the following: (1) capacity limitations; (2) effort regime; (3) spatio-temporal closures; (4) technical measures relating to gear and; (5) catch-limitations. These measures should be considered individually as well as in combination.

ToR 2.2 Further develop the past STECF advice (STECF-15-14), indicating that small pelagic fisheries in the Mediterranean Sea could qualify for a TAC control system, based either on the classic MSY framework (F_{MSY} and B_{lim} and $B_{trigger}$ with HCRs) or on an escapement strategy. The advantages and disadvantages of both options should be provided.

ToR 3.1 Provide the lower and upper bounds of F_{MSY} for the stocks listed in table 6.2.2-110 of the EWG 16-05 report.

STECF observations

STECF notes that EWG 16-05 took place 20 to 24 June and the EWG had thus only one week to produce its report to the STECF. Given this tight timeline, the EWG was not in a position to provide a fully edited final report. Although this complicated the review

process, STECF acknowledges that the EWG fully addressed the ToRs. STECF also notes that the main conclusions drafted in the version available for STECF are not going to be changed after the present review and are considered as final.

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

ToR 1.1. - The analysis conducted by EWG 16-05 provides a ranking by species and GSA with the selection of 20 most important demersal stocks and the 10 small pelagics species for each GSA (or combination of GSAs). The ranking is based on two independent criteria: (i) a PSA (Productivity Susceptibility Analysis) as an expression of vulnerability by species equal in all GSAs and (ii) value of landings by GSA, as an expression of economic importance. The results of this ranking was examined by EWG 16-05 experts and considered in most cases to give an appropriate selection of species, but a number of other species considered important by the experts were not ranked high by the methodology, either because these species were not included in the PSA analysis or because they were not selected by the ranking process. These species were thus added *a posteriori* by the experts, because they were considered important for management purposes. The choice of equal weight between the two criteria is essentially arbitrary and made in the absence of alternative guidance to EWG 16-05. STECF notes that vulnerability of each species in the PSA is assumed to be the same for the entire Mediterranean Sea, while regional differences in growth rates, natural mortality and fishing operations clearly exists across the basin.

Such a combined approach aims to account for species that have a specific conservation requirement (e.g. elasmobranchs) in addition to the species that are commercially important. STECF notices that several of the elasmobranchs species included in the PSA are rarely caught in the Mediterranean.

While STECF acknowledges that some other methods might have highlighted a few other species as "sensitive", it is unlikely that significantly different results would have been obtained in terms of the most important species. Additionally, the results of the PSA method were combined with expert knowledge, and STECF considers therefore that the results presented by the EWG are robust.

While STECF acknowledges that other methods (e.g. SAFE) may have selected fewer sensitive species compared to PSA, it is unlikely that significantly different results would have been obtained in terms of the most important species. PSA is though an established method used in other regions worldwide, and was selected by the EWG on the basis that initial work on Mediterranean stocks was already available from Osio et al. (2015). While STECF acknowledges that some other methods might have highlighted a few other species as "sensitive", it is unlikely that significantly different results would have been obtained in terms of the most important species. Additionally, the results of the PSA method were combined with expert knowledge, and STECF considers therefore that the results presented by the EWG are robust. Indeed most of the priority fish stocks ranked by EWG 16-05 are those already considered a key species for the management of Mediterranean fisheries, confirming that the majority of the important species are already assessed, consistent with the outcomes of EWG 13-05 and EWG 14-08. A number of additional stocks have though appeared that have never been assessed.

ToR 1.2 - The EWG 16-05 combined the ranking with data availability and identified at least one appropriate stock assessment method to be used to determine stock status of a given species in each GSA. All results are available in tables in section 3.5 of the EWG report. Overall, the report identified 84 units (species by GSA) that can be assessed with analytical models (level 1) of which 28 would be new units not previously assessed. There are 77 units that could be evaluated by biomass/survey trends (levels 2 and 3). In addition to these there are 307 species by GSA that have been identified as potentially suitable for status indicators (level 4 and 5) of which 51 have potential for indicator developing over time (level 4). Of these 4 and 5 level units, 11 and 46 respectively have

been identified in the report as higher priority to be examined for simple indices. There may be some scope for reduction of the number of units by combing GSAs.

This categorization of units might be considered as a good starting point for selection of stocks to be assessed and methods to be used. However, STECF notes that many of the species identified as level 4 and 5 are species rarely caught and for which even simple indicator based on survey would be difficult to develop.

The EWG 16-05 also examined the basis for frequency of assessment and has provided guidance on how this should be done, but the EWG 16-05 did not have sufficient resources to finalize a protocol for frequency of assessments. STECF suggests that the definition of stock assessment frequencies by species and GSA (or combination of GSAs) will be carried out during the following EWGs of Mediterranean stocks.

ToR 1.3 - The EWG 16-05 conducted a data revision/reconstruction of historical catch and effort data for the stocks of anchovy and sardine in the Aegean Sea (GSA 22 and 23), but it was only possible to cover the European fleets operating in GSA 22 and not the Turkish ones. EWG 16-05 considered that reported catches in GSA 23 are negligible. The revision cannot be completed for all years due to a lack of data for some years (2009-2012). Catch data are available from 1970-2014. Fleet capacity data in terms of number of vessels is thought to be acceptable from 1947, earlier data does not seem to be acceptable. Capacity data in terms of engine power is available from 1990. Considerable problems were encountered in replacing missing data for days at sea, thus a recent effort data series has not been obtained. The EWG 16-05 report contains a summary of data sources and a discussion of future possibilities and an excel file for data series is available from the JRC. In the absence of Turkish data, STECF notes that it is unclear to which extent this reconstructed time series can be of use for stock assessment.

ToR 2.1 – The EWG 16-05 addressed the ToR using a qualitative evaluation of the biological, social and economic aspects of different management approaches (see table in paragraph 6.2 of the EWG 16-05 report), which were identified and tabulated. STECF notes that only biologists participated at the meeting so the analysis should be revised with the contribution of social scientists and economists.

ToR 2.2 - The EWG 16-05 assessed the consequences of using either F_{MSY} or an escapement strategy if the management would be performed with TAC. The EWG considered that the consistency of the cohort estimation from the acoustic survey for anchovy and sardine has not yet been demonstrably resolved and issues remain. Until this is resolved, it is unlikely that advice for a biomass escapement strategy can be provided either through STECF or GFCM. Under these circumstances, STECF suggested that exploitation advice should be based on an F_{MSY} and MSY $B_{trigger}$ approach for the immediate future instead of a $B_{escapement}$ strategy.

The EWG 16-05 also suggested that there is potential for further improvement in the advice flow by following the data analysis/advice and management procedures used for Bay of Biscay anchovy which has a similar flow of data (an acoustic survey in September). For Bay of Biscay anchovy the advice and TAC setting procedure is based on assessment and forecast carried out in November following the survey in September (STECF, 2014). This is then used through a management procedure to give catch advice for the following calendar year January to December. While this approach uses the survey data from September it uses catch projections from July to December in the survey year. STECF agrees that the advice flow for the Adriatic small pelagic fish stocks should be improved. However, STECF notes that while comparable, there are some differences between the Bay of Biscay and the Adriatic that must be considered. In the Bay of Biscay the assessment of anchovy is based on three surveys (rather than only the MEDIAS survey in the Adriatic) which facilitate in-year assessment: A Daily Egg Production Method (DEPM); an independent acoustic survey carried out in May, during

the peak of the spawning period; and an autumn acoustic survey (JUVENA) carried out in September/October to provide an index of recruitment for the next year. The timing of the JUVENA survey in the Bay of Biscay has been adjusted to match the spawning period of anchovy (April-mid July) and the growth pattern of young fish (the juveniles have to become big enough to be detected by the echo-sounders in autumn). In the Adriatic Sea, the spawning period of anchovy is long (April-November) with a peak in June/July, so the ability of MEDIAS to accurately reflect anchovy recruitment needs to be analysed further, also considering that the current timing of the MEDIAS survey differs between the eastern part of GSA17 where the survey is carried out in September, and the western part of GSA17 and the entire GSA18 where the survey is carried out in June/July. Notwithstanding, the MEDIAS survey in the Adriatic Sea could potentially be used to derive recruitment indices for the sardine stock. .

ToR 3.1 – This ToR was added during the first day of the meeting, and following a discussion it was decided that there were insufficient resources to carry out a full analysis for the requested stocks. Preliminary values for F_{lower} and F_{upper} have been supplied by EWG 16-05, based on a regression analysis and existing MSY target values. The F_{MSY} values are those from the stock assessment (REF EWGPLEN-15-03). The F_{lower} values can be used as initial values. The F_{upper} values are preliminary and have not yet been checked for precautionary considerations, and until this has been done, the values are not recommended for management use but are only provided as indicative values.

STECF conclusions

Regarding ToRs 1.1-1.2: Recent analyses conducted by STECF and GFCM has clearly demonstrated that more than 95% of the Mediterranean assessed stocks are exploited at level larger or much larger than F_{MSY} (STECF 2015; 2016; Colloca et al., 2013; Vasilakopoulos et al., 2014). There may be a general perception among stakeholders that more science is needed in the Mediterranean Sea before effective management actions can be implemented. STECF considers rather that the implementation of management measures aiming to reduce catches and decrease the level of fishing mortality exerted on the different stocks to be a high priority in the Mediterranean Sea, and these can be launched even when the biological knowledge and the status of stocks is uncertain. The lack of knowledge on the status of rare species does not affect the general perception of the Mediterranean fisheries and should not be used as an excuse to delay action. STECF notes also that some policies are already in place for monitoring and protecting vulnerable elasmobranchs in the Mediterranean Sea (e.g. 2009 EU Action Plan on sharks and GFCM Recommendation GFCM/36/2012/3 on conservation of sharks and rays).

STECF supports EWG considerations that trade-offs need to be made between the complexity of stock assessment methods and the number of stocks on which these can be applied. Complex assessment models allow a better knowledge at finer spatial and temporal scales and can also be used to quantify the technical interactions at fleet level and the biological interactions at ecosystem level. Complex models allow also better estimates of uncertainty when catch data are uncertain. The development of these methods and their application to Mediterranean fisheries should therefore be encouraged to the extent possible. Nevertheless, due to data limitations it is often not possible to perform analytical assessments for all stocks. This situation is similar to other regions, and a number of less robust "data-poor" assessment methods can be used for such stocks for deriving useful indicators of trends and thereby monitoring the impact of management actions across a wide range of species.

STECF acknowledges that both approaches (complex models and data-poor methods) are complementary and fulfill different needs, and the ongoing development of integrated assessment models in the Mediterranean Sea should be continued. STECF reiterates

meanwhile that the limited number of stocks assessed with complex analytical assessments should not be used as reason to delay the implementation of immediate management actions.

STECF stresses the need of methodological working groups to conduct benchmark assessments of those key stocks which are driving the management plans in the different regions of the Mediterranean Sea.

STECF reiterates the strong need for a better coordination and full harmonization among the scientific bodies of FAO-GFCM and EU, in order to develop common approaches and make the best use of the human resources.

Regarding ToR 1.3, STECF acknowledges the reconstruction of time series of historical landing and effort data for Eastern Mediterranean stocks of sardine and anchovy, Nevertheless, STECF notes that in the absence of Turkish catch data, it is unclear to which extent this reconstructed time series can be of use for stock assessment.

Regarding ToR 2.2, the EWG examined possible management approaches and their impacts in terms of achieving the MSY targets of the CFP for small pelagic (sardine and anchovy) fisheries in the Adriatic (GSA17 and GSA18). STECF considers that the choice proposed by the EWG (F_{MSY}-based approaches instead of partial escapement strategies) is advisable given the long time lag between the conduction of the survey and the completion of the advice (over a year). STECF recommends that efforts should be done to reduce this time lag.

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4.4 EWG 16-08: Evaluation of DCF 2015 Annual Reports & Data Transmission to end users in 2015 Quality assurance procedures

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.

Background

The STECF Expert Working Group (STECF EWG 16-08) met in Lisbon, Portugal, from the 20th to the 24th of June 2016 to assess Annual Reports (AR) for 2015 of the 23 non landlocked Member States, submitted as part of the Data Collection Framework.

Under the process of evaluation and approval of the outcomes of the National Programmes (NP), the European Commission is consulting STECF about the execution of the NP approved by the Commission and about the quality of the data collected by the Member States in accordance with articles 7.1 and 7.2 of Council Regulation (EC) No 199/2008.

In addition, the EWG 16-08 was requested to evaluate Member States (MS)' transmission of DCF data in 2015 based on information from end users and Member States' clarifications & explanations in response to the end user feedback.

Ten independent experts pre-screened the MS annual reports (AR) and the data compliance feedback from the end users before the EWG meeting. The pre-screeners were also requested to give feedback on the current exercise and how it has worked and also comments on how to improve in the future.

As an output of the evaluation of ARs and data transmission (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 judgment 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.

STECF observations

STECF acknowledges that despite the very tight deadline between the EWG 16-08 and the STECF plenary, the EWG report was finalized in time to be presented and reviewed.

STECF acknowledges that the EWG was able to thoroughly address the terms of reference with regard to Annual Reports (AR) and Data Transmission (DT) evaluation and analysis, resulting in comprehensive and detailed lists of follow-up actions to be addressed by MS. 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.

STECF notes that overall, the level of achievement of the 2015 Annual Reports shows a significant improvement compared with previous years.

STECF notes that the evaluation template used for the assessment was an improved version compared to the one used in previous assessments. This template was aligned to the updated version of guidelines for AR submission (version January 2016) and it took into account the previous suggestions made by STECF.

However, STECF notes that some questions in modules III.C/III.E and module VI were not considered during the assessment because of a lack of alignment between the evaluation template and the actual activity described in the Annual Reports of some MS. This lack of alignment was due to a shift in the methodological approach for the collection of biological data adopted by some MS (in particular the move to "statistically sound sampling schemes") that is not described in the MS National Programme. MS did not amend their National Programmes to describe the new methodological approaches and their Annual Reports did not always provide enough information on these changes to fully evaluate if the achievements ensure sufficient coverage of fisheries and stock sampling. STECF notes that this situation prevents experts to judge whether the Annual Report is in line with the National Programme. This issue will probably affect also next year's evaluation of Annual Reports.

STECF considers that the overall AR evaluation process has improved over the past years through the use of pre-screeners and the progressive evolution of the evaluation sheets. However, the process still requires various manual cross-checks between tables and checks on formatting and editorial issues. The EWG again (cf. EWG 14-17 and 15-10) identified the need for a database and online reporting tool for effective and efficient compilation and monitoring of ARs. This is further discussed in ToR 6.14

Regarding the assessment of data transmission issues, STECF notes that the way how end-users report data issues and define the level of severity in the DT assessment still need to be fine-tuned by the Commission. The EWG suggested that a dialogue between the data end-users and the MS should take place before any issue enters into the portal. That would certainly allow for pre-filtering of issues that can still be rectified by MS.

STECF acknowledges the presence of two main end-users (ICES, JRC/STECF) at the EWG meeting, who were instrumental to clarify DT issues.

STECF notes that EWG was also asked to advise on guidelines for quality assurance procedures to be followed by the Member States when drafting their National Programmes (Work Plans). However, due to the time constrains, EWG only briefly discussed the main outputs of the background documents (Ad-hoc contract report on data quality assurance, FISHPI project report, MARE/2014/19 Mediterranean project report). Therefore, this issue is addressed in section 6.13 of this report.

STECF acknowledges that EWG 16-08 fully addressed the term of reference on the UK request for changes to the North Sea and West of Scotland Herring Acoustic Surveys

STECF conclusions

STECF concludes that the EWG 16-08 report adequately addresses almost all Terms of reference. Only the ToR on quality assurance was not fully addressed. STECF endorses the findings presented in the report.

In addition, the STECF concludes the following:

Evaluation of Annual Reports

- the present evaluation procedure (pre-screening exercise, evaluation sheets, guidance for evaluators) should continue to be used also for next year Annual Reports evaluation. STECF is aware that the evaluation procedure for the AR under the EU MAP 2017-2019 should be revised according to the proposal in section 6.14;
- online reporting tools connected to a database containing planned and conducted sampling figures, as well as other relevant information from the Work Plans and Annual Reports, should be set up as soon as possible to make the AR evaluation procedure more efficient (*cf*. STECF PLEN 15-02).

Evaluation of data transmission issues

- the evaluation of data transmission issues is very relevant and it represents a suitable indicator of the achievements in data collection activities. STECF suggests that the online platform for data transmission issues should continue to be used and if possible improved according to the proposals in the EWG 16-08 report (chapter 4, paragraph 2);
- a standard and homogenous approach for identification of data transmission failures should be defined by the Commission in dialogue with the end-users. In addition, the process of identification of the data transmission issues should start right after the data calls and MS should be informed by end users in due time of any problems in data transmission allowing for the implementation of an adequate timeline for addressing and overcome the data failures.

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

5.1 Management measures for deep-sea sharks

Background

"Deep-sea sharks are taken as by-catch in three Portuguese longline fisheries targeting black scabbardfish (i) off the Portuguese mainland, (ii) in waters around Madeira and (iii) in Azores (ICES Sub-areas IX and X and CECAF 34.1.1, 34.1.2 and 34.2).

Generally speaking deep-sea sharks are considered to be highly vulnerable to exploitation as they are long-lived, late maturing and low fecundity species. Based on ICES advice, zero TACs have been set over the past years for a number of deep-sea sharks. It is accepted that there is an urgent need to protect deep-sea sharks from fishing even if taken as by-catch in relative small quantities. A sustainable level of sharks' by-catches should be interpreted in light of ICES precautionary approach, namely the probability of SSB falling below B_{lim} *(or comparable proxies) being equal to or less than 5%.*

In its advice of July 2014[2] *the STECF considered zero TACs unlikely to offer any significant conservation benefit to deep-sea sharks and instead other measures such as spatial-temporal constraints, technical measures or effort restrictions to be more effective."*

Terms of Reference

1. On the basis of available information, the STECF is requested to:
    a. advise on specific management measures alternative to zero TACs for deep-sea sharks taken in the Portuguese longline black scabbardfish fishery, such as spatial-temporal constraints, technical measures or effort restrictions, including possible improvements to fishing techniques and gear selectivity, that go beyond a general academic description. The advice should be provided to achieve that deep-sea sharks are managed in light of ICES precautionary approach as defined in the background,
    b. Indicate a level (or levels) of deep-sea sharks that could sustainably be taken as by-catch in the Portuguese longline fishery for black scabbardfish.
2. In case the STECF is not able to provide the information requested under the previous points, the STECF is requested to list specific actions, actors involved and a timeline with a view of addressing data/information shortcomings.

[2] 46th Plenary meeting (PLEN-14-02), 7-11 July 2014.

STECF observations

No background documents were provided for this ToR, so the following summary of knowledge is based on a number of reports and scientific publications gathered and synthesised by STECF PLEN 16-02 with the help of scientific experts from Portugal.

Several species of deep-sea sharks (DSS, Table 5.1.1) are listed and grouped in EU regulations (EU, 2014, 2016).

Table 5.1.1: List of EU regulated deep-sea shark's species (EU, 2014, 2016).

Common name	**Scientific name**
Deep-water catsharks	*Apristurus* spp.
Frilled shark	*Chlamydoselachus anguineus*
Gulper shark	*Centrophorus granulosus*
Leafscale gulper shark*	*Centrophorus squamosus*
Portuguese dogfish *	*Centroscymnus coelolepis*
Longnose velvet dogfish	*Centroscymnus crepidater*
Black dogfish	*Centroscyllium fabricii*
Birdbeak dogfish *	*Deania calcea*
Kitefin shark *	*Dalatias licha*
Greater lanternshark *[1]	*Etmopterus princeps*
Smooth lanternshark*[1]	*Etmopterus pusillus*
Velvet belly	*Etmopterus spinax*
blurred smooth lanternshark[1]	*Etmopterus bigelowi*
Tope shark*	*Galeorhinus galeus*
Blackmouth catshark (Blackmouth dogfish)	*Galeus melastomus*
Mouse catshark	*Galeus murinus*
Bluntnose six-gill shark	*Hexanchus griseus*
Sailfin roughshark (Sharpback shark)	*Oxynotus paradoxus*
Knifetooth dogfish	*Scymnodon ringens*

Velvet dogfish[1]	*Scymnodon squamulosus*
Spiny dogfish[1]	*Squalus acanthias*
Greenland shark	*Somniosus microcephalus*

EU, 2016: *Art 13. It shall be prohibited for Union fishing vessels to fish for, to retain on board, to tranship or to land. [1]Art 36. Directed fishing for the following deep water sharks in the SEAFO Convention Area shall be prohibited. EU, 2014: *In italics* species included in a single global TAC for deep-sea sharks (except for *Galeus melastomus* removed since 2014).

Deep-sea sharks, as listed in Table 1, have a single global TAC in area V, VI, VII, VIII, IX and CECAF 34.1.1, 34.1.2, 34.2; a TAC in area X, and finally a TAC in area XII jointly with *Deania hystricosa* and *Deania profundorum*. These TACs have been set only for bycatch since 2008, as directed fisheries were no longer allowed. However, the TAC was set to 0 in 2010 and 2011 yet allowing a bycatch of 10% and 3% of the 2009 TAC, respectively (EU, 2008). Since 2012 there are no bycatches allowed.

Deep-sea sharks have been caught and landings recorded since the late 1980s in several areas of the Northeast Atlantic (Table 5.1.2), by deep-sea trawl, longline and gillnets (prohibited since 2006 of targeting sharks) as target or bycatch species.

Table 5.1.2: History of commercial landings of deep-water leafscale gulper shark and Portuguese dogfish in EU and non-EU waters, by area (in tonnes). Landings are combined until 2009; from 2010 onwards are presented by species (leafscale gulper shark - Portuguese dogfish; ICES, 2015).

Year	IVa	Va	Vb	VI	VII	VIII	IX	X	XII	XIV	Unknown area	Total
1988	0	0	0	0	0	0	560	0	0	0	0	560
1989	12	0	0	8	0	0	507	0	0	0	0	527
1990	8	0	140	6	0	6	475	0	0	0	0	635
1991	10	0	75	1013	265	70	1075	0	1	0	0	2509
1992	140	1	123	2013	1171	62	1114	0	2	0	0	4626
1993	63	1	97	2781	1232	25	946	0	7	0	0	5152
1994	98	0	198	2872	2087	36	1155	0	9	0	0	6455
1995	78	0	272	2824	1800	45	1354	0	139	0	0	6512
1996	298	0	391	3639	1168	336	1189	0	147	0	0	7168
1997	227	0	328	4135	1637	503	1311	0	32	9	0	8182
1998	81	5	552	4133	1038	605	1220	0	56	15	0	7705
1999	55	0	469	3471	895	531	972	0	91	0	0	6484
2000	1	1	410	3455	892	361	1049	0	890	0	0	7059
2001	3	0	475	4459	2685	634	1130	0	719	0	0	10105
2002	10	0	215	3086	1487	669	1198	0	1416	12	0	8093
2003	16	0	300	3855	3926	746	1180	0	849	4	0	10876
2004	5	0	229	2754	3477	674	1125	0	767	0	0	9031
2005	4	0	239	1102	842	376	1033	1	134	0	1323	5054
2006	4	0	195	638	323	208	1325	0	0	0	34	2727
2007	3	0	590	737	94	23	517	0	1	61	0	2025
2008	1	0	171	621	111	27	463	0	0	0	0	1393
2009	1	0	24	54	4	105	33	0	0	0	0	220
2010	1 – 0	0 – 0	38 – 8	21 – 22	4 – 0	4 – 1	4 – 1	0 – 0	0 – 0	0 – 0	0 – 0	71 – 33
2011	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	1 – 0	1 – 1	0 – 0	0 – 0	0 – 0	0 – 0	2 – 1
2012	0 – 0	0 – 0	51 – 0	0 – 0	0 – 0	0 – 0	1 – 0	0 – 0	0 – 0	0 – 0	0 – 0	52 – 1
2013	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0
2014	0 – 0	0 – 0	32 – 5	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	0 – 0	33 – 5

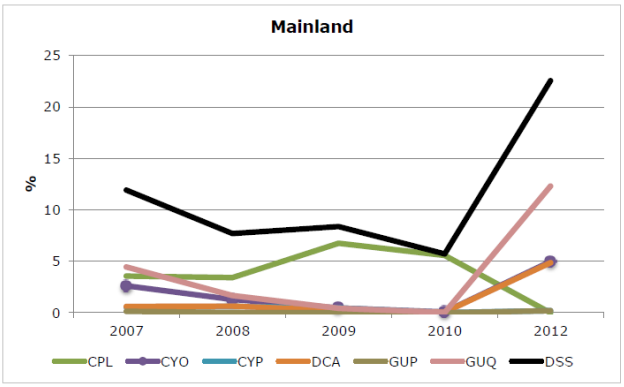
However, according to Ramos *et al.* (2013) and Fauconnet (pers. comm.) only seven of those species are the main deep-sea shark (DSS) species caught in the black scabbardfish fisheries in ICES Sub-areas IX, X and CECAF 34.1.1, 34.1.2 and 34.2 (Table 5.1.3).

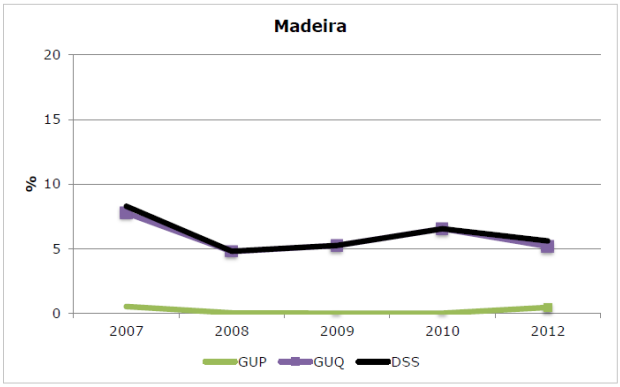
Table 5.1.3: Main (>10%) deep-sea shark species caught in the Portuguese black scabbardfish fishery (based on Ramos *et al.,* 2013 and Fauconnet, pers. comm.) in ICES Sub-areas IX, X and CECAF 34.1.1, 34.1.2 and 34.2.)

Common name	**Scientific name**
Leaf-scale gulper shark	***Centrophorus squamosus***
Portuguese dogfish	***Centroscymnus coelolepis***
Birdbeak dogfish	*Deania calcea*
Smooth lanternshark	*Etmopterus pusillus*
Longnose velvet dogfish	*Centroscymnus crepidater*
Shortnose velvet dogfish	*Centroscymnus cryptacanthus*
Knifetooth Dogfish	*Scymnodon ringens*

Bold has ICES advice.

DSS catches represent between 2% to 10-20% of total catches of the black scabbardfish fishery in weight (Aguiar, 2015; Bordalo-Machado *et al*., 2009; Ramos *et al*., 2013), although with a peak to 60% in 2009 in the Azores (Figure 1). Nevertheless, in the Azores, the proportion of DSS catch has been fairly constant since the late 1990's at around 4.5%, corresponding to around 200 tonnes of DSS catch (>90% discards), for all demersal gears combined (Figure 5.1.1).





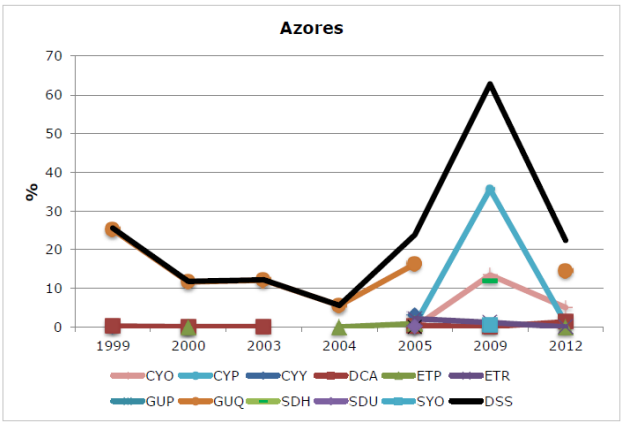


Figure 5.1.1: Percentage of deep-sea sharks (DSS) bycatch (total weight) in Portuguese mainland, Madeira and Azores black scabbardfish fishery for years 2007-2010 and 2012 (Ramos *et al.*, 2013). Black line represents all deep sea species combined (DSS).

The leaf-scale gulper shark is the most commonly caught DSS in the Portuguese black scabbardfish fishery. This species, jointly with Portuguese dogfish, is listed in CITES Appendix II as species of concern. They are also the only DSS species caught by the Portuguese black scabbardfish fishery that have ICES advice.

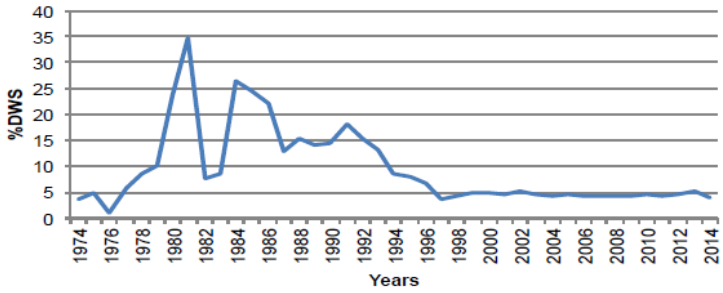


Figure 5.1.2: Proportion of DSS (%Deep Water Sharks - DWS) in relation to total catch by bottom fishing methods (bottom trawling, bottom handline and drifting pelagic longline) in the Azores. Directed fishery for *Dalatias licha* prohibited from mid 90's (Aguiar, 2015).

The leaf-scale gulper shark is the most commonly caught DSS in the Portuguese black scabbardfish fishery. This species, jointly with Portuguese dogfish, is listed in CITES Appendix II as species of concern. They are also the only DSS species caught by the Portuguese black scabbardfish fishery that have ICES advice. ICES advice (ICES, 2015) refers to the whole Northeast Atlantic, i.e. without considering possible stock differentiation, and states that fishing mortality should be minimized and no targeted fisheries should be permitted until 2019. The ICES advice is based on survey data.

The Portuguese longline black scabbardfish fishery is not catching young-of the years (as individuals between the minimum total catch length recorded and size at birth per species are not caught, see Table 20, Ramos *et al*., 2013) of any DSS, indicating that the fishery does not seem to match with any nursery area. However, the fishery does take more females than males for all DSS species caught and the majority of females are immature (Ramos *et al.*, 2013).

ToR 1.a Advise on specific management measures alternative to zero TACs for deep-sea sharks taken in the Portuguese longline black scabbardfish fishery, such as spatial-temporal constraints, technical measures or effort restrictions, including possible improvements to fishing techniques and gear selectivity, that go beyond a general academic description.

STECF notes that although the request refers only to the Portuguese black scabbardfish fisheries, deep-sea sharks are caught predominantly by other fisheries throughout their wide spatial distribution (corresponding to more than 90% of total DSS catches). In this context, STECF has noted previously that "*appropriate management measures for the conservation of these species should be extended to cover the full distribution of the stock*" (STECF 2014 Plen-14-02). Furthermore, the deep-sea sharks 0 TAC is applicable to all listed DSS species and all fisheries, not just to the Portuguese black scabbardfish fisheries operating in ICES Sub-areas IX, X and CECAF 34.1.1, 34.1.2 and 34.2. Although the Portuguese black scabbardfish fisheries operates in a relatively small part of the DSS total spatial distribution area, even low levels of catch can have a significant impact in the sustainability of DSS stocks. In addition, catches of many of the DSS species have a commercial value, and thus it is likely that a non-null TAC allowing for some commercial DSS landings could be a disincentive to avoid DSS catches.

STECF also notes that the TAC for black scabbardfish in areas VIII, IX and X has not changed since 2013 (3.700 tonnes) and is not restrictive (catches around 2.300 tonnes annually), that in turn do not reach the levels advice by ICES (2.700 tonnes) (ICES,

2016). This means that there is the potential of expanding the fishery and, hence, bycatch levels in the future.

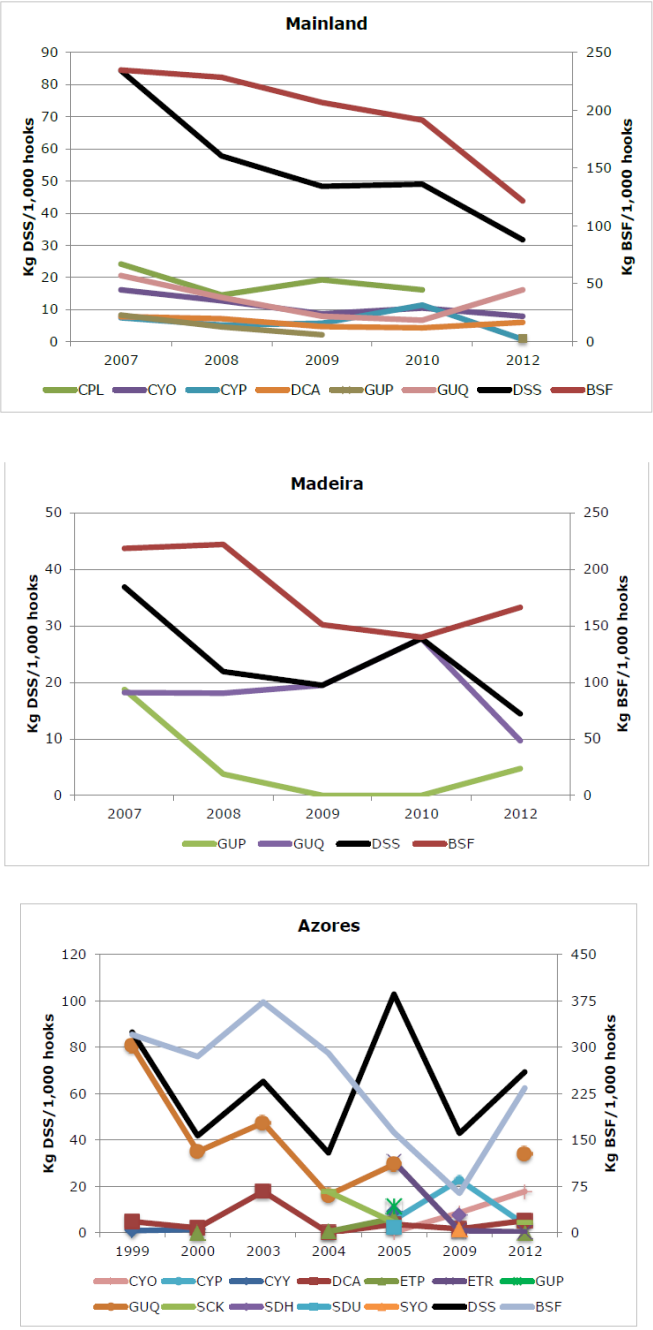


Figure 5.1.3: Landings per Unit of Effort (LPUE) of deep-sea sharks (DSS) and black scabbardfish (BSF) in Portuguese mainland, Madeira and Azores black scabbardfish fishery for years 2007-2010 and 2012 (Ramos *et al.*, 2013).

Regarding possible spatial-temporal constraints, STECF notes that DSS species overlap spatially with black scabbardfish (Ramos *et al.*, 2013; Figueiredo & Moura, 2016), but DSS species abundance is higher outside of main fishing areas. Also, as referred above, no nursery areas are likely being fished (Ramos *et al.*, 2013). ICES WGEF has discussed

the potential benefits for DSS of a "freezing" of current fishing grounds for the black scabbardfish fishery in area IXa in 2017 (Figueiredo, pers. comm.).

Finally, there is only one limited study carried out on gear selectivity in the Portuguese black scabbardfish fishery in 2012. The switch from wire to monofilament leaders tested did not contribute to reduce significantly the by-catch of any DSS species that occurred in 3 sampled fishing sets (Ramos *et al.*, 2013). A 2015 Spanish longline survey modified and tested different longline setting configurations for scientific purposes, but again there was no reduction of DSS bycatch. Furthermore, the gear operations trialled were not comparable to commercial operations (Figueiredo & Moura, 2016).

In view of the lack of information on spatial overlap, stock biology and effective gear modifications, STECF is not able to provide quantitative advice on specific management measures that could potentially reduce bycatch of DSS taken in the Portuguese longline black scabbardfish fishery. Nevertheless, the black scabbardfish TACs could be adjusted to actual catches to reduce the potential for future fishery expansions, which are likely to increase DSS bycatch. Additionally, and in conjunction to a 0 TAC, a reduction of fishing effort (for example in the number of hooks set) could potentially reduce DSS bycatch, assuming there is a relationship between fishing effort and bycatch. However, effort restrictions will undoubted carry an economic cost to the fishery and STECF is unable to quantify its impact. Finally, a "freezing" of the current fishing grounds for the black scabbardfish fishery in area IXa could be beneficial for DSS by avoiding potential additional DSS catches.

ToR 1.b. Indicate a level (or levels) of deep-sea sharks that could sustainably be taken as by-catch in the Portuguese longline fishery for black scabbardfish

STECF notes that ICES (2015) provides fishing opportunities advice for some of the DSS species grouped in the TACs, but only for two of the seven commonly DSS species caught by the black scabbardfish fishery (in bold below). However, ICES is not able to provide estimates of B_{lim} for any of the DSS species:

- ***Centrophorus squamosus.*** Fishing mortality should be minimized and no targeted fisheries should be permitted until 2019.
- ***Centroscymnus coelolepis***. Fishing mortality should be minimized and no targeted fisheries should be permitted until 2019.

The other species below do have an ICES advice but are less commonly caught in the Portuguese the black scabbardfish fishery:

- *Dalatias lichia*. Fishing mortality should be minimized and no targeted fisheries should be permitted until 2019.
- *Galeus melastomus*. Catches in 2016 and 2017 should be decreased by 4% compared to the average of 2012–2014. The exact levels of catch are unreliable as discard levels are considered to be high and highly variable and a substantial part of the landings is not reported at species level.
- *Galeorhinus galeus*. Landings should be no more than 283 tonnes in each of the years 2016 and 2017. Discarding is known to occur, but is variable and quantities of dead discards have not been estimated.
- *Squalus acanthias*. There should be no target fishery and bycatch should be minimized. Survival of discards is highly variable. Bycatch should be managed as part of a rebuilding plan, including close monitoring of the stock and fishery.

Furthermore, Figueiredo & Moura (2016) states that the ICES "WGEF does not have sufficient and quality information to propose acceptable by-catch values of deep-water sharks for the Portuguese longline fishery or any other deep-water fishery."

STECF is not able to provide level(s) of deep-sea sharks that could sustainably be taken as by-catch in the Portuguese longline fishery for black scabbardfish due to the limited information available on the status of the stocks of any of the seven species commonly caught, and also by the lack of B_{lim} estimates for any of the species considered.

ToR 2 List specific actions, actors involved and a timeline with a view of addressing data and information shortcomings.

Since STECF is unable to address quantitatively ToR 1a and b, STECF therefore addresses ToR 2, i.e. list of specific actions, actors involved and a timeline with a view of addressing data and information shortcomings (Table 5.1.4).

Table 5.1.4: List of proposed specific actions, actors involved and a timeline with a view of improving the biological and ecological knowledge of DSS, and the assessment of the effects of the potential mitigation measures (based on information from Figueiredo & Moura, 2016; Stratoudakis *et al*., 2015).

Action	**Proposed Actors**	**Proposed Timeline**
ICES proposed fishery independent longline surveys in ICES Divisions VIII and IX for deep-water species	ICES (AZTI, IEO, IPMA and IFREMER)	2017/2018
Increase onboard observations from existing/new monitoring programmes across NEA (collecting levels of catch, species ID, biological sampling, etc.)	Industry Research Institutions	2016
Study of DSS habitat preferences (ex: logbook correlation with environmental data such as currents, temperature and bottom type, etc.)	H2020 DiscardLess Project Research Institutions	2017/2018
Specific studies on possible mitigation measures, namely on gear modifications such as n. hooks set, different baits, etc.	H2020 DiscardLess Project Research Institutions	2017/2018
Survival studies of DSS discards (ex. improve survivability of bycaught DSS).	H2020 DiscardLess Project Research Institutions	2016/2017

STECF conclusions

In view of the lack of information on spatial overlap, stock biology and effective gear modifications, STECF is not able to provide quantitative advice on specific management measures that could potentially reduce bycatch of DSS taken in the Portuguese longline black scabbardfish fishery. Nevertheless, the black scabbardfish TACs could be adjusted to actual catches to reduce the potential for future fishery expansions, which are likely to increase DSS bycatch. Additionally, and in conjunction to a 0 TAC, a reduction of fishing effort (for example in the number of hooks set) could potentially reduce DSS bycatch, assuming there is a relationship between fishing effort and bycatch. However, effort restrictions will undoubted carry an economic cost to the fishery and STECF is unable to quantify its impact. Finally, a "freezing" of the current fishing grounds for the black scabbardfish fishery in area IXa could be beneficial for DSS by avoiding potential additional DSS catches.

STECF is not able to provide by-catch level(s) of deep-sea sharks that could sustainably be taken as by-catch in the Portuguese longline fishery for black scabbardfish due to the limited information available on the status of the stocks of any of the seven species commonly caught, and also by the lack of B_{lim} estimates for any of the species considered. STECF notes that catches of many of the DSS species have a commercial value, and thus it is likely that a non-null TAC allowing for some commercial DSS landings could be a disincentive to avoid DSS catches.

Considering the points above, namely that STECF is unable to address quantitatively ToR 1a and b, STECF therefore addresses ToR 2, i.e. list of specific actions, actors involved and a timeline with a view of addressing data and information shortcomings (see Table 4 above). These actions will contribute to increase the biological and ecological knowledge of the DSS and a better assessment of the effects of the potential mitigation measures.

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5.2 Measures to avoid by-catches of red seabream in areas VI, VII, VIII

Background

During the fisheries Council meeting of November 2014, Council and Commission included the following in a statement related to the stocks of red seabream:

"Council and Commission acknowledge that Member States commit to putting in place measures by 31 May 2015 to limit by-catches of red seabream in EU and international waters of VI, VII, and VIII. Council and Commission commit to have these measures evaluated by the appropriate scientific bodies in the course of 2015, to assess the effectiveness of the measures put into place and whether additional measures may be needed."

DG MARE asked Member States which measures they have in place, MS responses indicate that some MS may have landing limits in place, but no MS seems to have selectivity measures or spatial and temporal closures in place to avoid by-catches of red seabream.

ICES advice for red seabream notes that the stock is depleted and that catches in these areas are almost all by-catches of longline and otter trawl fleets. ICES recommends that measures should include protection for areas where juveniles occur.

Request to the STECF

STECF is requested for the stock of red seabream in areas VI, VII and VII

1. to identify areas where juveniles occur;
2. to identify spawning aggregations;
3. to identify area closures that would offer protection of juveniles and spawning aggregations and to provide comment on the potential efficacy of such closures;
4. to provide an opinion on other measures that could be introduced to assist the recovery of the stock.

STECF response

The STECF response draws heavily upon a document provided to the plenary by Pascal Lorance (pers. comm.).

For the assessment of (blackspot) red seabream (*Pagellus bogaraveo*), ICES considers three different components: a) Areas 6, 7, and 8; b) Area 9, and c) Area 10 (Azores region). Available information, particularly genetics and tagging, seems to support this assumption (ICES, 2016a).

According to the latest assessment (ICES, 2016a), the stock in ICES subareas 6, 7 and 8 is seriously depleted with no indication of recovery. The fishery strongly declined in the mid-1970s (Lorance, 2011) from annual landings around 15 000 tonnes to around 200 tonnes in recent years. The latest ICES advice for 2017 and 2018 is that "*when the precautionary approach is applied, there should be zero catch in each of the years 2017 and 2018*" (ICES, 2016b).

Two countries, Spain and France account for the majority of the landings. According to the Fisheries Dependent Information (FDI) STECF database (https://datacollection.jrc.ec.europa.eu/dd/effort), current catches are mainly located in

three specific areas (Figure 5.2.1): the western part of the Cantabrian Sea and along the slope West and South of Brittany for the Spanish fleets and West of Brittany for the French fleet. It must be noted that no (or partial) statistics are reported on the catch of juveniles by artisanal and recreational fisheries in coastal areas.

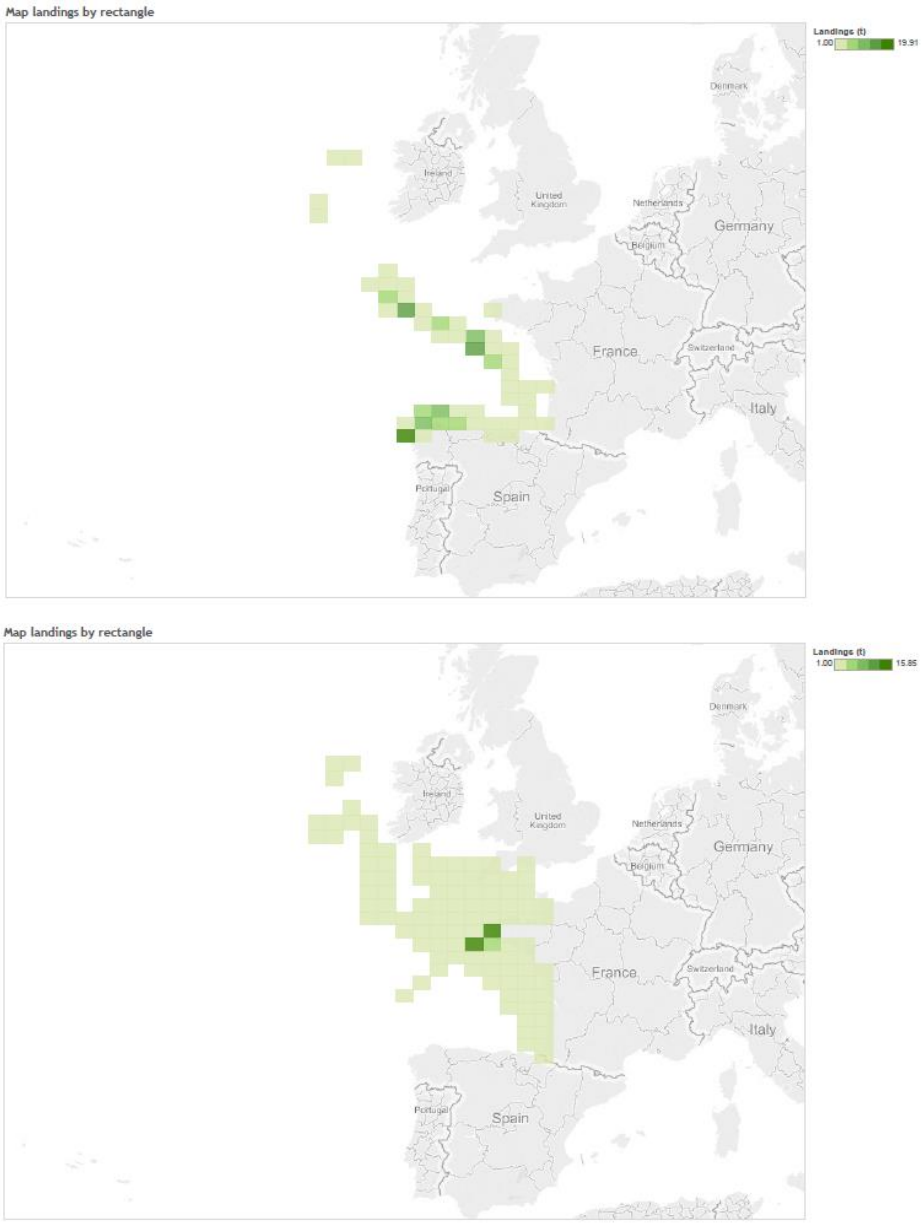


Figure 5.2.1: Distribution of landings by rectangles for Spanish (top) and French (bottom) fleets in 2014 in subareas 6, 7 and 8. (Fisheries Dependent Information database, STECF/JRC, average 2011-2014)

Landings by gear and ICES subareas are presented in Table 5.2.1 for the two main countries landing blackspot seabream. Landings are mainly from subareas 8 and the main gears used are longline followed by trawls and nets.

Table 5.2.1: Average landings (2011-2014) of blackspot seabream by ICES subareas and gears (Fisheries Dependent Information database, STECF/JRC). No landings were reported from subarea 6.

	Spain		France			
	Subarea 7	Subarea 8	Subarea 7	Subarea 8	Total (t)	Total (%)
Lines	25	78	11	5	120	62%
Gillnet		4	2	7	13	7%
Trammel net		1	0	1	2	1%
Bottom trawl		26	4	9	39	20%
Pelagic trawl			4	1	5	3%
Miscelaneous	5	7	1		13	7%
Total (t)	30	117	21	23	191	

Species profiles of the landings by main gears catching blackspot seabream are presented in Figure 5.2.2 and 5.2.3 for Spain and France. It must be noted that those profiles are based on data aggregated over one year. Thus, the fact that several stocks are landed in significant quantities by a given gear catching blackspot seabream does not necessarily mean that those stocks are all caught during the same fishing operations. Results are however indicative of the main species potentially caught together with blackspot seabream.

From the data available from the FDI database, it appears that for the Spanish fleets, blackspot seabream is a bycatch in the longline fishery catching mainly hake in subarea 7 and 8, the gillnet fishery catching mainly hake in Subarea 8, the hand line fishery catching mackerel in Subarea 8 and the trawl fishery catching mainly blue whiting in area 8.

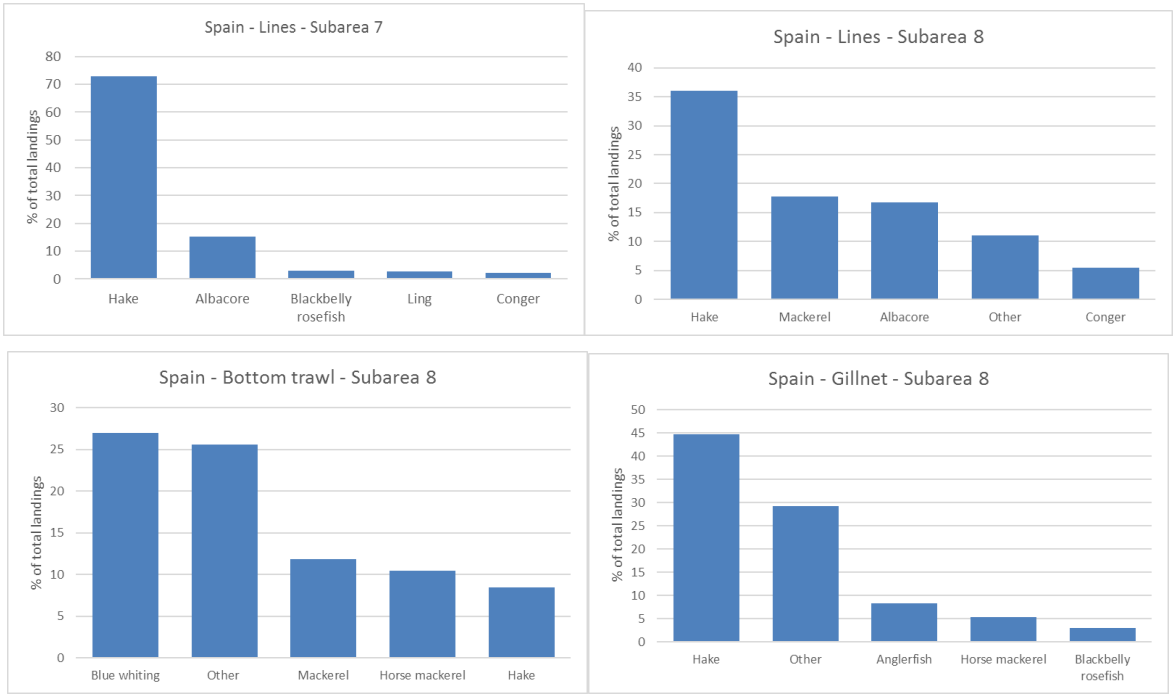
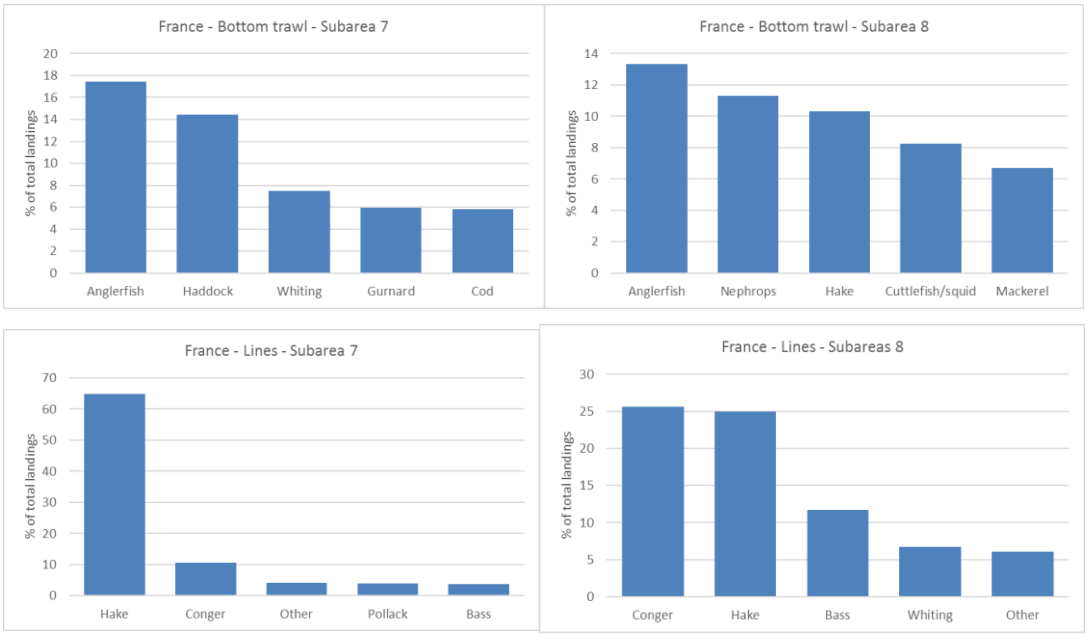


Figure 5.2.2: Species profiles (ranked 5 first species in percentage of total landings) of the landings by main gears from Spanish fleets catching blackspot seabream (average 2011-2014, Fisheries Dependent Information database, STECF/JRC)

For the French fleets, blackspot seabream is a bycatch in a lines (longline) fishery catching mainly hake and conger in subarea 7 and 8, a gillnet fishery catching mainly hake in Subarea 7 and 8, a bottom trawl fishery catching a mixture of demersal species and a pelagic trawl fishery.



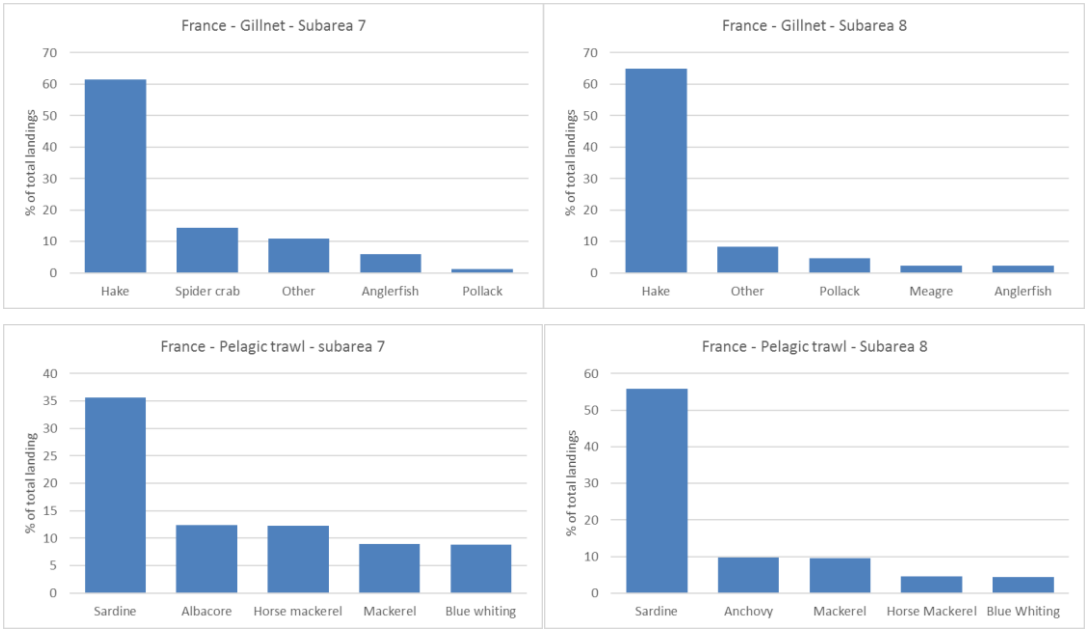


Figure 5.2.3: Species profiles (ranked 5 first species in percentage of total landings) of the landings by main gears from French fleets catching blackspot seabream (average 2011-2014, Fisheries Dependent Information database, STECF/JRC)

Because of the low level of the stock during the past 30 years and limited research carried out on that species in the Celtic sea, the English Channel and the Bay of Biscay, very little information is available on the stock distribution, its spatiotemporal dynamics and on its habitat preferences. As a consequence, information presented below come largely from studies prior to the 1980s or from studies outside subareas 6, 7 and 8. This information is provided on the assumption that observations made in the past or on the same species but in another area could still be valid for the stock of blackspot seabream in subareas 6, 7, 8 in its current status.

At the current level of abundance, the blackspot seabream is rarely caught in the northern surveys by French IBTS (Divisions VIIf,g,h,j; VIIIa,b, and VIId) and Irish IGFS (Divisions VIa South and VIIb). ICES (ICES, 2016a) considers that the current survey would be appropriate to detect and monitor a recovery of the stock if it ever happens.

ToR 1. Identify areas where juveniles occur

Before the stock depletion in the 80s, juveniles were present all along the Bay of Biscay and South Ireland coasts (Priol, 1932). In the English Channel, the abundance of juveniles was decreasing from the west to the east (Debrosses,1932): along the English coasts, juveniles from 20 to 25 cm occurred along Cornwall and Devon and were fished from coastal angling and, along the French coasts, juveniles were fished from spring to autumn along Northern Brittany up to the Normand-Breton Gulf where catch at Granville were reported. In the Cantabrian sea, juveniles have been reported to be more abundant towards the west, along the coast of Galicia and Asturias.

In recent years, no high resolution data on distribution or abundance of juveniles is available. From existing information however, it is clear that the distribution of juveniles is patchier than in the past. To the West of Brittany, there are anecdotal records of occurrence of juvenile blackspot seabream in the bay of Brest and Douarnenez. The

species occurs within the area of the Parc Naturel Marin d'Iroise (PNMI, West of Brest) and is explicitly mentioned in the management plan of this Marine Protected Area (PNMI, 2010). On the Spanish coast, juvenile blackspot seabreams are reported to be caught along the Cantabrian Sea coast from Galicia to the West to the Basque Country.

According to Priol (1932), juveniles are predominantly distributed in coastal areas over rocky bottoms although some catches on sandy and muddy seabed were also reported. Recent data from the Azores confirm this distribution pattern and Pinho (2015) shows that fishing areas are located close to the shore line in waters shallower than 50m. According to Santos et al. (1995) and Lorance (2011) the young of the years (age 0) tend to shelter in inshore areas, forming dense schools and using these areas as nurseries. Blackspot seabream is, according to Priol (1932), a stenothermal fish: individuals arrive at the coast in the late spring and migrate back to deeper water in autumn as soon as coastal waters temperature decreases.

ToR 2. Identify spawning aggregations

As mentioned by Pinho (2015) for blackspot seabream from the Azores (but this comment also applies to the stock in ICES subareas 6, 7 and 8), "*the location of spawning areas, egg and larval distribution, abundance and transport, as well as adult migration routes and timing are poorly known*".

Around the Azores, large adults are found on isolated seamounts while juveniles occur in coastal areas of the islands and are never found on isolated seamounts (Pinho, 2015). This indicates that larvae are transported to the coast, juveniles stay in coastal nurseries during 1 or 2 years and when they become mature, they migrate towards offshore and deeper waters where they reproduce.

For the stock in ICES subareas 6, 7 and 8, anecdotal observations and limited published information are available but those are insufficient to identify the main spawning aggregations of the species:

a) From the French on-board observations programme (Figure 6.2.4), adult blackspot seabreams occur more frequently near the continental slope on the West of Brittany although non negligible catches are also reported in more coastal areas. They are targeted by artisanal longliners on fishing grounds known as "Chaussée de Sein" to the West of the Sein Island. The spawning status of fish caught in this area is unknown.

b) Small number of eggs and larvae of blackspot seabream were caught in front of the Gironde estuary from several ichthyoplankton surveys carried out in the Bay of Biscay in the mid-sixties (from 1964 to 1966, Arbault and Boutin, 1969).

c) Egg and larvae of blackspot seabream were observed in larger numbers in zooplankton samples collected in the central Cantabrian Sea during two surveys (in summer 2008 at the longitude of about 5.7 °W and in winter 2012 in Galician waters between longitude of 7.6 and 9.7 °West, i.e. to the West of ICES Division 8.c (Rodriguez et al., 2011, 2015), see map in Figure 5). Blackspot seabream larvae represented however a very small percentage (0.4%) of all fish larvae counted excluding the most abundant pelagic species sardine, mackerel and blue whiting.

d) A tag-recapture study showed that adult blackspot seabream caught to the north of the Bay of Biscay and further north overwinter in the Cantabrian Sea (Guéguen 1974, Figure 5.2.5). Therefore, the stock might aggregate within a smaller area in winter and may be more vulnerable at that time.

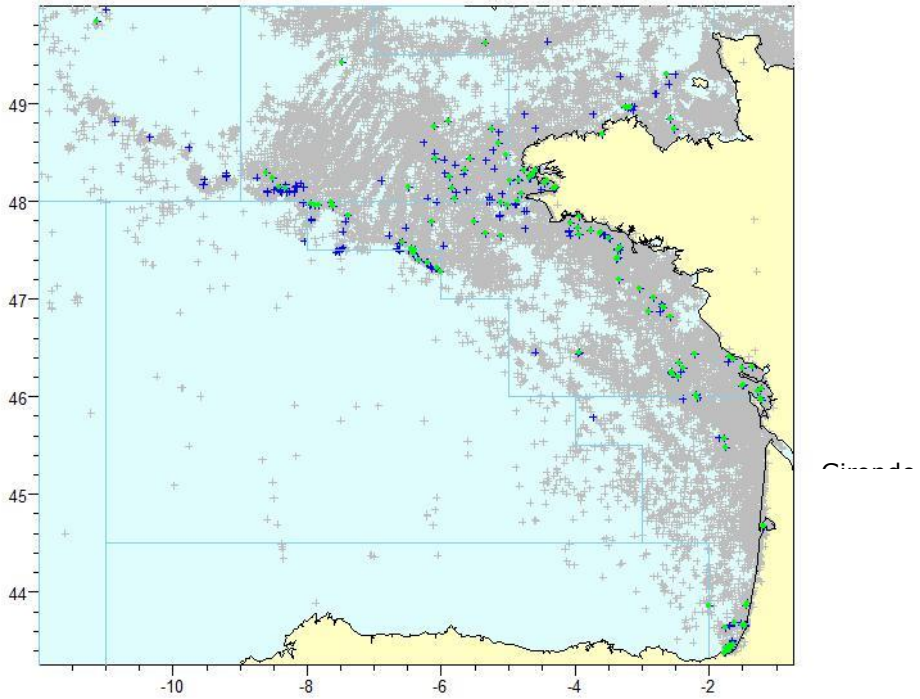


Figure 5.2.4: Occurrence of adults and juveniles of blackspot seabream in the French observer programme from 2007 to 2015. Grey: position of fishing operations without catch of blackspot seabream. Blue: fishing operations with catch of blackspot seabream >33cm. Green: fishing operations with catch of blackspot seabream <=33cm.

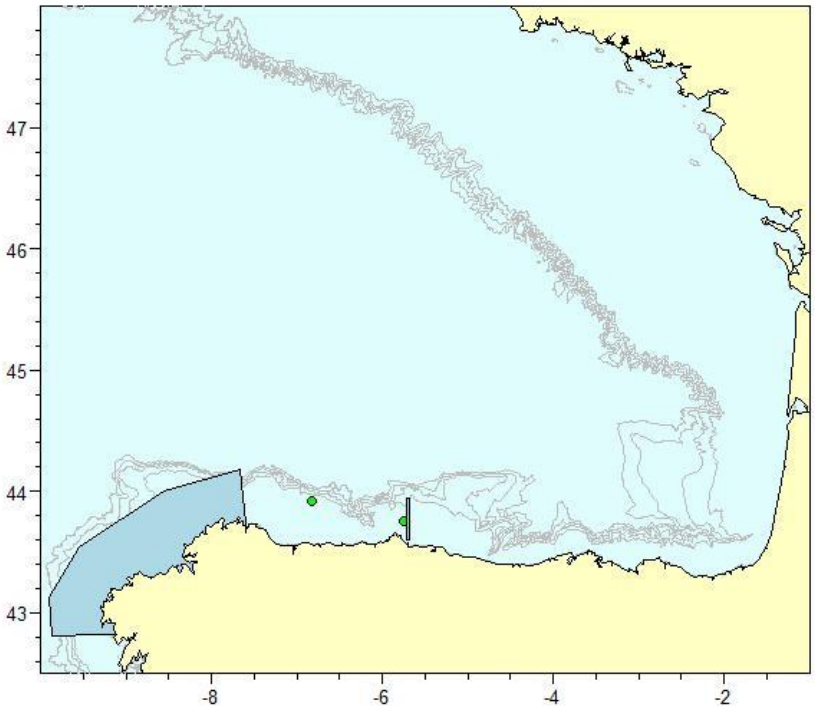


Figure 5.2.5: Approximate location of zooplankton sampling areas where larvae of blackspot seabream were collected (blue area to the West and transect line by 5.7°W,

redrawn from Rodriguez et al., 2011, 2015) and location of tagging operations carried out in the 1970s (green dots, locations of tag releases from Guéguen 1974).

Regarding seasonality of spawning, there is no recent data on the spawning season in the Bay of Biscay and Celtic seas. According to Olivier (1928), the spawning period lasts several months but starts later in the year in the northern part of the stock distribution than in its southern part. The spawning season would thus extend from January to March in the South of the Bay of Biscay and from August to November in the Celtic sea (Figure 6).

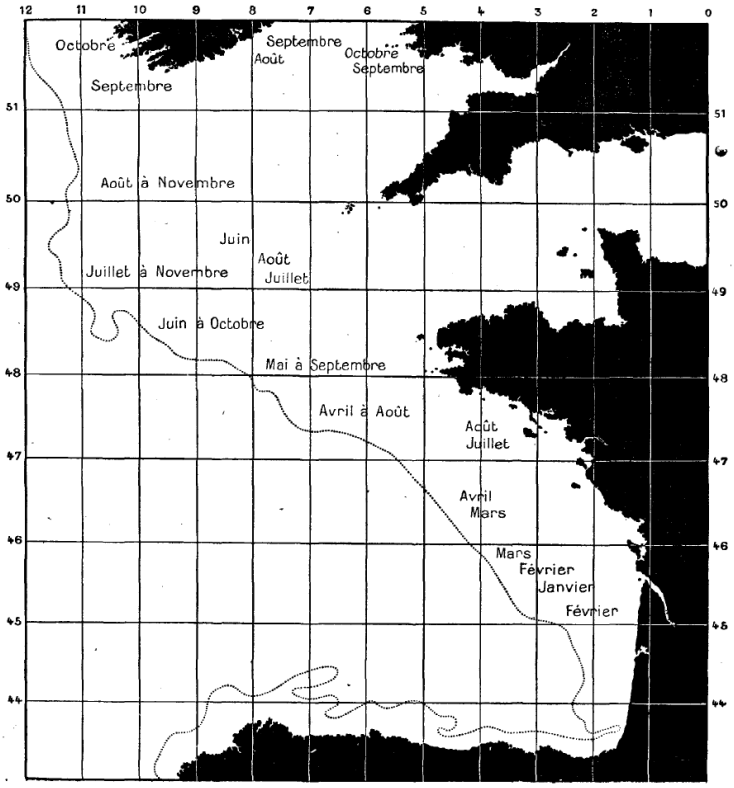


Figure 5.2.6: Spawning season of the blackspot seabream in European waters, (Olivier, 1928).

ToR 3. Identify area closures that would offer protection of juveniles and spawning aggregations and provide comment on the potential efficacy of such closures

The information presented above is helpful to provide broad indications of the location of juveniles and spawning aggregations areas. It is however not precise enough to identify specific area closures that would offer protection to blackspot seabream and comment on the efficacy of such closures.

ToR 4. Provide an opinion on other measures that could be introduced to assist the recovery of the stock.

Very little or limited information is available on both the biology of the species (stock limits, life traits and spatiotemporal dynamics) and its exploitation (catch and effort data). In order to suggest (and evaluate) management measures that could help the

recovery of the stock, STECF considers essential to improve knowledge on both the biology and the exploitation of the stock.

Research projects aiming at locating the main nursery areas and spawning aggregations should be encouraged. Limiting catches in those areas (if substantial areas are closed for long enough periods) has the potential to reduce significantly fishing mortality on the stock and thus allow a faster recovery. It must be noted however that:

a) at the current very low level of the stock any measures likely to reduce fishing mortality could be expected to have a positive effect on the abundance of the stock,

b) the potential for the stock to rebuild to past levels is however unknown and, more particularly, it is not known if the carrying capacity of the ecosystem for the species has remained the same (Lorance, 2011).

Regarding nurseries, surveys of commercial and recreational fishers could be used to identify the main areas.

Better catch statistics are also needed, more particularly for the fisheries which are not (or only partly) reporting their catches. This includes the recreational fishery for which no data are currently available but could locally be important (angling and underwater fishing) and the artisanal fishery catching the species in small quantities and thus reporting it together with other species of the same family (Sparidae) and similar general reddish coloration: the axillary seabream (*Pagellus acarne*), the common pandora (*Pagellus erythrinus*) and the red porgy (*Pagrus pagrus*).

STECF notes that the current ICES advice is for a zero catch (ICES, 2016b). As blackspot seabream is not yet under the landing obligation, a zero TAC will likely lead to an increase in discards (which are currently at a low level) in the bycatch fisheries. As these fisheries contribute to the largest part of the catches, the effect of a zero TAC on the overall fishing mortality might be limited (if the survival rate which is unknown at present is low). In that context STECF considers that further measures to mitigate bycatch (like gear modifications for instance) would be needed to better guarantee a reduction in fishing mortality on the adult stock. No studies on such mitigation measures to reduce the bycatch of blackspot seabream in the longline, gillnet and otter trawl fisheries are currently available so STECF is unable to make any specific recommendations. Furthermore, owing to the coastal distribution of juvenile blackspot seabream, measures to minimise the catch in recreational fisheries could be envisaged. STECF is however not able to assess the potential impact these measures could have on the stock dynamics and its recovery.

STECF conclusions

1. Limited information is available on the distribution of juvenile blackspot seabream from subareas 6, 7 and 8. Juveniles used to occur along the coast of the Bay of Biscay (Spanish and French), on both sides of the Eastern Channel and along the southern coast of Ireland. Nowadays, areas of occurrence are patchier with main locations in the West of Brittany and the Cantabrian Sea, where the species is probably more abundant to the West. Juvenile blackspot seabream occur at the coast preferentially on rocky habitats and hard seabed, including man-made habitats such as harbours. Estuaries, muddy areas, shallow sedimentary bays are expected to be the least suitable habitats.

2. Limited information is available on the location of the spawning aggregation areas. Spawning occurs over the offshore shelf and/or at the shelf break. As eggs and larvae have been observed in recent ichtyoplankton surveys in the Cantabrian sea, some spawning might be located in this area. The location of spawning areas

in other parts of the stock distribution is currently unknown but, at the current low stock level, abundance and therefore spawning in more northern areas, e.g. the Celtic Sea, might be minor.

3. With the limited information on the distribution of juvenile and on the spawning aggregations area, STECF cannot identity area closures that would offer protection to blackspot seabream and comment on the efficacy of such closures.
4. STECF considers that measures to reduce catches are needed to reduce the fishing mortality on stock. STECF is not able to make specific proposals on mitigation measures or management measures.
5. STECF considers that in order to suggest (and evaluate) management measures that could help the recovery of the stock, it is essential to improve the knowledge on both the biology and the exploitation of the stock. To this aim STECF concludes that:
    a. research projects aiming at locating the main nursery areas and spawning aggregations should be encouraged.
    b. catch statistics are needed for the fisheries which are not (or only partly) reporting their catches. This includes the artisanal fishery catching the species in small quantities and thus reporting it together with other species of the same family (Sparidae) and similar general reddish coloration.

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5.3 Management of Coquille Saint Jacques in the Baie de Seine/ Western Channel

Background

Scallops or Coquille Saint Jacques (*Pecten maximus*) are not currently subject to a TAC. At EU level a minimum conservation reference size of 100mm is established in Council Regulation (EU) No 850/98 and effort limitations are implemented by Council Regulation (EC) No 1954/2003 (the Western Waters regime).

Furthermore a number of spatial and technical control measures have been adopted by national legislation. National legislation in France provides

1. for a closure of the scallop fishery from 1 May until 1 November for this area to protect the stock and allow scallops to mature above the MCRS and
2. For a minimum internal ring size in dredges of 92mm.

Vessels of other Member State are however not uniformly bound by the same closure or the same technical measure. This has led to situations where vessels fishing for scallops are under different management requirements, i.e. with different access restrictions and different gears in use, which may ultimately undermines the conservation objective of these measure.

France has provided two IFREMER reports; an annual evaluation and an analysis of the management of the stock of scallops in the Baie de Seine. These reports establish that there has been a strong recruitment in 2013, as well as a large number of smaller under MCRS scallops currently in the area. The 2015 report makes recommendations on further management measures.

Request to the STECF

STECF is referred to the assessment and analysis of the scallop stock in the two areas in the Baie de Seine and are asked to confirm if the following measures have a positive impact on the scallop stock;

1. Setting a minimum internal ring size in dredges of 92mm, STECF are specifically asked to identify the change in selection size that this would deliver; and
2. Operating a fishing season from 1st November to 30th April only, for both areas for all fleets.

STECF are asked to give any further recommendation on measures to protect the maturing stock in these areas.

STECF response

The response is based on the two comprehensive original reports from Ifremer "Evaluation annuelle des coquilles Saint-Jacques de La Baie de Seine: résultats de la campagne COMOR 45" (2015) and "Eléments d'analyse concernant la dynamique et la gestion du stock de coquilles Saint-Jacques de la baie de Seine" (2016).

The scallop is not managed at Community level (with the exception of the minimum catch size to 100 mm in European waters, except in the Irish Sea (ICES Division VIIa) and in the Eastern Channel (ICES Division VIId) where it is fixed at 110 mm). In the bay of St-Brieuc (and also in all small sea grounds in Brittany), the local regulation enforces 102mm instead of 100mm.

The scallop fishery in the bay of the Seine is a predominant French fishery (about 80% landings).A complex system of regulating fishing effort was put in place in France over time, based on a reduction in fishing (fishing season set at national level from October to May, limitation of the number of fishing days per week and the number of hours per fishing day), technical measures (restrictions on the size and power of the vessels, the number of dredges), and on improving the selectivity of gear (obligation to use dredges ring of 92 mm diameter since 2006).

However over the last few years, British and Irish fleets, not regulated by the French national constraints, increased their scallop's fisheries in the English Channel, using dredges with ring size of 85 mm. Although a "gentleman's agreement" has been reached with the United Kingdom in 2013 (which include the compliance with French opening periods in return for trade in kW/D), Irish vessels continue to fish up to the limit of the French territorial waters during all periods of the year.

The exploited sources are:

- the Seine bay in its entirety,
- the pool located in the north-east of Dieppe,
- a third source of lesser importance at the Centre of the channel, around the bay of Greenwich.

Overall 40%-60% of the French total landings are originating from the bay of the Seine (rectangles 27E9 and 28E9).

Ifrémer analysed the dynamics of the fleets operating in the Seine bay with a focus on the zone in French territorial waters extending beyond 12 miles to the north and the south coast, and more specifically as set out in the prefectural decree of the Upper Normandy Region No 140-2015 "Regulating scallop fishing on the pool classified the bay of the Seine". The 'bay of the Seine' corresponds to the whole scope of the area between the French coast to the south and the parallel 49°41 North, and the 'bay of the Seine external' (external ZEBS – marked blue in Figure 5.3.1) is the area between the parallel 49°41 North and the limit of 12 miles.

Although accessed by other than French fleets, the ZEBS area is mainly a French fishery (74% of the vessels, 91% of the fishing days and 80% of the fishing hours). Spatial distribution (2012-2015) revealed that occasionally (in 2012, Figure 3) non-French vessels, not submitted to the French fishing season set at national level from October to May, have substantial effort deployment in September. This exceptional high effort deployment in 2012 is very much linked to the availability of the biggest year class (cohort 2010) from the available time series (2004/2005-2015), just entering the fisheries.

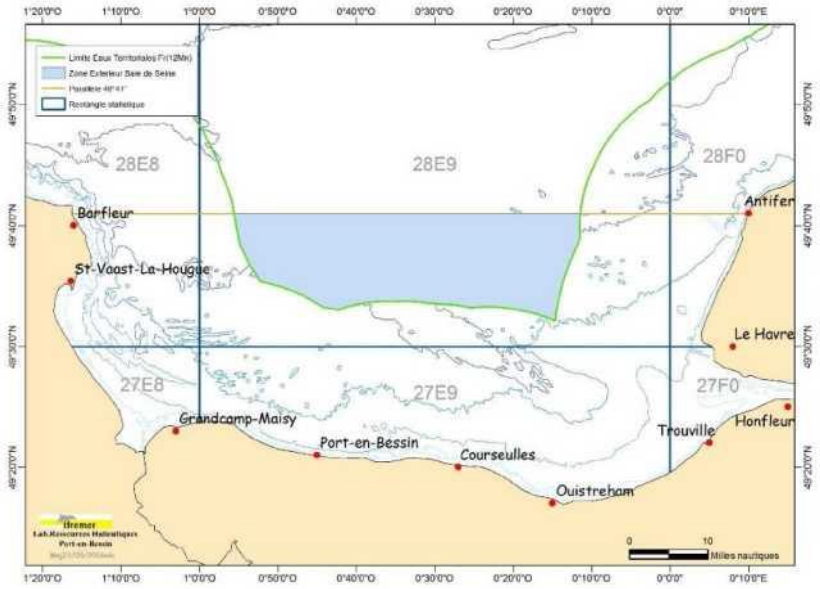

Figure 5.3.1: Bay of the Seine (south of 49°41) and external areas (Bay of the Seine ZEBS, blue).

Ifrémer conducts each year a summer scientific survey (July) in the classified ground of bay of Seine (located in French territorial waters) and the external ZEBS.

The results of the 2015 assessment show, for all the areas surveyed an excellent recruitment of 1 year old individuals (cohort 2014). The index for both area's is the second highest of the time series (2004/2005-2015).

The 2015 index of the 2 years old individuals (cohort 2013) for both areas is also the second highest observed in the time series.

The 2015 indices of the 3 years old and older individuals are low.

The two recent good year classes (cohort 2013 and 2014) are predicted to raise the biomasses in both areas to about 20% above the series average.

Both good year classes will largely contribute to the population during the 2016-2017 fishing season.

The stock is currently increasing. In the bay of the Seine, the estimated total biomass (14138 tonnes) is higher than the average over the last 10 years (11 896 t), quite evenly distributed across the Bay with very high densities in some areas.

For the outside of the bay of the Seine, the estimated total biomass (10779 tonnes) is higher than the average over the last 10 years (8 680 t). It is of the same order of magnitude as in 2013 but will only be fully available when all of the 2013 cohort has reached the minimum landing size.

There is no biomass reference points B_{lim} defined.

STECF considerations

ToR 1. Setting a minimum internal ring size in dredges of 92mm, STECF are specifically asked to identify the change in selection size that this would deliver

At the moment there is no EU legislation on minimum internal ring size for dredges in the scallop fisheries in the English Channel. Different countries use different ring size. To improve selectivity, France introduced a national obligation to use dredge-rings with a minimum of 92 mm diameter.

No length compositions of catches were provided to STECF from dredges using both ring sizes. France provided the results of a catch comparison experiment comparing two dredges with rings of 85 and 95 mm. The catch comparison experiment carried out by IFREMER resulted in a higher efficiency for large size scallops for the dredge with rings of 95 mm compared to 85 mm, which seemed counterintuitive to STECF.

STECF tried an alternative approach to calculate the possible selective differences between the two dredges based on literature results and using the length frequency distribution of the scallop population in the bay of the Seine reported in one of the IFREMER report.

STECF selected Lart et al. (2003) as a reference study, which provides useful information on the effect of ring size on scallop dredge selectivity. The diameters tested were 85 and 92 mm, results are reported in **Error! Reference source not found.** and Figure 5.3.1. A relevant effect of ring diameter can be noted on both L50 and SR. Based on the population present in the studied area, STECF calculated for the two scenarios, the percentage of the fractions below (nP-) and equal to or above (nP+) the minimum landing size (MLS of 110 mm) expressed as specimen number. See for calculations and details Herrmann et al. (2012) and Sala et al. (2015).

The indicator nP_- provides a fast estimate of the fraction of undersize fish retained (< MLS), thus providing information on the size selectivity of a given gear towards the small fish of a given population. The value of nP_- should therefore be as low as possible. Similarly, indicator $nP+$ provides information on the efficiency of a given gear in selecting marketable sizes (≥ MLS) when fishing a given population. In such case, provided that the species being analysed is a target species, $nP+$ should be as high as possible (close to 100). Indicators based on weight (wP_-, $wP+$) can also be calculated using the same formulae. To do this, the weight w_ℓ of each individual of size ℓ must be estimated according to the general formula $w_\ell = a \cdot \ell^b$. The nP_- and nP_+ should be read together, because the optimum ring diameter is a trade-off between minimisation of retained undersized individuals (nP_-) and the lowest acceptable efficiency in retaining commercial-sized individuals ($nP+$).

Dredge efficiency and selectivity varies by dredge design. This and other technical properties of the dredge are important to identify the change in selection size and catch effort indices. To allow assessments and management advice, detailed gear information are therefore needed. STECF notes that both IFREMER reports do not describe the gears tested.

The scallop fraction under the MLS ($nP-$) caught by *ring 85 mm* is 24.5 %, with a selection efficiency for the commercial sizes, represented by $nP+$ of 96.9 %. The second dredge, having rings of 92 mm, had a very low retained fraction of undersized individual (4.1 %), with the efficiency of retaining commercial fraction (≥ MLS) of scallop of 82.6 % (Table 5.3.2).

Table 5.3.1: Experimental length at 50 % retention (L50) in relation with the ring size by Lart et al. (2003), see Table 7 page 559.

Ring dimensions		Estimates of L_{50}, L_{25} & L_{75} (mm)				
Ring id	Wire od	L_{50}	SD	CV %	L_{25}	L_{75}
85	10	96.6	2.9	3	91	102
92	10	107.6	3.8	4	103	112

Table 5.3.2: Size selection parameters, retained length 50 % (L50) and selection range (SR), estimated for the ring diameter of 85 mm and 92 mm. The mean values are calculated by Lart et al. (2003). For each scenario, besides the retained length 50 % and selection range, the table reports the percentage of the fractions below (nP-) and equal to or above (nP+) the minimum landing size (MLS of 110 mm) expressed as specimen number. See for calculation and details Herrmann et al. (2012) and Sala et al. (2015).

Parameter / ring	**85 mm**	**92 mm**
L50[mm]	**96.60**	**107.60**
SR[mm]	**11.00**	**9.00**
nP-[%]	24.5	4.1
nP+[%]	96.9	82.6

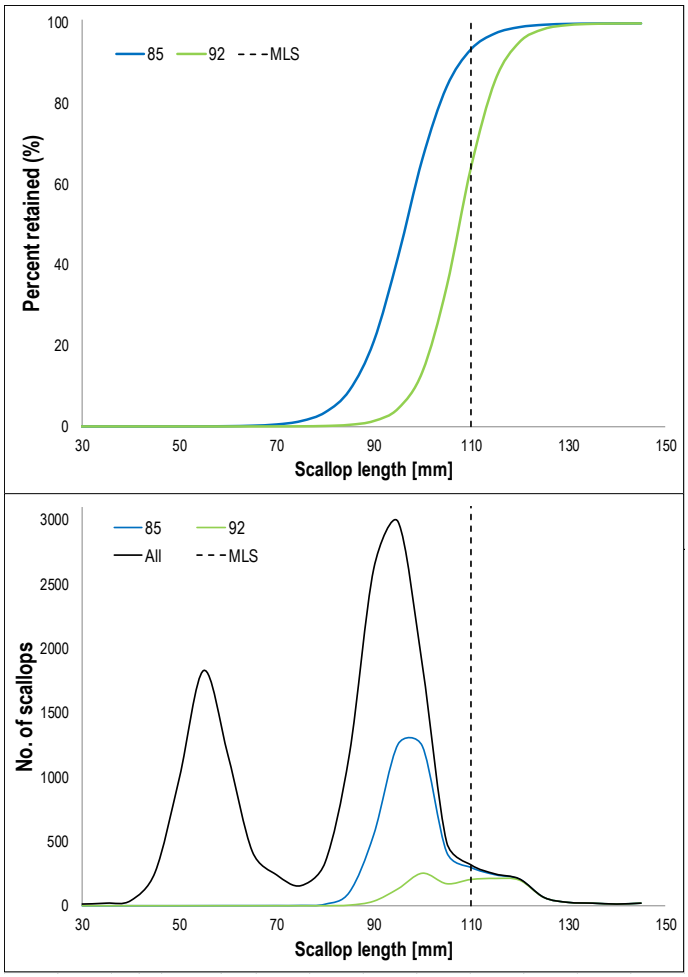

Figure 5.3.1: Retained scallops by the two dredges with rings of 85 and 92 mm based on selectivity values of Lart et al. (2003). The thick black continuous line represents the population surveyed in the IFREMER report.

STECF concludes that, in the dredge scallop fishery in the Bay of the Seine, shifting from a ring size of 85 mm to 92 mm reduce the capture of undersize scallops of a given population from 24.5% to 4.1%, corresponding to a reduction of 83% of the <MLS catches. Regarding commercial sizes (≥ MLS), the 92 mm dredge would reduce the selection of marketable sizes from 96.9 to 82.6%, corresponding to a loss of marketable size of 14.7%

STECF is asked to confirm if the increase in ring size has a positive impact on the scallop stock. STECF notes that while fewer undersized (and possibly >MLS) scallops are retained with the larger ring size, it is also necessary to consider the survival of undersized discarded scallops when considering the biological impact of dredge size. Although, there is no evidence specifically for this fishery and species, relevant studies indicate high levels of survival of discarded scallops of around 90% (e.g. Nall, 2011; Murawski 1989) although it can be influenced by spawning condition (e.g. Chandrapavan, et al. 2012). There will likely be positive benefits to the stock from avoiding capture undersized scallops, but these may be limited if discard survival is high. Also, the level of escapee mortality must be taken into account, whereby the higher the mortality of scallops entering and released from the gear, the lower the biological benefit of increasing ring size. Lastly, proposed legislative changes in selectivity should consider the

potential for incentivising changes in fishing effort and distribution as part of an assessment on the benefits to the stock.

ToR 2. Operating a fishing season from 1st November to 30th April only, for both areas for all fleets.

Currently the opening of the scallop fisheries for the French fishermen is set in 3 stages: 1st of October for the offshore areas (North of 49°41), 1st of November north of 12 miles limit and 1st of December bay of Seine (French territorial waters). Traditionally the bay of Seine (territorial waters, from the coast to the 12 miles limit) only open from 1st of December to end of February/middle of March (depend of the year and level of SSB).

STECF notes that there are two big year classes entering the fisheries (cohorts 2013 and 2014). There are evidence that in the past, an entrance of a big year class resulted in a substantial effort deployment of the fisheries from non-French fleets (not submitted to a season closure) in September. The French report "Eléments d'analyse concernant la dynamique et la gestion du stock de coquilles Saint-Jacques de la baie de Seine" (2016) provides the monthly effort distribution deployed by the non-French dredges and trawls for the years 2012-2015. The substantial effort deployed in September was only seen in 2012 when the largest observed year class was coming through as 2 year olds (Figure 5.3.3).

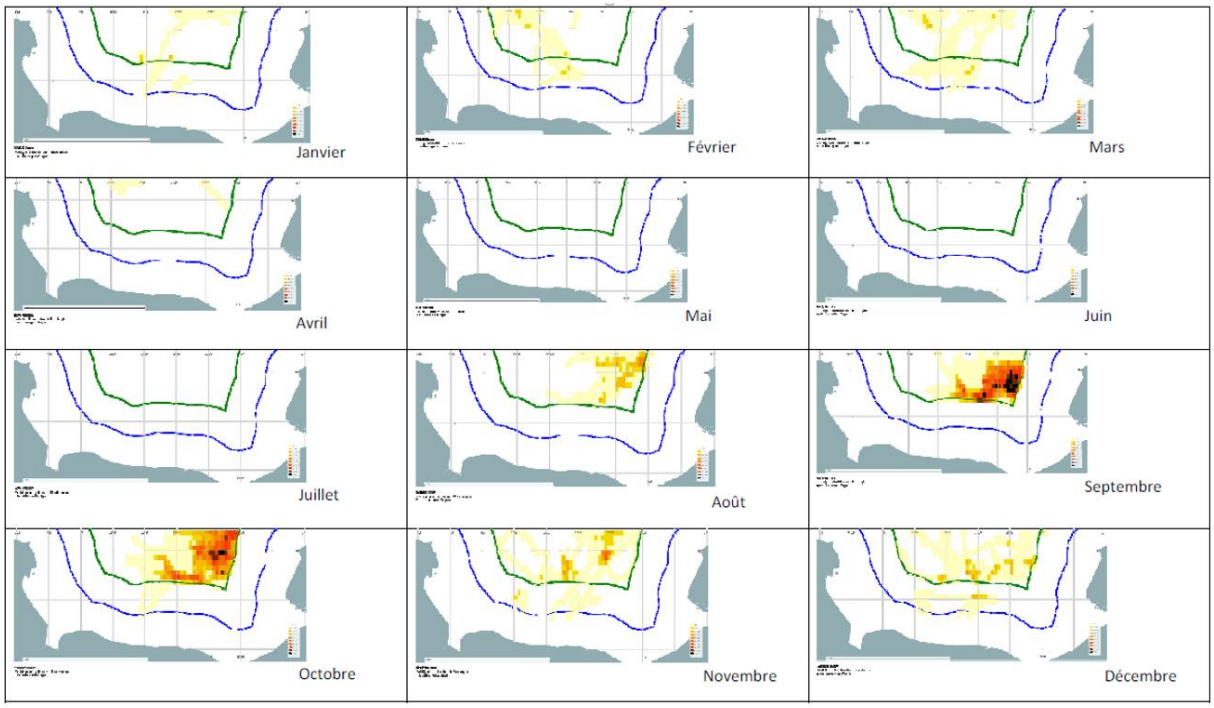

Figure 5.3.3: Monthly special distribution of effort by the non-French dredges and trawls in 2012. Foucher (2016)

The growth of scallops is rapid, particularly during the first two years of the life of the animal, and slows down thereafter. It reaches a maximum shell height around 140 mm (Figure 5.3.4).

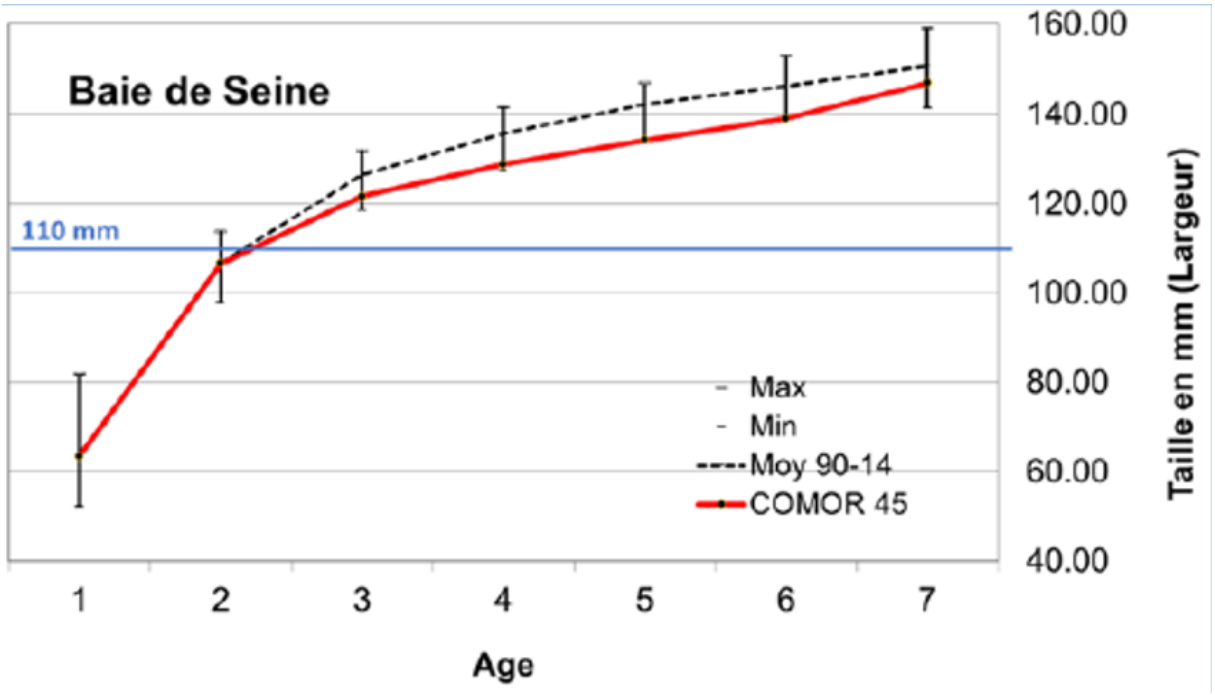

Figure 5.3.4: Medium-sized (1990-2014) of scallops inside the Bay of Seine, and average sizes at ages observed in July 2015 (width). The minimum size is 110 mm (Foucher, 2015).

The individual growth of individuals is maximum during the summer, and therefore any catches before the end of the summer growth will reduce a maximisation of the potential of the stocks. Postponing the opening of the fishing season for all fleets to early November will give more time for the incoming recruitment (age 2) to benefit from growth.

It is stated in the reports that this later opening of the fishery would facilitate to higher yield and SSB. Nevertheless, the information provided by IFREMER do not provide the necessary indications regarding summer growth to fully evaluate this ToR. It is not known in which month the 2-years old scallops reach 110mm in average and when they get mature, nor what is the average growth increment between September and November. So it not possible to assess quantitatively the biological effects of a change in a fishing closure. Additionally, estimates of discards of undersized scallops by month would provide valuable information to further evaluate these effects.

STECF notes that in the absence of regulation by TAC, the limitation of fishing effort remains currently the main management tool applied for this fishery, but it applies only to the main segment and not to the entire fleet. STECF acknowledges that the arrival of strong year classes in the fishery is likely a strong incentive to deploy more fishing effort for the unregulated fleets. STECF acknowledges that all segments should be regulated to ensure that the overall fishing effort for all fleets is deployed in line with MSY objective.

ToR 3. STECF are asked to give any further recommendation on measures to protect the maturing stock in these areas.

STECF suggest that a management plan should be developed with all countries where various management options and trade-offs can be explored, including the possibility to

introduce TACs rather than effort management. The management plan should be in line with the MSY objective.

STECF conclusions

Regarding ToR 1, STECF concludes that a change from an 85 mm ring size to an 92 mm ring size in the scallop fishery in the bay of the Seine may result in a substantial reduction of catches of undersized scallops (< MLS), but some losses of commercial scallop catches (≥ MLS) may occur as well. Further information on the mortality of discards and escapees is required to confirm the benefits to the stock.

Regarding ToR 2, a longer closure will allow for more summer growth for the scallops, but STECF could not assess quantitatively the effects with regards to yield, discards and SSB. Nevertheless, STECF acknowledges that the arrival of strong year classes in the fishery is likely a strong incentive to deploy more fishing effort for the unregulated fleets. STECF concludes that all segments should be regulated to ensure that the overall fishing effort for all fleets is deployed in line with MSY objective.

Regarding ToR 3. STECF suggests that a management plan should be developed with all countries where various management options and trade-offs can be explored for achieving the MSY objective.

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5.4 TAC adjustments

Background

In accordance with article 16(2) of EU Regulation (No) 1380/2013 , for stocks subject to the landing obligation, fishing opportunities shall be set taking into account the change from setting fishing opportunities based on the landed component of the TAC , to one that reflects catches. This necessitates an increase or "top-up" in TAC's to account for previous discarding patterns.

These TAC adjustments were applied to stocks and in fisheries coming under the landing obligation in 2015 (pelagic stocks in all sea basins and most stocks in The Baltic) and 2016 (some demersal fisheries in the NWW, SWW and North Sea). In 2016, STECF (15-17) provided useful data that permitted the calculation of TAC adjustments where specific gear groups e.g. TR2 were subject to the landing obligation while others e.g. TR1 were not. For the setting of fishing opportunities for 2017, this work will need to be repeated taking into account the most recently available landings and discard data and any adjustments or additions made to the Joint Recommendations from the regional groups of Member States.

However, the methodology used for calculating TAC adjustments when setting the fishing opportunities for 2016 was the subject of extensive discussion, particularly in cases where available discard data was incomplete or MS chose to use catch thresholds based on historic landings to determine whether a vessels was subject or not to the landing obligation.

Where catch thresholds are applied to define the fleet segments that will be subject to the landing obligation, three potential approaches could be used to determine the proportion of that fleet segment affected and therefore the appropriate discard quantity to apply in the TAC adjustment. These are based on a proportion of landings, number of vessels or by relative effort by gear grouping (e.g. TR1, TR2) of vessels subject and not subject to the landing obligation.

Request to the STECF

STECF is requested to:

1. Analyze the Joint Recommendations for 2017 regional discard plans and update the tables 3-8 contained in the annex of the STECF report (15-17) "TAC adjustments for stocks subject to the landing obligation", using FDI data from 2014 and 2015 and taking into account any additional fleets and/or stocks and any revisions to thresholds. In the event that STECF us unable to complete the work on the catch tables, these should be updated as soon as practically possible afterward.
2. For those stocks and fleets where catch thresholds are applied, use the appropriate data received from Member States, to determine whether vessels are subject to the landing obligation or not, and calculate (a) the proportion of landing of species (stocks) for vessels subject to the landing obligation relative to the overall fleet segment; (b) the proportion of vessels subject to the landing obligation relative to the overall fleet segment and; (c) the proportion of effort of the vessels that are subject to the landing obligation, relative to the overall fleet segment. On the basis of these calculations, include an additional column in the tables referred to above which identifies the proportion of fleet subject to the landing obligation by gear and mesh size category.

STECF response

The Joint Recommendations[3] for 2017 for the North Sea, North Western Waters and South Western Waters were scrutinized for any additional fleets or species included in the landing obligation and for any revisions to the thresholds that define certain fisheries. Overviews of the rules embedded in the Joint Recommendations for 2016 and 2017 are summarized in Table 5.4.1 to 5.4.3.

Member States have been requested to supply information to STECF on the number of vessels, the landings of the vessels and the effort applied by the vessels that are below or above defined thresholds. This information is intended to be used for potential TAC adjustments in 2017. At present not all Member States and not all regions have supplied this information to STECF. Therefore, STECF cannot present the requested analysis during the plenary meeting of 4-8 July 2016. However, it is anticipated that the Commission will receive the data during the summer, so that the analysis can be completed in the October 2016 plenary meeting.

STECF has already prepared the analytical framework that will be used in October. The analytical framework consists of a programming r-code that will compare the outcomes of different metrics (effort, landings, number of vessels) to calculate the proportion of the fishery that would be subject to the landing obligation. The analytical framework will be used to repeat the analysis as was conducted in October 2016.

[3] The joint recommendations have not been approved nor converted into discard plans by the European Commission.

Table 5.4.1: North Sea Joint Recommendations **for 2017**

		2016			2017		
Fisheries	**ICES area**	**Gear**	**Mesh**	**LO 2016**	**Gear**	**Mesh**	**LO 2017**
Mixed demersal trawl fisheries	3a, 4, 2a EU	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	>= 100mm	All catches of plaice and haddock to be landed.	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	>= 100mm	All catches of **plaice, haddock, whiting, cod**, Northern prawn, sole** and **Nephrops** to be landed.
Fisheries for saithe	3a, 4, 2a EU	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	>= 100mm	All catches of **saithe** to be landed for vessels that have had annual average landings of saithe of **>= 50%** over 2012-2014	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	>= 100mm	All catches of **saithe** to be landed for vessels that have had annual average landings of saithe of **>= 50%** over 2013-2015
80 mm trawl fisheries	3a, 4, 2a EU	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	80-99mm	All catches of **Nephrops** and **sole*** to be landed. Any bycatches of **Northern prawn** to be landed.			
70 mm trawl fisheries in 3a	3a	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	70-99mm	All catches of **Nephrops** and **sole*** to be landed. All catches of **haddock** to be landed. Any bycatches of **Northern prawn** to be landed.			
70/80 mm trawl fisheries	3a, 4, 2a EU				Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	70-99mm	All catches of **Nephrops, haddock, sole** and **Northern prawn** to be landed.
Smaller meshed trawl fisheries	3a, 4, 2a EU	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	32-69mm	All catches of **Northern Prawn** to be landed.	Trawls: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	32-69mm	All catches of **Northern Prawn**, **Nephrops, sole, haddock** and **whiting** to be landed.
120 mm beamtrawl fisheries	3a, 4, 2a EU	Beam trawls: TBB	>= 120mm	All catches of **plaice** to be landed. Any bycatches of **Northern prawn** to be landed.	Beam trawls: TBB	>= 120mm	All catches of **plaice, Northern prawn**, **Nephrops, sole, cod**, haddock** and **whiting** to be landed.
80 mm beamtrawl fisheries	3a, 4, 2a EU	Beam trawls: TBB	80-119mm	All catches of **sole** to be landed. Any bycatches of **Northern prawn** to be landed.	Beam trawls: TBB	80-119mm	All catches of **sole, Northern prawn, Nephrops** and **haddock** to be landed.
Gillnet fisheries	3a, 4, 2a EU	All gillnets and trammelnets: GN, GNS, GND, GNC, GTN, GTR, GEN, GNF	All	All catches of **sole** to be landed. Any bycatches of **Northern prawn** to be landed.	All gillnets and trammelnets: GN, GNS, GND, GNC, GTN, GTR, GEN, GNF	All	All catches of **sole, Northern prawn, Nephrops, haddock, whiting** and **cod**** to be landed.
Hook and line fisheries	3a, 4, 2a EU	Hooks and lines: LLS, LLD, LL, LTL, LX, LHP, LHM	All	All catches of **sole** to be landed. Any bycatches of **Northern prawn** to be landed.	Hooks and lines: LLS, LLD, LL, LTL, LX, LHP, LHM	All	All catches of **hake, Northern prawn, Nephrops, sole, haddock, whiting** and **cod**** to be landed.
Trap fisheries	3a, 4, 2a EU	Traps: FPQ, FIX, FYK, FPN	All	All catches of **Nephrops** to be landed. Any bycatches of **Northern prawn** to be landed.	Traps: FPQ, FIX, FYK, FPN	All	All catches of **Nephrops, Northern prawn, sole, haddock** and **whiting** to be landed.

* Except in IIIa when fishing with trawls with a mesh size of at least 90 mm equipped with a top panel of at least 270 mm mesh size (diamond mesh) or at least 140 mm mesh size (square mesh) or 120 mm square mesh panel placed 6 to 9 meters from the cod end

** The obligation to land catches of cod shall only apply once Regulation (EC) No 1342/2008 is repealed or once that Regulation is amended with a repeal of Chapter lll thereof and clarification that the Regulation is without prejudice to article 16(2) of Regulation (EC) No 1380/2013. As a further condition, the landing obligation shall only be introduced in accordance with Table A if the quota adjustment following Art. 16(2) in Regulation (EC) No. 1380/2013, is based on the discard rates for the management areas separately and according to relative stability.

Table 5.4.2: North Western Waters Joint Recommendations **for 2017**

		2016			2017		
Fisheries	**ICES area**	**Gear**	**Mesh**	**LO 2015**	**Gear**	**Mesh**	**LO 2016**
Gadoids	5b & 6a	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX	All	Where total landings per vessel of all species in 2013 and 2014 consist of more than 10% of the following gadoids: cod, haddock, whiting and saithe combined, the LO shall apply to **haddock**	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, OTM, PTM, TB, SX, SV, OT, PT, TX	All	Where total landings per vessel of all species in 2014 and 2015 consist of more than **5%** of the following gadoids: cod, haddock, whiting and saithe combined, the landing obligation shall apply to **haddock and by-catch of sole, plaice and megrims**.
Nephrops	5b & 6a	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX, FPO, FIX	All	Where total landings per vessel of all species in 2013 and 2014 consist of more than 30% of Norway lobster the LO shall apply to **Norway lobster**	Trawls, Seines, Pots, Traps & Creels: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX, FPO, FIX	All	Where the total landings per vessel of all species in 2014 and 2015 consist of more than 20% of Norway lobster, the landing obligation shall apply to Norway lobster and by-catch of haddock.
Hake	6, 7 & 5b	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX	All	Where total landings per vessel of all species in 2013 and 2014 consist of more than 30% of hake, the LO shall apply to **hake**	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, OTM, PTM, TB, SX, SV, OT, PT, TX	All	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **20%** of hake, the landing obligation shall apply to **hake**.
Hake	6, 7 & 5b	All gillnets: GNS, GN, GND, GNC, GTN	All	All catches of hake shall be subject to the LO	All gillnets: GNS, GN, GND, GNC, GTN, GTR, GEN	All	All catches of **hake** shall be subject to the landing obligation.
Hake	6, 7 & 5b	Longlines: LL, LLS, LLD, LX, LTL, LHP, LHM	All	All catches of hake shall be subject to the LO	Longlines: LL, LLS, LLD, LX, LTL, LHP, LHM	All	All catches of **hake** shall be subject to the LO
Megrim	6, 7 & 5b				Trawls & Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, OTM, PTM, TB, SX, SV, OT, PT, TX	<100 mm	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **20%** of megrims, the landing obligation shall apply to **megrims.**
Nephrops	7	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX, FPO, FIX	All	Where total landings per vessel of all species in 2013 and 2014 consist of more than **30%** of Norway lobster the LO shall apply to **Norway lobster**	Trawls, Seines, Pots, Traps & Creels: OTB SSC, OTT, PTB, SDN, SPR, FPO, TBN, TB, TBS, OTM, PTM, SX, SV, FIX, OT, PT, TX	All	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **20%** of Norway lobster, the landing obligation shall apply to **Norway lobster.**
Gadoids	7a	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX	All	Where total landings per vessel of all species in 2013 and 2014 consist of more than 10% of the following gadoids: cod, haddock, whiting and saithe combined, the LO shall apply to **haddock**	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, OTM, PTM, TB, SX, SV, OT, PT, TX	All	All catches of **haddock** shall be subject to the landing obligation.Where total landings per vessel of all species in 2014 and 2015 consist of more than **10%** of the following gadoids: cod, haddock, whiting and saithe combined, the landing obligation shall apply to **haddock.**
Sole	7d	All beam trawls (TBB)	All	All catches of common sole are subject to the LO	All beam trawls (TBB)	All	All catches of common sole are subject to the LO
Sole	7d	Trawls: OTB, OTT, TBS, TBN, TB, PTB, OT, PT, TX	<100mm	Where total landings per vessel of all species in 2013 and 2014 consist of mkore that 5% of common sole, LO shall apply to **common sole.**	Trawls: OTT, OTB, TBS, TBN, TB, PTB, OT, PT, TX	<100 mm	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **5%** of sole, the landing obligation shall apply to **sole.**
Sole	7d	All gillnets: GNS, GN, GND, GNC, GTN	All	All catches of common sole are subject to LO	All gillnets: GNS, GN, GND, GNC, GTN	All	All catches of common sole are subject to LO
Gadoids	7d	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX	All	Where total landings per vessel of all species in 2013 and 2014 consist of more than **25%** of the following gadoids: cod, haddock, whiting and saithe combined, the LO shall apply to **whiting**	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, OTM, PTM, TB, SX, SV, OT, PT, TX	All	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **20%** of the following gadoids: cod, haddock, whiting and saithe combined, the landing obligation shall apply to **whiting.**
Sole	7e	All beam trawls (TBB)	All	Where total landings per vessel of all species in 2013 and 2014 consist of more that 10% of common sole, LO shall apply to **common sole.**	All beam trawls (TBB)	All	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **5%** of sole, the landing obligation shall apply to **sole.**
Sole	7e	All gillnets: GNS, GN, GND, GNC, GTN	All	All catches of common sole are subject to the LO	All trammel nets and gillnets: GNS, GN, GND, GNC, GTN, GTR, GEN	All	All catches of **sole** shall be subject to the landing obligation.
Pollack	7d, 7e				All trammel nets and gillnets: GNS, GN, GND, GNC, GTN, GTR, GEN	All	All catches of **pollack** shall be subject to the landing obligation.
Sole	7b,c,f-k	All beam trawls (TBB)	All	Where total landings per vessel of all species in 2013 and 2014 consist of more that 5% of common sole, LO shall apply to common sole.	All beam trawls (TBB)	All	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **5%** of common sole, the landing obligation shall apply to **sole**.
Sole	7b,c,f-k	All gillnets: GNS, GN, GND, GNC, GTN		All catches of common sole are subject to the LO	All trammel nets and gillnets: GNS, GN, GND, GNC, GTN, GTR, GEN	All	All catches of **sole** shall be subject to the landing obligation.
Gadoids	7b,c,f-k	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT,PT, TX	All	Where total landings per vessel of all species in 2013 and 2014 consist of more than 25% of the following gadoids: cod, haddock, whiting and saithe combined, the LO shall apply to **whiting**	Trawls and Seines: OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, OTM, PTM, TB, SX, SV, OT, PT, TX	All	Where the total landings per vessel of all species in 2014 and 2015 consist of more than **20%** of the following gadoids: cod, haddock, whiting and saithe combined, the landing obligation shall apply to **whiting.**

Table 5.4.3: South Western Waters Joint Recommendations **for 2017**

		2016			2017		
Fishery	**Area**	**Gear**	**Mesh size**	**LO 2016**	**Gear**	**Mesh size**	**LO 2017**
Sole	8a, b, d and e	All bottom trawls: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX	70-100mm	All catches of Sole are subject to the LO	All bottom trawls: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX	70-100mm	All catches of Sole are subject to the LO
		All beam trawls (TBB)	70-100		All beam trawls: TBB	70-100mm	
		All trammel and gill nets	>=100m		All trammel and gill nets: GNS, GN, GND, GNC, GTN, GTR, GEN	>=100m	
Hake	8a, b, d and e	All bottom trawls: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX	>=100	All catches of **hake** are subject to the LO	**All bottom trawls and seines: OTT, OTB, PTB, SDN, OT, PT, TBN, TBS, TX, SSC, SPR, TB, SX, SV**	>=100	All catches of **hake** are subject to the LO
		All longlines : LL, LLS	All		All longlines : LL, LLS	All	
		All trammel and gill nets	>=100m		**All gill nets: GNS, GN, GND, GNC,**	>=100m	
Anglerfish	8a, b, d and e				**All gill nets: GNS, GN, GND, GNC,**	**>=200m**	All catches of **Anglerfish** are subject to the landing obligation.
Nephrops	8a, b, d and e	All bottom trawls: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX	>=70	All catches of **Norway lobster** are subject to the LO	All bottom trawls: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX	>=70	All catches of **Norway lobster** are subject to the LO
Anglerfish	8c, 9a				**All gill nets: GNS, GN, GND, GNC,**	**>=200m**	All catches of **Anglerfish** are subject to the landing obligation.
Nephrops	8c, 9a (inside functional units)	All bottom trawls: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX	>=70	All catches of **Norway lobster** are subject to the LO	All bottom trawls: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX, TB	>=70	All catches of **Norway lobster** are subject to the LO
Hake	8c, 9a	Trawls and Seines: OTB, OTT, OT, PTB, PT, TBN, TBS, OTM, PTM, TMS, TM, TX, SDN, SSC, SPR, TB, SX, SV	>=70mm	Total **hake** landings in period 2013/2014 consist of: more than 10% of all landed species and more than 10 metric tons.	**All bottom trawls: OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB, SDN, SX, SV**	>=70mm	All catches of **Hake** are subject to the landing obligation for vessels that fulfil the following cumulative criteria: 1. Use mesh size larger or equal to 70 mm, 2. Total hake landings in the period 2014/2015 consist of: more than 5% of all landed species and more than 5 metric tons.
		All trammel and gill nets	80-99	All catches of **Hake** are subject to the landing obligation.	All gill nets: GNS, GN, GND, GNC, GTN, GEN	80-99	All catches of **Hake** are subject to the landing obligation.
		All longlines (LL, LLS)	Hook size > 3.85+/-1.15 length and 1.6 +/- 0.4	All catches of **Hake** are subject to the landing obligation.	All longlines (LL, LLS)	Hook size > 3.85+/-1.15 length and 1.6 +/-0.4	All catches of **Hake** are subject to the landing obligation.
Sole	9a	All trammel and gill nets	>=100mm	All catches of Sole are subject to the LO			
Sole and plaice	9a				All Trammel nets & Gillnets: GNS, GN, GND, GNC, GTN, GTR, GEN	>=100	All catches of **Sole** and **plaice** are subject to the landing obligation.

5.5 Baltic Fishing opportunities

Background

The western cod stock assessment conducted by ICES in 2016 has not included the amount of recreational catches made in Danish and Swedish recreational fisheries:

Given the status of the Baltic cod stocks and taking into account the objectives of the CFP, the Commission is considering introduction of management measures for the recreational western cod fishery. The objective of the measures would be to increase the biomass above the limit reference point per year of application of these measures, provided that the fishing opportunities for the commercial fishery for 2017 is set at F MSY point or F MSY lower values.

Request to the STECF

The STECF is requested to:

1. Assess the data collection programmes on recreational catches carried out by Denmark, Sweden and Germany in view of their suitability for the stock assessment and catch advice;
2. Describe the validation methods (i.e. procedure/approach which is used to verify if the data collected is reliable and representative) applicable to the data collected on recreational catches in general;
3. Describe the validation methods already available for the data collected in 2015 by Denmark, Sweden and Germany;
4. Comment on the compatibility of data collection programmes and data validation approaches adopted for the recreational catches by Germany, Denmark and Sweden;
5. Following the outcome of the previous question and on the basis of available information, evaluate the biological impact of recreational fisheries for western cod practiced:
    a. From vessels and operators of Germany, Denmark and Sweden;
    b. From third country operators in waters under their sovereignty or jurisdiction of Germany, Denmark or Sweden;
    c. From the shore.
6. Assess whether the introduction of the "bag limit" which is to be set at 1, 2, 3, 5 or 10 fish per person per day or an equivalent quantity per month will achieve the objectives set in the background. STECF should further identify the amount of the potential increase - if any - in fishing opportunities for commercial fisheries provided they are set at F_{MSY} point or F_{MSY} lower values if the management measure of the "bag limit" is introduced.
7. To provide an opinion on other measures that could be introduced and any additional considerations.

STECF observations for ToR 1 to 4

In the absence of appropriate data and information, STECF is unable to provide a direct response to each of the above requests. STECF notes that the EU Data Collection Framework (DCF, EU 2008) does not require the collection of recreational fisheries data to be of quality that is high enough to be easily incorporated in stock assessment. The DCF states that:

(a) For the recreational fisheries targeting the species listed in Appendix IV (1 to 5), Member States shall evaluate the quarterly weight of the catches.

(b) Where relevant, pilot surveys as referred to in Chapter II B (1) shall be carried out to estimate the importance of the recreational fisheries mentioned in point 3(3)(a).

Currently, although Danish and Swedish estimates of recreational catches are available, ICES has only included German recreational catch-at-age data in the stock assessment, as they have a long time (i.e. more than 5 years of data) and include biological information (e.g. length distribution) from a dedicated sampling programme. The Danish recreational data are currently collected through telephone interviews operated by the national statistics agency, and the scientific quality of the estimate is unknown. Some programmes have been initiated to verify the data through onsite studies performed by fisheries biologists, and to collect additional biological data such as length and weight in order to include them in the assessment. According to preliminary estimates, recreational catches in Denmark and Sweden are though lower than the German catches.

ICES recently provided an extensive review of the recreational fisheries data collection and data availability of cod in the Baltic Sea region by MS and provided advice on how best to fill these gaps in order to arrive at sound estimates of recreational fishing mortality for the inclusion of such data into stock assessment (http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/Special_Requests/EU_recreational_cod_data_in_the_Baltic_Sea.pdf.

STECF agrees with the analysis made by ICES and has no additional information relevant for the improvement of stock assessment. The ICES evaluation does however not provide sufficient information to permit STECF to respond directly to items 1-4 of the request from the Commission.

STECF observations for ToR 5

1. Following the outcome of the previous question and on the basis of available information, evaluate the biological impact of recreational fisheries for western cod practiced:

    a. From vessels and operators of Germany, Denmark and Sweden;
    b. From third country operators in waters under their sovereignty or jurisdiction of Germany, Denmark or Sweden;
    c. From the shore.

STECF is unable to provide a quantitative evaluation of the biological impact of recreational fisheries for western Baltic cod in terms of fishing mortality on the stock. Such an evaluation would require that estimates of the catches from recreational fishing vessels and shore anglers from all MS are included in the stock assessment. Currently, the ICES assessment does not distinguish between the fishing mortality generated by the various forms of recreational fisheries from that generated by the commercial fisheries

for western Baltic cod. The German recreational catches included in the stock assessment account for around 29% of the total international catches included in the stock assessment (i.e. average of 2013-2015).

STECF observations for ToR 6

2. Assess whether the introduction of the "bag limit" which is to be set at 1, 2, 3, 5 or 10 fish per person per day or an equivalent quantity per month will achieve the objectives set in the background. STECF should further identify the amount of the potential increase - if any - in fishing opportunities for commercial fisheries provided they are set in accordance with the F_{MSY} point or F_{MSY} lower values if the management measure of the "bag limit" is introduced.

STECF is unable to provide a quantitative answer to the above request. A prerequisite to assessing the potential impacts of a bag limit is a robust estimate of the total effort of the recreational fisheries for Western Baltic cod together with the average daily catch rate (number of fish retained per person per day) and such estimates are currently not available. In addition, information on the weight of fish caught and the size structure of such catches is also required

STECF notes that ICES provides advice for the total catches of Western Baltic cod that are in accordance with MSY. As long as the sum of catches arising from recreational and commercial fisheries stays within these advised catches, the balance between the two fisheries activities is a management decision.

STECF observations for ToR 7

3. to provide an opinion on other measures that could be introduced and any additional considerations.

STECF considers that the impact of recreational catches on the Western Baltic cod stock is likely to be quite large. Therefore, STECF considers that to provide informed management advice, the impact of the recreational fisheries on the Western Baltic cod stock should be estimated and hence a priority is for ICES to obtain robust estimates of the recreational catches and effort. A number of management considerations are qualitatively discussed in the 2016 report to the European Parliament4 (p. 163-168), but until more quantitative estimates are available, STECF cannot assess the biological, economic and social impacts of such candidate management measures STECF also considers that the choice of how to regulate the recreational fisheries is mostly a

[4] http://www.europarl.europa.eu/RegData/etudes/STUD/2016/573440/IPOL_STU(2016)573440_EN.pdf

management decision and not a scientific one as long as the stock is fished according to MSY.

STECF conclusions

STECF agrees with the analysis made by ICES on the recreational fisheries data collection and data availability of cod in the Baltic Sea region by MS and has no additional information relevant for the improvement of stock assessment. The ICES evaluation does however not provide sufficient information to permit STECF to respond directly to items 1-4 of the request from the Commission. STECF is also aware that data are available from Denmark and Sweden, and that effort is ongoing to improve their quality and coverage for inclusion in the stock assessment in the near future. Additionally, STECF notes that the new multiannual Union programme for Data Collection (EU MAP) provides additional requirements for recreational fisheries sampling and biological data collection that will improve the data quality and coverage for inclusion in stock assessments.

STECF is unable to provide a quantitative evaluation of the biological impact of recreational fisheries for western Baltic cod in terms of fishing mortality on the stock. Such an evaluation would require that estimates of the catches from recreational fishing vessels and shore anglers from all MS are included in the stock assessment.

STECF is unable to provide a quantitative answer to the potential impacts of a bag limit in the recreational fisheries for Western Baltic cod as long as a robust estimate of all recreational catches is not available. However, until an assessment of the impact would be available, STECF considers premature to advice on which measures would be appropriate to manage the exploitation of recreational fisheries on western Baltic cod. STECF also considers that the choice of how to regulate the recreational fisheries is mostly a management decision and not a scientific one as long as the stock is fished according to MSY. STECF notes that a number of measures exist for the management of recreational fisheries, but their enforcement remain difficult and the level of non-compliance is fishery-specific and difficult to assess.

References

EU. 2008. Commission Decision (2008/949/EC) of 6 November 2008 adopting a multiannual Community programme pursuant to Council Regulation (EC) No 199/2008 establishing a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy. Official Journal of the European Communities, L 346/37. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:346:0037:0088:EN:PDF.

ICES 2016. http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/Special_Requests/EU_recreational_cod_data_in_the_Baltic_Sea.pdf

http://www.europarl.europa.eu/RegData/etudes/STUD/2016/573440/IPOL_STU(2016)573440_EN.pdf

5.6 Cod exemptions in the Baltic Sea

Background

Article 29 of Council Regulation (EC) No 1098/2007 of 18 September 2007 establishing a multi-annual plan for the cod stocks in the Baltic Sea and the fisheries exploiting those stocks, requires the Commission to decide on an annual basis about the application of the fishing effort management limits defined in Article 8 of the same regulation in Subdivisions 27, 28.1 and 28.2.

Background documents can be found on: https://stecf.jrc.ec.europa.eu/plen1602.

Request to the STECF

The Commission requests STECF to advise if catches of cod in the period 1 October 2014 to 30 September 2015 in Subdivisions 27 and 28.2 were lower than 3% of the total catches of cod in Subdivisions 25 to 28 and if the catches of cod in Subdivision 28.1 were higher than 1.5 % of the total catches of cod in Subdivisions 25 to 28.

STECF response

The Commission provided STECF with catch data for five Member States out of eight fishing in the Baltic Sea. With exception of one MS, it is not stated clearly whether the reported data relate to landings only or to total catch of cod (including estimates of discards). Therefore, STECF understands that the reported data relate to landings and not to catches of cod.

Table 5.6.1: Cod catches from subdivisions 25-28 of the Baltic Sea from 1 October 2014 to 30 September 2015 as reported by Member States.

Country	Sub-divisions				
	25-28 (kg)	27+28.2 (kg)	28.1 (kg)	27+28.2 (%)	28.1 (%)
Denmark	8717,827	0	0	0	0
Estonia	193,515	834	640	0.43	0.33
Latvia	2735,479	97,077	233	3.55	0.01
Lithuania	1611,215	0	0	0	0
Sweden	4306,755	34,969	0	0.81	0
TOTAL	17564,791	132,880	873	0.76	0.005

The data in Table 5.6.1 indicate that between 1 October 2014 and 30 September 2015, reported landings of cod from Subdivisions 27 and 28.2 accounted for 0.8% of the total reported landings of cod from Subdivisions 25-28. Similarly, the reported landings of cod from Subdivision 28.1 represented approximately 0.005 % of the total reported landings of cod from Subdivisions 25-28.

STECF collected additional catch information from the 3 missing MS as officially reported to ICES (2016). STECF notes that the most recent annual (2015) ICES catch estimates of the three missing MS in the Sub-divisions 25-28.2 were in total 14,792 t (44% of all catches in Area B), all taken from the Sub-divisions 25 and 26 (ICES, 2016). If the data from these MS had been provided to STECF, it is thus likely that the percentage of cod caught in the two areas of interest would have been lower than those estimated here.

STECF also notes that according to ICES WGBFAS (2016), discards were approximately 15% of the total catches in the Eastern Baltic cod fishery in 2015.

STECF conclusions

STECF concludes that over the period 1 October 2014 to 30 September 2015 reported landings of cod from Subdivisions 27 and 28.2 were lower than 3% of the total landings reported from Subdivisions 25 to 28. Similarly, reported landings of cod from Subdivision 28.1 were lower than 1.5 % of the total landings in Subdivisions 25 to 28. Assuming an average discard rate of about 15% in 2015 (ICES 2016) of the catches for Eastern Baltic cod, STECF concludes that the reported catches of cod were lower than the thresholds defined in Article 29 of Council Regulation (EC)No 1098/2007of 18 September 2007.

Reference

ICES 2016. Report of the Baltic Fisheries Assessment Working Group (WGBFAS), 12-19 April 2016, ICES HQ, Copenhagen, Denmark. ICES CM 2016/ACOM:11. 490 pp.

5.7 Article 11 joint recommendation

Background

In accordance with Article 11 of Regulation 1380/2013 Member States having direct management interest in certain areas or fisheries may submit joint recommendations for fisheries conservation measures to be adopted by the Commission that are necessary to comply with their environmental obligations.

Sweden initiated the procedure with Denmark and Germany for adopting a joint recommendation for conservation measures in the Marine Protected Area Bratten in the Skagerrak, which has been designated as a Natura 2000 site, in summer 2015. After several consultations amongst these Member States, stakeholders and NGOs the final joint recommendation to the Commission was submitted.

Once the joint recommendation is received, it is necessary to evaluate the various elements of the joint recommendation submitted by Sweden on fisheries measures necessary for compliance with environmental obligations and to identify areas if and where additional supporting information may be required. In particular, it has to be assessed whether the measures in the joint recommendation are compatible with the requirements referred to in Article 11(1) of Regulation 1380/2013. This calls for the review of the supporting scientific information provided.

Request to the STECF

1. Review whether the proposed conservation measures minimise the negative impacts of fishing activities on the marine ecosystem and ensure that fisheries activities avoid the degradation of the marine environment as stipulated under Article 2(3) of Regulation 1380/2013.

2. Review how the proposed measures contribute towards ensuring that the habitats of community interest addressed in the recommendation are maintained and restored at favourable conservation status inside the delineated areas as stipulated under Article 2 of Directive 92/43/EEC (and Article 1(2) of Directive 2008/56/EC).

3. Review whether/how the special areas of conservation set out in Article 6 of Directive92/43/EEC referred to in the joint recommendation can be ensured without the proposed fisheries measures.

STECF response

Summary of knowledge

In accordance with Article 11 of Regulation 1380/2013, Sweden, jointly with Denmark and Germany recommend fisheries management measures to the Commission, for adoption as a delegated act. The overall aim of the proposed measures is to ensure protection of reef structures and threatened species from fisheries in the marine protected area of Bratten, located in the Swedish EEZ of Skagerrak. It intends to contribute to the obligation of achieving favourable conservation status under the Habitats Directive Article 6, and to reach good environmental status by year 2020 according to DCSMM.

Bratten is part of ICES division IIIa, where Germany and Denmark have historical fishing rights and fishing opportunities for a number of target species. Norwegian fishermen also

have access to the Bratten area, but the related fishing activity is low and Norway being a non-member of the European Union is not taking part in this joint recommendation.

The Bratten MPA is one of the 315 current Natura 2000 sites in Sweden, and one of the 10 OSPAR MPA. It covers a surface of 1208 km^2 (120-530 m depths), and includes habitats which are reported to be in unfavourable conservation status in the Swedish 2013 Habitats Directive Report, such as reefs (habitat code H1170) and Pockmarks or other burrows (habitat code H1180: submarine structures made by leaking gases). Several habitats and species included on OSPAR's list of threatened and/or declining species and habitats are also found in the area, such as sea pens, coral gardens and deep sea sponge aggregations. In total, nearly 250 species were collected within the MPA during the 2000s, of which 37 are red-listed according to the 2010 Swedish Red List.

The recommendation initiated by Sweden aims to establish 19 no-take zones of a total area of 325 km^2 (27 % of the total MPA). The report submitted in support of this fisheries conservation measures specifies that proposals result from the Interreg EU project "Hav möter Land" ran between 2010 and 2013, and have been defined in close collaboration with fishermen representatives. Restrictions on fishing activity are proposed to apply to all commercial fishing activities. It can be noticed that the largest zone located in the western part of Bratten MPA (more than 75 % of the closed area, zone 14) contains deeper areas of soft sea-floor with no or very little fishing activity at present.

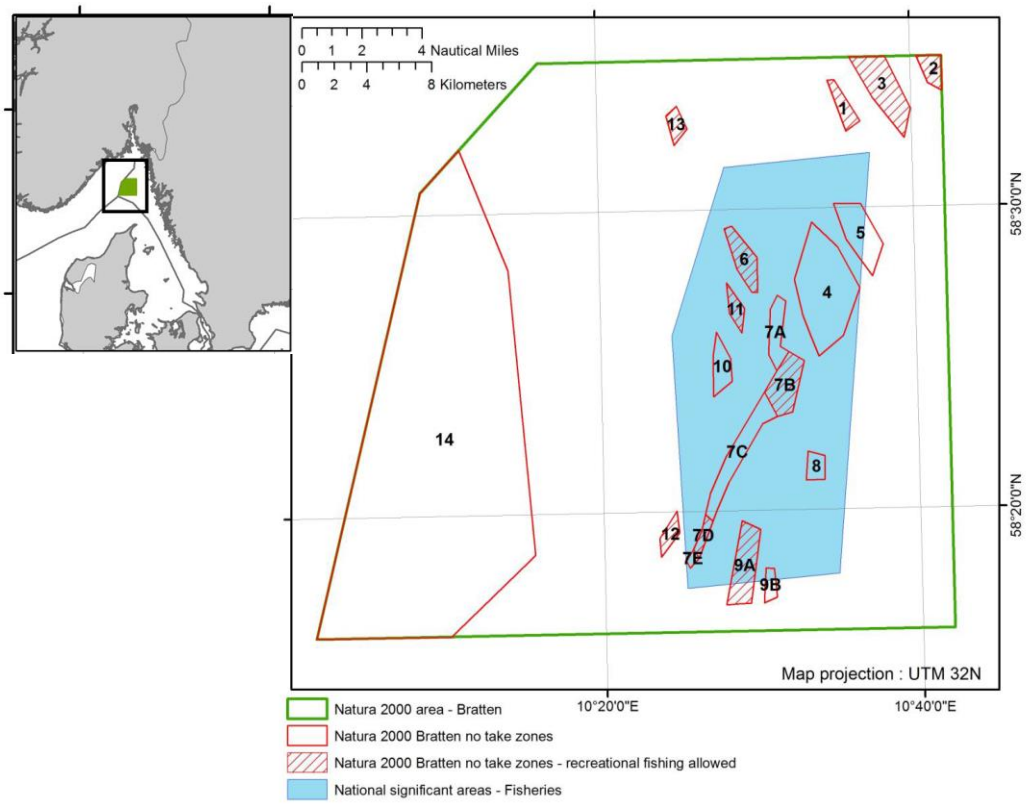


Figure 5.7.1: Localisation of the Bratten Swedish MPA and position of the proposed no-take zones.

Recreational fisheries would also be prohibited in 10 of the 19 zones, covering 35 km^2. However, the recreational fishing in Bratten only makes up a small part of the total

fishing days in Sweden (around 400 days, while total days of recreational fishing on the Swedish coast are approximately 4 million).

The Bratten MPA is a significant fishing ground for Swedish and Danish fisheries. To some extent, the area is also used as a fishing ground by Norwegian fishermen. In total, landings were estimated between 326 and 449 tonnes per year over the 2011 to 2014 period, with more than 70% for northern shrimp (*Pandalus borealis*), and also significant catch for saithe, cod, Norway lobster, monkfish, witch flounder and Atlantic halibut. The current fishing effort inside the proposed no-take zones is limited, mainly coming from demersal trawlers whose catches are estimated around 5 % of the total MPA landings. Because vessels will have the possibility to displace their fishing effort outside the no-take zone, the economic and social impact of the new regulation on the fleets will likely be very limited.

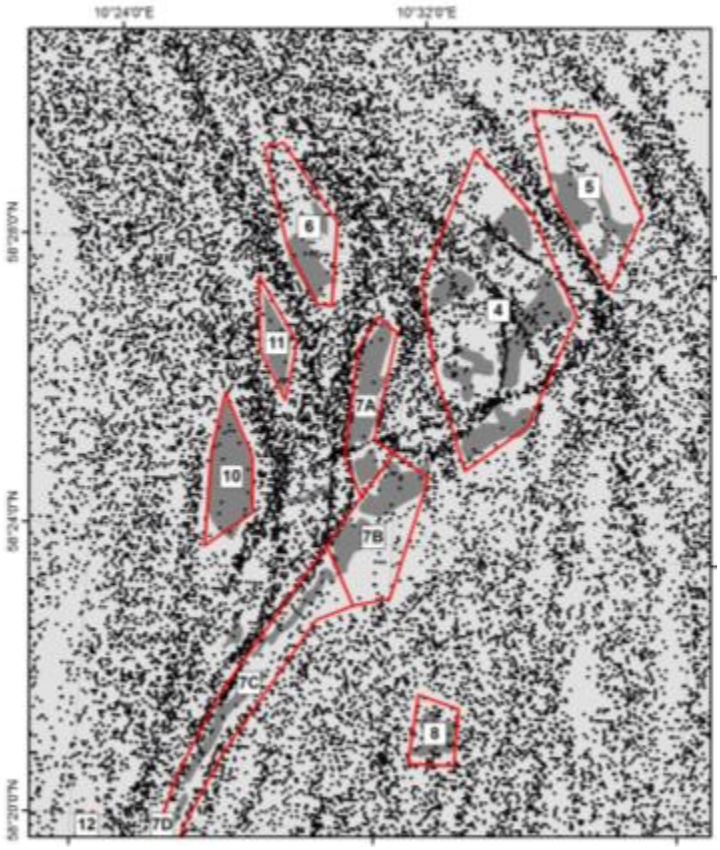


Figure 5.7.2: Position of reef (dark grey) and proposed no-take zones in the central part of Bratten MPA. Swedish VMS positions during 2011-2014.

STECF considerations

According to maps included in the submitted report, STECF notes that the large western no-take zone (area 14) includes very little reefs habitats, while all other protected areas are designed following closely the limits of reefs (habitat code H1170). As a result, almost all areas mapped as reefs (more than 95 %) will be protected. The proposed no-take zones also include all sites where sea fans (gorgonian type coral) have been identified, almost all sites with sponge communities, and the majority of sites with

pockmarks (habitat code H1180), sea pens (soft coral) and brittle star (*Asteronyx loveni*).

A 250 m wide buffer zone surrounds the designated habitats in need of protection. Therefore, depending on the depth, the boundaries width for most areas are not in accordance with ICES guidelines to be three times the water depth for closures in areas where the depth is less than 500 m (ICES Advice 2013, Book, 1.5.5.2. Special request). Between some of the no-take zones, corridors have been established between the surrounding reef structures to allow vessels to pass through. Thus, in these areas buffer zones are smaller than 250 m.

To ensure adequate protection of the proposed no-take zones, better monitoring of real time position of vessels fishing in the area is needed. If VMS and the present 1-hour sampling rate of vessel positions would be the only system of monitoring, no-take zones would have to be substantially larger in size in order to secure efficient control. The proposal therefore involves mandatory AIS (Automatic Identification System) for all fishing vessels when entering the area, thus enlarging EU requirements, where AIS is mandatory only for EU vessels that are 15 m or more. This will result in a large increase in the frequency of GPS positioning of all fishing vessels (position every 30 seconds), thus allowing for more accurate control. STECF notes that AIS is used in other Swedish MPAs and in many other countries for fishing control issues (Island, Norway etc.) with success. However, AIS is an important safety device. It remains unclear if additional uses, and especially control, can affect safety as fishermen may be tempted to interfere with the system, but STECF is not in position to assess such an issue.

STECF conclusions

1. Regarding ToR 1, STECF concludes that the proposed conservation measures in Bratten MPA, where reefs, pockmarks and threatened species are present, would contribute to minimise the negative impacts of fishing activities on the marine ecosystem and to ensure that fisheries activities avoid the degradation of the marine environment as stipulated under Article 2(3) of Regulation 1380/2013.

2. Regarding ToR 2, STECF concludes that the proposed measures would contribute to ensure that the sensitive habitats addressed in the recommendation are maintained and restored at favourable conservation status inside the delineated areas as stipulated under Article 2 of Directive 92/43/EEC. However, STECF notes that the proposed boundaries of the no-take zones are positioned very close to the reefs and do not encompass a buffer zone defined in accordance with ICES Guidelines. STECF considers that buffer zones are useful for conservation purposes and controllability, while corridors defined in the proposal appear really small. Therefore, if buffer zones were to be implemented, that would imply an aggregation of some of the closest no-take zones into larger ones.

3. Regarding ToR 3, STECF notes that current catches inside the no-take zones under consideration seems to be limited. Nevertheless, some fishing activity is present especially by demersal trawlers. Thus, STECF considers that the habitat conservation objectives within the special areas referred to in the joint recommendation cannot be fully achieved without appropriate measures to prevent fishing activity in the areas. However, STECF notes that very few sensible habitats take place in area 14 whose closure, approved by all stakeholders, is mainly justified by a precautionary approach to avoid a future increase of the fishing pressure on deep sea floors.

Reference

ICES Advice, 2013 - Evaluation of the appropriateness of buffer zones. Book, 1.5.5.2. Special request.

5.8 Review of management plans for boat seines (Greece, Italy and Spain)

Request to the STECF

STECF is requested to review the national management plans submitted by the Greek, Italian and Spanish authorities, evaluate their findings and make appropriate comments. In particular, advice whether the plans contain the adequate elements in terms of:

- The biological characteristics and the state of exploited resources with reference in particular to long-term yields and low risk of stock collapse;
- The description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks;
- The data on catches, effort and catches per unit of effort (CPUE), as well as the biological reference points ensuring the conservation of the concerned stocks;
- The catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex III of the Mediterranean Regulation;
- The potential impact of the fishing gear on the marine environment with particular interest on protected habitats (*i.e*. seagrass bed, coralligenous habitat and maërl bed);
- The social and economic impact of the measures proposed; and
- The scientific monitoring of the management plan.
- Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of Regulation (EU) No 1380/2013;
- Quantifiable targets such as fishing mortality rates and/or spawning stock biomass;
- Clear time-frames to reach the quantifiable targets;
- Conservation reference points consistent with the objectives set out in Article 2 of Regulation (EU) No 1380/2013;
- Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches;
- 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 main stocks of the fishery at risk;
- Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice, or to minimize the negative impact of fishing on the ecosystem;
- Quantifiable indicators for periodic monitoring and assessment of progress in achieving the targets of the management plan.

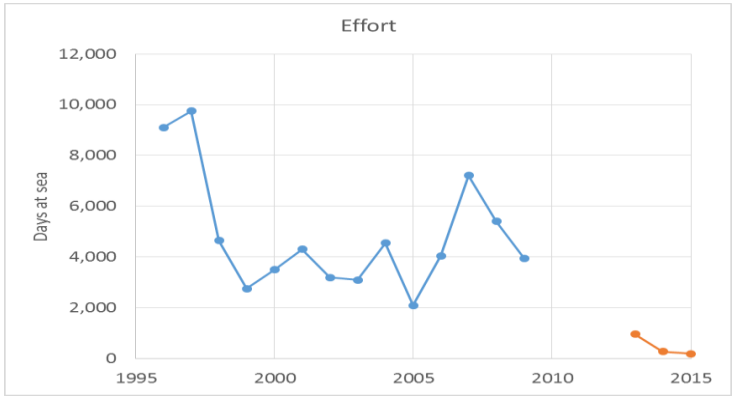
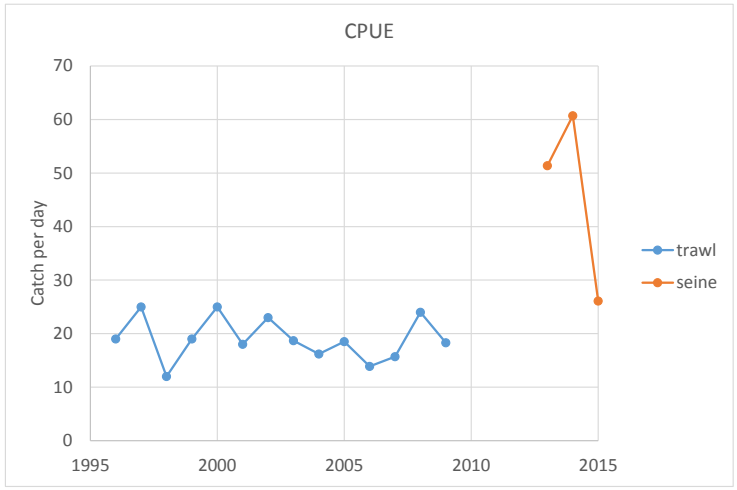
STECF response

STECF notes that only the response on the Italian plans is included in this report. For the assessment of the Greek and Spanish plans ad hoc contracts will be issued and STECF will agree on its response by written procedure.

Table 5.8.1: STECF observations in relation to each of the elements outlined in the Terms of Reference

ToR	**Elements of the management plan**	**STECF comments**
1. The biological characteristics and the state of exploited resources with reference in particular to long-term yields and low risk of stock collapse;	The biology and ecology of *Aphia minuta* are well described, noting that *Aphia minuta* is a gregarious small species, with a rapid gonad maturation and short life cycle, usually lasting only one year. In the Gulf of Manfredonia, due to the geomorphologic (shallow waters) and oceanographic features, larger aggregations can be found further off-shore, often beyond 3 NM from the coast.	STECF notes that there is no information available on the state of the stock of *Aphia minuta* in the Gulf of Manfredonia from stock assessments. A Leslie- De Lury depletion model is presented based on data from 2005-2010 which is used to estimate the initial biomass of the transparent goby stock in previous fishing seasons, but this does not provide information on stock status relative to reference points (Biomass relative to B_{lim}, fishing mortality relative to F_{MSY}), nor a trend of the biomass in recent years.

ToR	Elements of the management plan	STECF comments
2. The description of the fishing pressure and the measures to accomplish a sustainable exploitation of the main target stocks;	Information on fleet capacity (number of vessels) and fishing effort (fishing days) is presented for the trawl fleet that traditionally targeted the transparent goby for the period 1996 to 2009-2010. In 11 of these 14 fishing seasons the number of licenses issued was 50, and the mean number of fishing days by boat in that period, per season, was 77. During the experimental seine fisheries 2013-2015 a maximum of 30 vessels were active on any fishing day. The management plan contains a maximum number of boat seines authorizations (100), a maximum number of fishing days (5000), a definition of the fishing season (1st November- 31st May) and a management trigger based on a minimum CPUE for the fishing season (15 kg per day and vessel, based on the now ceased trawl fisheries) and specific actions to be taken when the threshold is not met.	No stock assessment is available that can quantify the fishing pressure on the stock, and whether the fishing effort limitations are in accordance with F_{MSY}. The efficacy of the CPUE trigger has not been evaluated in terms of its appropriateness in accomplishing sustainable exploitation of the target stock. The change in catchability associated with the switch from trawl to seine nets should probably lead to a higher CPUE trigger. No measures to reduce fishing effort would be considered in the three years of the MP implementation.

ToR	Elements of the management plan	STECF comments
3. The data on catches, effort and catches per unit of effort (CPUE), as well as the biological reference points ensuring the conservation of the concerned stocks;	Catch, Effort and CPUE series are available from xx to 2010 using trawl and from 2013 to 2015 this information is also available from the experimental seine fisheries 2013-2015.  	The seine CPUE reported for the feasibility study 2013-2015 is higher than obtained by the trawl fleet. This would require an increase of the proposed CPUE reference (trigger) value of 15 kg/day/vessel which was based on the trawl fleet CPUE.

ToR	Elements of the management plan	STECF comments
4. The catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex III of the Mediterranean Regulation;	The size distributions of transparent goby caught during the experimental seine campaign are presented. The range of sizes of these distributions is wider than that observed in other Mediterranean areas. Both juveniles and adults are observed in the catches. The information presented regarding by- catch was collected during the experimental fishery in March-April 2014. By-catch consisted of anchovy, sardine, hake (*Merluccius merluccius*), *Diplodus anularis*, mullet (*Mullus barbatus*), manis shrimp (*Squilla mantis*), scaldfish (*Arnoglossus laterna*), gastropoda (*Bolinus brandaris* and *Aporrhais pespelecani*). Bycatch represented less than 10% of total catch weight.	No size distributions of by-catch species are provided, but it is noted that all the individuals of species having a minimum catching size, showed a higher size than the one requested by the minimum size.

ToR	Elements of the management plan	STECF comments
5. The potential impact of the fishing gear on the marine environment with particular interest on protected habitats (*i.e*. seagrass bed, coralligenous habitat and maërl bed);	The management plan includes maps of: 1. The boundary of the area in which the experimental hauls for transparent goby were carried out in the Gulf of Manfredonia in 2013; 2. The position of the experimental hauls for transparent goby in 2013. With regards to the Experimental Campaign 2014 it is stated 'This area was the same interested by the experimental campaign in 2013', but no map of the position of experimental hauls is included. No information on the location of fishing grounds is presented for the Experimental Campaign 2015.	STECF notes that in section 3.1 (Area of intervention) of the management plan it is stated that in the Southern part of the Gulf of Manfredonia, the seabed is party characterised by maerl (Vaccarella et al., 1998). Maps of sensitive marine habitats available from the online map viewer of the MAREA-MEDISEH project confirm the presence of maerl in the Gulf of Manfredonia (MEDISEH, 2013). There is no mention of seagrass beds of coralligenous habitats in the management plan, and such habitats to not appear to be present in the Gulf of Manfredonia based on information available from the MEDISEH map viewer. STECF notes that: 1. In section 2.4 (Biology and ecology) it is stated that: '*Aphia minuta* ... prefers sandy or muddy seabeds, or seagrass meadows'. 2. In section 4.1 (Legal, historical, biological and socio-economic framework) it is stated that 'fisheries using seine nets have no or minimal impact with the seabed'. 3. In section 4.2 (Description of boats seines and how they are used), it is stated that 'Phase 1: the fish is identified on the seafloor using an echo-sounder', and 'Phase 4: ... so the net can drop until it almost brushes against the seafloor'. STECF considers that since (i) the target species forms schools near the bottom during the day, (ii) the management plan indicates that fishing activities take place very close to the bottom, and (iii) protected habitats (maërl beds) are known to be present in the Gulf of Manfredonia, more detailed information on the potential impacts of the fishing activities on sensitive habitats should have been presented in the MP. STECF however considers that the use of seine nets with a footrope that carries sinkers weighing just 50-100 g is likely to only have a minimal impact on the seabed.

ToR	Elements of the management plan	STECF comments
6. The social and economic impact of the measures proposed; and	Two socio-economic assessments are presented, the first one regarding the trawl fleet (LOA<15 m) that traditionally fished transparent goby, until 2010; and a second one aimed at comparing the Manfredonia fishing fleet in 2009-2010 and in 2013 and 2014. A number of economic and social indicators are contained in the MP.	STECF notes that the value of transparent goby, although very variable from year to year, was in the past significantly higher than that generated from the catches of the other species. It is estimated that between 2010 and 2011 vessels with LOA < 15 m lost more than 30% of their profits due to the combination of low/stagnant prices, the substantial increase of operating costs and the loss of income from transparent goby. The 2013 and 2014 results indicated that transparent goby sales represented 63% and 44% of the turnover.
7. The scientific monitoring of the management plan.	The MP notes that catch and effort information for each vessel will be recorded on a daily basis and this data will be entered into a database. In addition it will be mandatory to provide catch samples for the purposes of gathering biological data e.g. length composition, sex, stomach analysis, maturity etc. At sea observers will also be deployed to gather in situ information on fishing operations and catch composition. In addition, a suite of economic and social indicators will also be collected. It is planned that before the Management Plan is implemented it will be necessary to identify a scientific body that will monitor transparent goby fisheries in the Gulf of Manfredonia and which will be in a position to assess the effects of the Management Plan on the sustainable exploitation of the resource and on the socio-economic impact.	STECF notes that the scientific body responsible for the monitoring of the transparent goby fisheries in the Gulf of Manfredonia and assessment of the results of the implementation of the MP has not been identified. Given that the harvest control rule (CPUE trigger) will be used as the key indicator to trigger management actions (e.g. in-season closures; restrictions on future fishing season), it is important that the monitoring system is established so as to ensure that management intervention is sufficiently informed and responsive enough to minimize the risk of exceeding the thresholds specified in the harvest control rule (CPUE trigger).

ToR	Elements of the management plan	STECF comments
8. Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of Regulation (EU) No 1380/2013;	The MP acknowledges that there are no biological or exploitation reference points currently available for transparent goby due to a lack of analytical assessment. The proposed management plan includes trigger values based on the observed CPUE which would be used to enact more restrictive management actions e.g. fishery closures and/or effort limits.	For small scale, data limited and multi-user/multi-state stocks it is often not possible to undertake full analytical assessments meaning that it is not possible to determine the stock status or exploitation levels relative to MSY considerations.
9. Quantifiable targets such as fishing mortality rates and/or spawning stock biomass;	There are no biomass or exploitation reference points defined. A CPUE trigger is proposed that would initiate management responses once the CPUE observed in the fishery dropped below 15Kg/day/vessel.	In the absence of more detailed analyses, CPUE trends may be used as a proxy indicator of stock development. However the CPUE trigger for seine still needs to be appropriately scaled up compared to the CPUE of trawl fisheries.
10. Clear time-frames to reach the quantifiable targets;	The intention is to implement the MP as soon as it is approved. It is proposed to undertake annual monitoring and stock assessments. The only quantifiable limit reference point proposed is the overall value of 15Kg/day/vessel (see above).	The harvest control rule based on the CPUE trigger requires real time monitoring in order to minimize the risk of the threshold being exceeded. While the MP specifies that the appropriate catch and effort data will be collected, there is insufficient information presented to assess whether the data will be analyzed (or by whom) in an appropriate time frame to allow for timely management action.
11. Conservation reference points consistent with the objectives set out in Article 2 of Regulation (EU) No 1380/2013;	See point 8 above	

ToR	Elements of the management plan	STECF comments
12. Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches;	It noted that catches of species below minimum size will be landed but not sold for human consumption. No measures are designed to avoid or reduce unwanted catches.	STECF notes that there are no discard plans proposed for this stock.
13. 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 main stocks of the fishery at risk;	It is indicated that the MP should ensure the continuous estimation of the CPUE reference points, with the aim to evaluate the attainment of the management measures and undertake, if needed, corrective actions.	The CPUE trigger should be updated to fit with seine fisheries instead of the (old) trawl fisheries. CPUE information is relatively easy to collects and can be expected to continue in the future.

ToR	Elements of the management plan	STECF comments
14. Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice, or to minimize the negative impact of fishing on the ecosystem;	The use of seine nets on fishing vessels targeting the species *A. minuta* is only permitted in the period from 1st November to 31st May each year. The authorized vessels can only catch during daylight hours. The MP will only apply to the waters of the Manfredonia fishing district. The length of the cork line of the net must be no longer than 300 m and must be equipped with neutral buoyancy in order to avoid or reduce to the minimum level the impact with the seabed. The use of nets with a stretched mesh size between 3 and 5 mm is allowed. Accidental catch of juveniles of other species should not exceed the 5% of the daily catch in terms of weight and any specimens caught should be released. Bycatch must not exceed 10% of daily catch in terms of weight and must be registered on the logbook or on the transparent goby catch data form (for the vessel smaller than 10 m). In case of catching a species having a minimum size regulation, they should be landed and will not be used for human consumption,	STECF notes that the available information on boat seine by-catch is limited and no data on discards is available. No measures to gradually eliminate discards are proposed.

ToR	Elements of the management plan	STECF comments
15. Quantifiable indicators for periodic monitoring and assessment of progress in achieving the targets of the management plan.	A CPUE of 15 kg/day/vessel estimated from the trawl fleet yields (2005-2010) is proposed as reference value which will be used to trigger management intervention in circumstances when the observed CPUE falls below 15Kg/day/vessel.	The value of the CPUE trigger would need to be updated for the seine fisheries. STECF notes that the use of the CPUE trigger in the MP is unclear. The MP notes that (i) "in case the average annual catch per unit effort (CPUE) falls below the limit reference point…….during one of the three years of the Plan, the… fishery is suspended from the end of February of the same year." It is unclear how an average annual CPUE value can be used to trigger management action within a fishing season. Furthermore, the MP stipulates that (ii) if CPUE is lower than this reference for two consecutive years, fishing in the following season will need to be restricted. However the corrective action is not specified.

STECF conclusions

STECF (PLEN-14-03) has previously evaluated a management plan for boat seines fishing transparent goby (*Aphia minuta*) in Manfredonia, Italy. STECF notes that the new elements presented in the revised MP, are limited and restricted only to results from 2015 experimental campaign. The MP would need to update the CPUE trigger used to be useable for the seine fishery. It is also needed to better describe the actions taken when the CPUE would go below the CPUE trigger.

STECF notes that the elements of the management plan must be defined in accordance with the CFP objectives.

References

MEDISEH (2013). Mediterranean Sensitive Habitats. Edited by Giannoulaki M., A. Belluscio, F. Colloca, S. Fraschetti, M. Scardi, C. Smith, P. Panayotidis, V. Valavanis M.T. Spedicato. DG MARE Specific Contract SI2.600741, Final Report, 557 p.

Vaccarella R., Pastorelli A.M., Marano G., Paparella P. (1998). Variazioni spaziotemporali della biocenosi a *Chamelea gallina* e *Owenia fusiformis* nel Golfo di Manfredonia. *Biol. Mar. Medit.*, 5 (2): 412-419.

5.9 Derogation for purse seiners operating in the Adriatic Sea

Background

The Mediterranean Regulation (MEDREG5) establishes minimum distances and depths for the use of fishing gears (Article 13). Purse seiners shall be prohibited within 300 m of the coast or within 50 m isobath where that depth is reached at a shorter distance from the coast (Art. 13, paragraph 3). In addition, a purse seine shall not be deployed at depths less than 70% of overall drop of the purse seine itself. For example, a net of 120 m could only be deployed at depths bigger than 70% of 120 m, corresponding to 84 m.

The reason for this is that if the drop of the net is bigger than the given depth: (i) the bottom of the net could act as a towed net catching non-pelagic species and; (ii) the net could also damage the seabed.

Croatia, Italy and Slovenia submitted to the Commission the report "*Technical properties of purse seines targeting small pelagic species in the Adriatic Sea and impact of their use on the seabed*". The report was commissioned by Slovenia, Croatia and Italy, under the umbrella of the AdriaMed project, to support a request for derogation from Article 13, paragraph 3 of the MEDREG. In addition to the report, an independent evaluation by the Institute of Marine Research in Norway is included here.

Request to the STECF

On the basis of the information provided by the background reports, STECF is requested to evaluate whether the derogations from Article 13, paragraph 3 of the Mediterranean Regulation are justifiable. In particular, the STECF shall evaluate whether the following conditions set by the MEDREG are fulfilled:

a. There are particular geographical constraints, such as the limited size of coastal platforms or limited fishing grounds;

b. The fisheries have any significant impact on the marine environment;

c. The fisheries involve a limited number of vessels and do not contain any increase in the fishing effort;

d. The fisheries cannot be undertaken with another gear;

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[5] Council Regulation (EC) No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea, amending Regulation (EEC) No 2847/93 and repealing Regulation (EC) No 1626/94. OJ L 409, 30.12.2006, p. 11–85.

e. The fisheries are subject to a management plan and carry out a monitoring of catches as requested in Article 23;

f. The vessels concerned have a track record of more than 5 years;

g. The fisheries do not operate above seagrass beds of, in particular, *Posidonia oceanica* or other marine phanerogams; In the event that the fisheries operate above seagrass beds, the purse-line, the lead-line or the hauling ropes do not touch the seagrass bed;

h. The fisheries do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets;

i. The fisheries are regulated in order to ensure that catches of species mentioned in Annex III, with the exception of mollusc bivalves, are minimal; and

j. The fisheries do not target cephalopods;

Background documents: (1) Report "*Technical properties of purse seines targeting small pelagic species in the Adriatic Sea and impact of their use on the seabed*"; (2) Opinion of the abovementioned report from the Institute of Marine Research of Norway; and (3) Management plans for purse seiners for Croatia, Italy and Slovenia.

STECF response

Summary of knowledge presented

The Adriatic Sea corresponds to GSAs 17 (northern and central Adriatic) and GSA 18 (southern Adriatic). Slovenia, Croatia and Italy request derogation of Art. 13, paragraph 3 of the MEDREG.

The basis for the derogation request is presented in the document "*Technical properties of purse seines targeting small pelagic species in the Adriatic Sea and impact of their use on the seabed*" (FAO AdriaMed). This document aims at demonstrating that the MEDREG definition relating overall drop and minimum depth where the net is allowed to operate is inappropriate. The current regulation requires the drop net to be no larger than depth/0.70, thereby assuming that the seine height in the water does not reduce to less than 70% of the stretched drop net (a 30% reduction). According to the technical report, the seine height would actually reduce to 26 to 46% of the stretched drop net (corresponding to a 54 to 74% reduction).This report was evaluated by the Institute of Marine Research in Norway. The evaluation concluded that the results of the study would support the requested derogations.

Two types of purse seiners are identified: those in the North Adriatic Sea (<30 m bottom depth), and the rest of the Adriatic (>30 m depth).

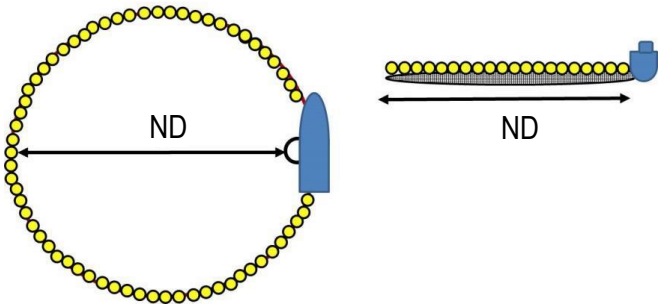
The Slovenian fleet operates within the Gulf of Trieste (at max depth of 25 m).

The Italian fleet in GSA17 operates in the Gulf of Trieste (at max depth of 25 m) and central Adriatic, extending to the south (at around 80-120 m depth).

The Croatian fleet is migratory, operates along the entire eastern coast, within and outside islands, in the coastal area (smaller purse seiners) and open sea, from 20 to 200 m.

A purse seine requires technical specifications to be operated. The main specification is the rigging of the netting with the headline and the headline / net drop ratio (HL/ND). In the technical document, it reads that for a given HL, the minimum feasible net drop (ND_{min}) may be HL/π in order to not twist the headline and the netting.

$$HL = \pi \times ND$$



$$ND_{min} = HL/\pi$$

As the relationship between ND and depth has to respect the MEDREG, $ND = depth/70\%$, HL is also linked to depth as follows: $HL = \pi \times depth/70\%$. Using this relationship it is possible to define the maximum feasible and allowed HL length by depth:

depth	HL	ND
25	112	36
50	224	71
75	337	107
84	377	**120**
100	449	120(*)
125	561	120(*)
150	673	120(*)
178	**800**	120(*)

(*): MEDREG.

According to the results of the tests performed to show the net drop when the net is fishing (Technical report, Table 10), the characteristics of the nets (headline length HL, stretched net drop SND, measured net drop MND), are as follows: for the purse seines used at >84 m depth (Italy), 400-500 m HL, 177-198 m SND, 76-85 m MND; for purse seines used at <84 m depth (Croatia), 510-600 m HL, 164-231 m SND, 54-70 m MND; and for the purse seines used at <25 m depth (Gulf of Trieste), 180-240 m HL, 82-85 m SND, 25 m MND. The ratio MND/SND would be of 43-46% for purse seines used at >84 m depth (Italy), 26-37% for purse seines used at <84 m depth (Croatia), and 29-30% for purse seines used at <25 m depth (Gulf of Trieste).

STECF observations

As a general comment, STECF notes that this derogation should not only be evaluated with regards to the MEDREG conditions, but also with regards to the CFP objectives. In particular, it should be evaluated whether the derogation bears a risk for an increase in catch efficiency and thus in fishing mortality, considering that the target species caught are already exploited above the levels compatible with MSY.

STECF shall evaluate whether the following conditions set by the MEDREG are fulfilled:

a. There are particular geographical constraints, such as the limited size of coastal platforms or limited fishing grounds;

There are no particular geographical constraints for the use of purse seine within the Adriatic, which indeed is used in a wide depth range. Nevertheless, it is worth noting that according to the MEDREG, the 70% drop rule should be applied to purse seiners operating in the Gulf of Trieste and in the Northern Istria (<25 m depth) and Croatian fleet operating at <80 m depth, which would imply that nets much smaller should be used in comparison to those currently in use at <25 m depth and < 84 m depth.

b. The fisheries have any significant impact on the marine environment;

For the short term, the impact on the benthic community appears to be low. The tests that were done with pressure sensors and video- cameras mounted on the ground rope showed that the impact on the bottom was low or null. This was the case also for the purse seiners operating in the Gulf of Trieste at <25 m depth. The low impact on the bottom would be confirmed by the small portion of demersal fish in the total catch.

Nevertheless, according to the results presented in the technical report (Table 10) the measured net drop of the nets used at <25 m depth is 25 m. Values for the observed minimum distance between the net and the bottom are given for purse seines used at >84 m depth (18-27 m) and those used at <84 m depth (5-14 m depth); but this information is missing for purse seines used at <25 m depth. Further justification is needed as for the net not touching the bottom when the measured net drop (25 m) appears to be larger than the depth where the net is being used. STECF notes also that according to the report, a seine operated in shallow waters (<25 m depth) would reach the bottom in less than 5 minutes, whereas the hauling procedures normally would last less than 1 hour, implying that there is a long period of time where the bottom of the net can be just near the floor level.

c. The fisheries involve a limited number of vessels and do not contain any increase in the fishing effort;

The fishery involves a large number of vessels: Croatia (244); Italy (38); Slovenia (4). Of the total 284 vessels, 241 correspond to the migratory fleet and 44 to the shallow water fleet.

According to the regulations in force it is not possible to increase neither the capacity nor the fishing days (see below).

d. The fisheries cannot be undertaken with another gear;

Pelagic trawlers might fish sardine and anchovy, but because of legal constraints, these gears cannot be used within the 3NM.

e. The fisheries are subject to a management plan and carry out a monitoring of catches as requested in Article 23;

Sardine and anchovy are monitored through the DCF and regularly assessed in the frame of GFCM and STECF. The stocks are currently fished above the levels corresponding to MSY, but the F is not much increasing but rather stable at a high level in the last 2-3 years.

In 2013, the GFCM adopted a recommendation for a multiannual management plan for fisheries on small pelagic stocks in the Northern Adriatic Sea, GSA17. The recommendation also foresees transitional conservation measures for fisheries on small pelagic stocks in the Southern Adriatic Sea, GSA18 (Recommendation GFCM 37/2013/1 on a multiannual management plan for fisheries on small pelagic stocks in the GFCM-GSA 17 (Northern Adriatic Sea) and on transitional conservation measures for fisheries on small pelagic stocks in GSA 18 (Southern Adriatic Sea)). Trawlers and purse seiners are classified as fishing actively for small pelagic stocks when sardine and/or anchovy accounts for at least 50% of the catch in live weight. The overall fleet capacity of trawlers and purse seiners both in terms of gross tonnage (GT) and/or gross registered tonnage (GRT) and in engine power (kW), as recorded both in the national and in the GFCM fleet registers, will not exceed at any time the reference fishing capacity for small pelagic stocks as established in 2013. The number of fishing days shall not exceed 180 fishing days per year.

Reference points (SSB B_{lim} and B_{pa}, $F_{MSY)}$) have been defined for sardine and anchovy in GSA17-18 (GFCM Scientific Advisory Committee on Fisheries (SAC) Report of the first meeting of the Subregional Committee for the Adriatic Sea (SRC-AS), 2016)

The background documents submitted to PLEN 16-02 include:

"Management plan of the Republic of Slovenia for certain fisheries within its territorial waters", submitted in November 2013. The management plan for different types of fishing gears, including surrounding nets targeting small pelagics, was adopted by Slovenia in 2014 (Decision No 34200-2/2014/4 of 13.02.2014).

"Management plan for "Srdelara" purse seine nets" submitted by Croatia in March 2014 for GSA17. The document indicates that Croatia, together with Italy and Slovenia, had asked for the opinion of independent experts to prove the need for exemption of Art. 13 of the MEDREG. The *Srdelara* purse seine fisheries management plan was adopted in Croatia in 2014 (Government Decision, Class 022-03/14-04/49, No 50301-05/25-14-2).

"Base scientifica per la predisposizione del Piano de Gestione GSA 17 e 18 per traino pelagico e circuzione Mar Adriatico" submitted by Italy (no date), and six documents "Allegati GSA Pelagici Adriatico". The data in these documents are not recent, in several cases the most recent data refer to 2007. The management plan for surrounding nets and pelagic trawl nets (circuizione e traino pelagico) was adopted in Italy in 2011 (Directorial Decree No 6 of 20.09.2011).

f. The vessels concerned have a track record of more than 5 years;

The vessels list presented in the report was updated in 2013, for Slovenia, Croatia and Italy, by age, length, power (Kw) and capacity (GT). At the time the number of vessels included in the age class 0- 10 years was 20 of the Croatian migratory fleet, 1 of the Italian migratory fleet , 1 of the Croatian shallow water fleet and 1 of the Italian shallow water fleet; none from the Slovenian shallow water fleet. All other vessels of the purse seine fleet where included in age classes above 10 year, in 10-year intervals, some of them very old (> 50 years).

g. The fisheries do not operate above seagrass beds of, in particular, Posidonia oceanica or other marine phanerogams; In the event that the fisheries operate above seagrass beds, the purse-line, the lead-line or the hauling ropes do not touch the seagrass bed ;

According to the fishing operations that were recorded in the technical study, the Slovenian purse seiners always operate well away from the *Posidonia oceanica* meadows and t the Italian purse seiners in the Gulf of Trieste do not affect Phanerogams beds. In the Management Plan for "Srdelara" it is indicated that purse seine nets do not touch *Posidonia* beds during fishing activities.

h. The fisheries do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets;

The study suggests that the modifications of purse seines to be in compliance with the MEDREG would result in a possible increase of fishing effort in shallower areas closer to the shore and increased interaction between the purse seiners and other small scale fisheries operating in the area. STECF considers that this conclusion is unclear, since the expected consequence of the derogation not being granted would be a displacement towards deeper waters of the purse seines that at present are being used in the shallowest waters at <25 m depth.

The Croatian national legislation regulates the use of different fishing gears in the same area.

i. The fisheries are regulated in order to ensure that catches of species mentioned in Annex III, with the exception of mollusc bivalves, are minimal;

There are two questions to highlight: first, no definition is available as for the meaning of "minimal" in the MEDREG; and second, the purse seine fishery targets sardine and anchovy, both included in Annex III.

The available information in the study on catch and by-catch data was collected in GSA17 (northern and central Adriatic), that is, no information is presented on the catch composition in GSA18 (southern Adriatic), area that would also be affected by the derogation, if granted.

Purse seiners targeting sardine and anchovy are selective; by-catch/discard represent 5.4% of the total catch.

The purse seiners of small dimensions operating in shallow waters in the North Adriatic (Gulf of Trieste and along the western coast of northern Istria) target anchovies and sardines and rarely also catch sparids (*Sparus aurata*, *Pagellus* spp, *Lithognathus mormyrus*), squid (*Loligo vulgaris)* and grey mullets. *Sparus aurata*, *Pagellus* spp and *Lithognathus mormyrus* are species mentioned in Annex III. It is unclear in the report the amount these species represent in the shallow water purse seiners, since the amount of by-catch is given for the whole purse seine fleet in GSA17. Also, it is not known whether the fish species in the by-catch correspond to juveniles.

j.The fisheries do not target cephalopods;

Data on the amount of by-catch/discard are presented for the purse seine fishery as a whole, but not for the various types of purse seines. Squid and southern shortfin squid are mentioned in the

by-catch of the overall purse seine fleet operating in GSA17. European squid (*Loligo vulgaris*), Jack mackerel (*Trachurus trachurus)*, garfish (*Belone belone*) and Southern shortfin squid (*Illex coindetii)* account each less than 3.5% in catch defined as by-catch/discard (5.4% of the total catch). *Trachurus* spp. is among the species listed in Annex III. Considering that the purse seine landings of anchovy and sardine are important (12776 t and 64407 t respectively in GSA 17+18 in 2012), even small percent of bycatch can represent substantial amounts. Total by-catch/discard would be around 4200 t, and European squid by-catch would be around 145 t (3.5% of 4200). By way of comparison, in 2012, the reported landings of European squid in the Adriatic were 109 t (Croatia); no reported landings by Italy and Slovenia (GFCM capture production database). The contribution of purse seine to the total European squid landings is low: Croatian annual landings in 2015 were ca. 120 t, and of these, 0.852 t corresponded to purse seine (Croatian official landings per gear).

STECF conclusions

The fishery targets Annex III species, anchovy and sardine. Thus, the purse seine fishery is not regulated for the catch of these species to be minimal. With regards to the MEDREG conditions, STECF concludes that they are not all fulfilled. The number of vessels (284 in total) cannot be considered as limited. Also, the quantities of cephalopods bycatch appear substantial, even though they represent only a small proportion of the total tonnage caught by purse seines.

The reason for regulating the drop of the net is that if the drop of the net is higher than the given depth: *(i)* the lower part of the net could act as a towed net catching non-pelagic species and; *(ii)* the net could also damage the seabed. STECF notes that the study "*Technical properties of purse seines targeting small pelagic species in the Adriatic Sea and impact of their use on the seabed*" includes most of the elements in support of the requested derogations. STECF concludes that according to this study, the physical impact of the leadline on the seabed seems to be negligible for the seines operating in the Central-Southern Adriatic Sea (e.g. mean depth around 80 m). However, it is unclear whether these conditions are met for the purse seines used in shallow waters (e.g. <25 m depth). Further clarifications are needed regarding the distance between the leadline and the seabed during the fishing operations for all types of fleets.

The study was conducted in GSA 17, although the derogation is requested for GSA17 and 18. No information is available on anchovy and sardine fishing grounds, catch composition and exploited sizes in GSA 18.

The study indicates that in case the requested derogation is not granted, the small purse seiners fishing in shallow waters should reduce the size of their nets, which might result in an increasing fishing effort in shallower areas closer to shore on smaller sardine and anchovy individuals, as well as in an increase of the interactions between the purse seiners and the other small scale fisheries operating the area. This conclusion remains unclear since the expected result from the derogation not being granted may rather be a displacement of the purse seines operating in the shallower waters (at <25 m depth for example) to deeper waters as well as in reducing purse seines in shallow waters.

Conversely, the possibility of change in the spatial distribution of the larger purse seiners if the derogation is granted has not been explored but is possible. The fleet might move into the shallow waters in the north, where the Italian pelagic pair-trawl fleet is active, fishing outside the 3NM. With the same number of fishing days as regulated by GFCM, this may lead to an increase in efficiency and in catches, since bigger nets could be used at lower depths. STECF recommends that this derogation should not only be evaluated with regards to the MEDREG conditions, but also with regards to the CFP objectives. Considering that the target species caught are already exploited above the levels compatible with MSY, the potential impact of the derogation on the fishing mortality should be evaluated.

5.10 Slovenian derogation for Volantina

Background

According to Article 13(1) of Regulation (EC) No 1967/2006 (the Mediterranean Regulation) the use of towed gears shall be prohibited within 3 nm of the coast or within the 50 m isobath where that depth is reached at a shorter distance from the coast.

The Commission implementing regulation of 277/2014 of 19 March 2014 granted Slovenia a derogation from Article 13(1) of the Mediterranean Regulation. This Article shall not apply in territorial waters of Slovenia, irrespective of the depth, between 1, 5 and 3 nm from the coast, to 'volantina' (bottom otter) trawlers which are used by vessels:

(a) bearing the registration number mentioned in the Slovenian management plan;

(b) having a track record in the fishery of more than five years and not involving any future increase in the fishing effort deployed; and

(c) holding a fishing authorization and operating under the management plan adopted by Slovenia in accordance with Article 19(2) of Regulation (EC) No 1967/2006.

This derogation is valid until 23 March 2017.

Slovenia's Management Plan (November 2013) provides the detail on what will be reported to the Commission:

"Monitoring of catch composition will be performed on an annual basis and reported to the European Commission. Report will include data on retained/discarded length composition by species, as well share and composition of juvenile organisms. Report will include also a list of vessels subject of derogation that were active in particular year, together with a number of fishing days spent at sea."

The Commission has received Annual Reports for Slovenia on this derogation covering the years 2014 and 2015. In June 2016, Slovenia also expressed their interest to prolong this derogation after it expires in March 2017.

Request to the STECF

STECF is requested to review and provide any appropriate comments on the 2014 and 2015 Annual Reports provided by the Slovenian authorities to support their request to prolong the derogation to Article 13(1) of the Mediterranean Regulation.

In particular, the STECF shall evaluate whether the following conditions set by the Mediterranean Regulation are fulfilled:

1. There are particular geographical constraints, such as the limited size of continental shelf or the limited extent of trawlable fishing grounds;
2. The fisheries have any significant impact on the marine environment;
3. The fisheries involve a limited number of vessels and do not contain any increase in the fishing effort;
4. The fisheries cannot be undertaken with another gear;
5. The fisheries are subject to a management plan and carry out a monitoring of catches;
6. The vessels concerned have a track record of more than 5 years;

7. The fisheries do not operate above seagrass beds of, in particular, *Posidonia oceanica* or other marine phanerogams; In the event that the fisheries operate above seagrass beds, the purse-line, the lead-line or the hauling ropes do not touch the seagrass bed;
8. The fisheries do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets;
9. The fisheries are regulated in order to ensure that catches of species mentioned in Annex III, with the exception of mollusc bivalves, are minimal; and
10. The fisheries do not target cephalopods

STECF comments

Slovenia is asking for a prolongation of the derogation of Article 13(1) of the Mediterranean Regulation regarding the prohibition of use of towed gears within 3 nm of the coast or within the 50 m isobath where that depth is reached at a shorter distance from the coast. The request is to allow fishing within the 1.5-3 Nmiles zone. Trawlers are currently not allowed to operate within 3nm from the coast, but beyond 3 nm the due to a limited area of territorial waters and due to restrictions for free navigation. Current derogation was granted up to 23rd march 2017.

A comprehensive management plan for many fisheries including volantina trawling and the special request of the above mentioned derogation were analysed during the session held from 8 to 12 April 2013 of STECF (PLEN-13-01). At this time it was stressed that information included in the Plan was insufficient for evaluating the suitability of the management measures included in the whole plan. STECF PLEN 13-01 considered that separate information on catch composition, size structure and fishing effort exerted by the fleet within the 1.5-3 Nmiles stripe and outside the 3 miles as well as the socio-economic consequences of management decisions in both cases (acceptance or not of the derogation) were needed .

The Commission approved nevertheless the Slovenian request and the derogation was granted (Commission Implementing Regulation 77/2014 of 19 March 2014). In the text of the Commission is requested the control of several variables after the entry into force of the Regulation and reporting drawn up in accordance with the monitoring plan established in the management plan.

Following the requests of the Commission two documents were prepared by Slovenia regarding the activity of the fishery in 2014 and 2015. The reports include catch composition and length frequencies for a selected number of species caught. However, STECF notes that in these documents, no separated analysis within the 1.5 to 3 miles zone and beyond is supplied as requested by STECF in 2013.

Related to the general conditions requested by the Commission for the approval of the derogation, which are based on the Mediterranean regulation, STECF considers that:

1. The particular geographical limitations which motivated the derogation request in 2013 still apply.
2. Phanerogam beds (sea grass) or other critical areas are mostly placed at lower (<1.5 nmiles) distance from the coast The fishery activities are thus mainly located outside of the sensitive marine habitats.
3. The fishery involves a limited number of small vessels (12), and in the MP it is stated that the authorized vessels will not increase. Fishing activity (number of days) remained close to the activity before the derogation. A 5 % increase in the number of daily trips for the whole fleet was observed after the derogation (from 783 in 2014 to 815 in

2015), but effort remains at the level of the years 2005-2015 where activity fluctuated from 660 to 850 days without trend

4. Alternative gears potentially suitable for targeting the same species may have a larger impact on the benthic community because of the use of heavier gears specially the ground rope. STECF notes though that in the MP the description of the gear ("volantina") is not clearly detailed.
5. The management plan is already enforced and also the monitoring of activity using logbooks that include information of each daily trip. Sampling of catches is regularly done including species composition and size frequencies. Biological parameters will consist of: species composition retained/discarded quantities by species, retained/discarded length .composition, as well share and composition of juvenile organisms. Central part of the study will be the collection of data on the impact on the marine environment. All such information, however is not structured as suggested by STECF in 2013).It is planned a reduction in fishing effort mainly through the enforcement of seasonal fishing bans. Assessment of stocks status will be performed at regional level as stocks are shared with other nations14.
6. The Annual report provides the vessels registration numbers, which are the same in 2014 and 2015 (track record of at least 2 years). It is not known if the vessels concerned have a track record of more than 5 years;
7. The fisheries do not operate above seagrass beds of, in particular, *Posidonia oceanica* or other marine phanerogams; The used net is a bottom trawl net but operation area does not overlap with seagrass beds or other sensitive grounds that are closer to the shore in this area;
8. It is stated that this fishery does not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets, but STECF is not in a position to evaluate this statement ;
9. Regarding landings, the quantities are limited overall. In 2014 the main landed species was whiting (*M. merlangius)* with 17 t (24% in weight of the total landings), followed by squid *Loligo vulgaris* with 23t (23%), octopus *Eledone moschata* with 10t (14%), and red mulet *Mullus barbatus* with 3t (4.6%). In 2015 results were similar: 11 t *M.merlangius* (17%), 10 t *Loligo vulgaris* (15%), 8 t *Eledone moschata* (12%) and 4 t bream *Sparus aurata* (6%). The share of Annex III species is about 6-7% of the total landings, sometimes include some substantial proportions of juveniles . STECF notes that it is not possible at the moment to distinguish whether catch composition nor juveniles proportions are similar for vessels fishing within the 1.5-3 miles zone and for vessels operating beyond 3nm.
10. It is unclear whether the requested condition regarding the non-targeting of cephalopods is fulfilled. It is stated that the only target species of the fishery is whiting (*Merlangius merlangius)*. Whiting is the main species in the landings (24% in 2014 and 17% in 2015), but the cephalopods complex (*Loligo vulgaris, Sepia officinalis* and *Eledone moschata*) do together represents a much more important fraction (almost twice) of the overall landings (about 41% in 2014 and 30% in 2015). In such mixed-fisheries it is difficult to classify species as being either a target or a by-catch. STECF notes furthermore that whiting has a low commercial value (about 4 euros/kg) compared to cephalopods (about 10 euros/kg for squid).

STECF conclusions

STECF concludes that the reports contain a lot of useful information for the evaluation of the fulfilment of the MEDREG conditions, but it is not possible to distinguish activities and landings between the 1.5-3 nm zone and beyond 3nm

Most conditions seem fulfilled. STECF notes however that it cannot be considered that the fleet does not target cephalopods, implying that the condition 10 is not fully fulfilled.

STECF consider that the management plan should be revised to align with the 2013 CFP, including the achievement of the MSY objective,

5.11 *De minimis* exemptions for certain fisheries in non-Union waters not subject to third countries' sovereignty or jurisdiction

Background

Since the entry into force of the Article 15 of the landing obligation established by the new CFP (Regulation (EU) 1380/2013), the Commission has adopted delegated regulations providing derogations from this new policy. However, there are many other fisheries in non-EU waters that fall or will fall under the landing obligation and for which the landing obligation will apply with no exemptions, unless discard plans are established.

In accordance with Article 15(1d) of the CFP, the next steps of the landing obligation will be: "*from 1 January 2017 at the latest for species which define the fisheries and from 1 January 2019 at the latest for all other species in fisheries not covered by point (a) in the Mediterranean, in the Black Sea and in all other Union waters and in non-Union waters not subject to third countries' sovereignty or jurisdiction*".

According to Article 15(7) of the CFP, where there are no *de minimis* provisions established in a multiannual plan or a discard plan, the Commission shall adopt delegated acts, in accordance with Article 46, setting *de minimis* exemptions, subject to the conditions set out in Article 15(5c). For non-EU waters not subject to other countries' sovereignty or jurisdiction there is neither EU discard plan, nor *de minimis* provisions adopted in a multiannual plan and, according to the most recent information, Member States do not plan to adopt Joint Recommendations before the end of 2016. Thus, the Commission has to adopt a delegated regulation establishing such *de minimis* provisions as appropriate.

The delegated regulation will have to rely on the best scientific advice available concerning in particular the identification of the species that define the fisheries, the rational for *de minimis* exemptions and the choice of *de minimis* percentages. However, due to the lack of time and the number of species/fisheries concerned the STECF will be requested to assess first if it is possible to propose a transitional/temporary generic *de minimis* percentage covering all the fisheries concerned (or groups of fisheries), until an in depth analysis of this request is performed on a fishery by fishery basis. Once the final STECF advice will be received, the Commission will consider revising the delegated regulation and adapting the *de minimis* percentages if needed.

Request to the STECF

Assuming that Member States will not develop joint recommendations to assist the Commission to analyse and validate the justification of *de minimis* provisions for fisheries in non-Union waters not subject to third countries' sovereignty or jurisdiction and not covered already by a Commission delegated regulation, the STECF is requested to:

1. Based (as a starting point) on the list provided in Annex 1 and on a recent study commissioned by DG MARE, provide rationale and proposals for the identification of the species that define the fisheries and that are not covered already by a Commission delegated regulation or a discard plan and if possible update this list to cover all the fisheries in non-Union waters not subject to third countries' sovereignty or jurisdiction, where the EU fleet operates;

2. Based on previous experience and work on the landing obligation, the development of Joint Recommendations and/or discard/multiannual plans, assess the possibility to provide **a single transitional generic *de minimis* percentage covering all the species that define the fisheries identified in point 1**. Different transitional generic *de minimis* percentages can be

sought for relevant groupings of species that define the fisheries (for example for "pelagics" etc). This transitional generic *de minimis* could be used until the tasks listed in step 2 (see below) are finalised.

3. Identify data gaps, assess what further sources of supporting information may be available (including relevant Advisory Councils), how this additional information could be supplied (e.g. discard data collection, selectivity studies) and, if relevant, the need for specific working arrangements to perform the tasks 1, 4, 5 and 6.

Tasks following the summer plenary (within a reasonable timescale, according to data collection needs and workload of the STECF)

4. Based, as a starting point, on recent study commissioned by DG MARE (Annex 2) provide, where possible, reasons for discarding, estimates of discard rates and other relevant information for the fisheries defined in point 1 and the species included in the (updated) list (point 1);

5. Assess if any of the species/fisheries defined in point 1 should be exempted from the landing obligation based on Article 15/4a&b (prohibited species and high survival rates) taking into account the relevant parameters.

6. Taking account of the previous point, advice for each species/fishery defined in point 1 on whether there is sufficient biological, technical and/or economic evidence to support a *de minimis* exemption on the basis that either increases in selectivity are very difficult to achieve, or handling unwanted catches would create disproportionate costs, and propose a meaningful percentage (or range) of discards, within the limits established in Article 15.7.

STECF response

Summary of information provided

Regulation (EU) No 1380/2013 calls for the landing of all catches of species which are subject to catch limits and, in the Mediterranean, also catches of certain species which are subject to minimum sizes ('the landing obligation'). Article 15(1) of that Regulation covers fishing activities in Union waters or by Union fishing vessels outside Union waters in the remits of Regional Fishery Management Organizations (RFMO) in waters not subject to third countries' sovereignty or jurisdiction.

Certain RFMOs management measures oblige fishing vessels fishing in their waters to discard, in certain circumstances, the catch of some species which are currently or will be subject to the landing obligation. A recent study commissioned by DG MARE[6] reviewed existing international obligations regarding the management of discards in Regional Fisheries Management Organisations (RFMOs), with the objective of identifying to what extent such international obligations are aligned or are legally inconsistent with Article 15 of the new Common Fisheries Policy (CFP) regulation.

In order to meet these objectives, the study (i) provided an inventory of the EU's RFMOs obligations concerning the management of bycatch/discards, (ii) identified and described the

[6] Provision of advice on the management of discards in EU fisheries beyond EU waters Phase I. Specific Contract No. 3 under Framework Contract No. MARE/2012/21

different EU fisheries (métiers) in RFMOs that are potentially affected by obligations incompatible with the landing obligation in respect of discarding, (iii) identified species that are exempted from the landing obligation on the basis of Article 15(4) of the CFP, (i.e. they are prohibited from being retained on board and landed), (iv) provided an overview of available discard and bycatch information for stocks, and any scientific evidence of species with high survival and (v) classified them according to the available discard information (i.e. from low to high discard rates) and provided information on the reasons for discarding.

This review of RFMO management measures identified a diverse range of binding and non-binding management obligations relevant to discarding within RFMOs. In this study Tuna RFMOs (CCSBT, IATTC, ICCAT, IOTC, WCPFC) and non-tuna RFMOs (CCAMLR, CECAF, NAFO, NEAFC, SEAFO, SIOFA, SPRFMO) were reviewed. In summary, the results of this study showed that some RFMO measures (three ICCAT Recommendations and three NAFO Conservation and Enforcement measures) contain provisions that are potentially inconsistent with the landing obligation. As a result, a total of 28 EU métiers currently operating within NAFO, ICCAT and areas of NEAFC which overlap with the ICCAT area were identified to be subject to varying degrees to legal inconsistencies between the measures in the RFMO and the landing obligation (i.e the RFMOs contain measures that force fishermen to discard under certain circumstances). For many of these métiers, information available on the extent of discards of species is limited.

On that basis, the Commission has adopted delegated regulations[7,8] that include derogations from the landing obligation for fisheries in non-EU waters under the mandate of different ICCAT and NAFO (and fishing vessels operating in NEAFC).

Annex 1 provided by DG MARE as background information list species managed by TACs (or Minimum Conservation Reference Size in the Mediterranean) harvested by EU fleets in different RFMOs. The objective of the table is to identify (i) which species defines the fisheries, (ii) whether there is already a delegated regulation to avoid any legal inconsistency between RFMO measures and LO, and (iii) whether there is already a delegated regulation to establish exemptions and levels of *de minimis*. The intention of this table is to help the Commission organize and prioritize the work with regard to the development of further delegated regulations to implement the landing obligation in non-Union waters. .

[7] Commission Delegated Regulation (EU) 2015/98 of 18 November 2014 on the implementation of the Union's international obligations, as referred to in Article 15(2) of Regulation (EU) No 1380/2013 of the European Parliament and of the Council, under the International Convention for the Conservation of Atlantic Tunas and the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries

[8] Commission Delegated Regulation (EU) 2016/171 of 20 November 2015 amending Delegated Regulation (EU) 2015/98 on the implementation of the Union's international obligations, as referred to in Article 15(2) of Regulation (EU) No 1380/2013 of the European Parliament and of the Council, under the International Convention for the Conservation of Atlantic Tunas and the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries

STECF considerations

ToR 1.- Based (as a starting point) on the list provided in Annex 1 and on a recent study commissioned by DG MARE, provide rationale and proposals for the identification of the species that define the fisheries and that are not covered already by a Commission delegated regulation or a discard plan and if possible update this list to cover all the fisheries in non-Union waters not subject to third countries' sovereignty or jurisdiction, where the EU fleet operates.

The table (5.11.1 Annex 1) has been updated by STECF PLEN-16-02 with information on all species managed under TACs (or Minimum Conservation Reference Size, MCRS, in the MED) and harvested by the EU fleet in RFMOs and, thus, potentially subject to the landing obligation. The table now includes information on (i) the species defining the fishery on the basis of lists of authorised vessels that have a license to fish a particular species in RFMOs (e.g. EU LL fleets are authorized to fish *Dissosstichus spp* in some areas of CCAMLR), (ii) when the landing obligation is applicable, (iii) if this species is discarded or not based on RFMOs Scientific Reports, (iv) if the fishery is covered by a Commission Delegated Regulations that address legal inconsistencies between Union law and RFMO rules or adopts some exemptions based on high survival rates or *de minimis*, (v) if a discard plan or joint recommendations is available, and (vi) if the species in questions in that particular fishery is prohibited, there are scientific evidences for high survival, and if *de minimis* is not needed (e.g. no discards of this species in that fishery).

Point (i), (iii), and (vi) were added by STECF to the original table, allowing for a quicker appraisal of the situation to identify fisheries/species in which prohibited and high survival species are caught and fisheries/species for which de minimis exemptions could be expected. This could help prioritise the work to answer point 4, 5 and 6 of the request.

The table has been updated using expert knowledge available in STECF Plenary 16-02, RFMOs Scientific Reports as well as the DG MARE study provided as a background document. The information provided in the table should be treated as preliminary and needs to be further completed before the October 2016 STECF Plenary (see workplan provided in TOR 3).

ToR 2.- Based on previous experience and work on the landing obligation, the development of Joint Recommendations and/or discard/multinannual plans, assess the possibility to provide a single transitional generic de minimis percentage covering all the species that define the fisheries identified in point 1. Different transitional generic de minimis percentages can be sought for relevant groupings of species that define the fisheries (for example for "pelagics" etc). This transitional generic de minimis could be used until the tasks listed in step 2 (see below) are finalised.

The basic elements of the *de minimis* provision include the establishment of limits on the percentage of catches that can be discarded under certain conditions. These discards need to be recorded but are not counted against quotas. De minimis exemptions are intended to cover unwanted catches that cannot be eliminated through improved selectivity.

The objectives of the CFP Article 15 is to "gradually eliminate discards, on a case-by-case basis, taking into account the best available scientific advice, by avoiding and reducing, as far as possible, unwanted catches, and by gradually ensuring that catches are landed" (EU 1380/2015, article 2.5a). Recital 31 states that "In order to cater for unwanted catches that are unavoidable even when all the measures for their reduction are applied, certain de minimis exemptions from the landing obligation should be established". According to the regulation, a *de minimis* should

only apply in the following cases: "(i) where scientific evidence indicates that increases in selectivity are very difficult to achieve; or (ii) to avoid disproportionate costs of handling unwanted catches, for those fishing gears where unwanted catches per fishing gear do not represent more than a certain percentage, to be established in a plan, of total annual catch of that gear." (EU 1380/2015, articles 15.5c and 15.7).

STECF has in the last few years provided guidelines for designing discard plans. EWG 13-23-noted that regional groups involved in the development of joint recommendations including *de minimis* exemptions should pay careful attention to their choice of interpretation of the *de minimis* provision due to the potential outcomes. Circumstances which may result in unintended consequences and discard quantities higher than intended should be avoided. STECF EWG 13-23 also noted that Article 2 of the CFP basic regulation calls for the application of the precautionary approach to fisheries management and that exploitation should be consistent with the achievement of maximum sustainable yield.

STECF EWG 14-019 maintained the view from EWG 13-23 that the spirit and general purpose of the *de minimis* provision ('a small discard proportion') is to provide a 'safety valve' allowing for some discarding in the most difficult circumstances.

The application of *de minimis* should therefore be considered only after other technical or tactical approaches to avoid capture of unwanted catch in the first instance have been exhausted or when cost for implementation would be disproportionate. It is difficult to assess to which extent a generic *de minimis* would contribute to achieving the overall objectives of the CFP nor the specific requirements and conditions specified for *de minimis*. Potentially it may mean that a generic *de minimis* established would be higher than current discard rates for a particular fishery/species (Table 5.11.2), as, for example, a generic *de minimis* for demersal species caught in trawl fisheries in NAFO area would cover different metiers in different areas with different discard practices and discard rates.

[9] Scientific, Technical and Economic Committee for Fisheries (STECF) – Landing Obligation in EU Fisheries - part II (STECF-14-01). 2014. Publications Office of the European Union, Luxembourg, EUR 26551 EN, JRC 88869, 67 pp.

Table 5.11.2: Level of discarding in NAFO métiers based on the available information (from Provision of advice on the management of discards in EU fisheries beyond EU waters Phase I. Specific Contract No. 3 under Framework Contract No. MARE/2012/21).

NAFO Métier	All species	Redfish	Cod	GHL	A. plaice	Y. flounder	W. flounder	Skates
Greenland Halibut in Divisions 3LMNO	6 %		0 %	0 %	0 %		0 %	0 %
Redfish in Divisions 3LMNO	14 %	10 %	0 %	0 %	1 %	1 %	0 %	1 %
Cod in Division 3M discards rates	5 %	2 %	3 %					
Skate in Divisions 3NO	12 %		0.8 %		1.6 %	3.4 %		3.3 %
Shrimp in Divisions 3LM	4 %	4 %						

STECF has earlier provided guidance to Member States, the Advisory Councils, and the Commission on the types of underpinning evidence that should be supplied to support the different elements of discard plans, including *de minimis* provision. Among those evidences, for *de minimis* exemptions scientific supporting documentation (biological, discard rates, technical and/or economic) on the basis that either increasing selectivity is very difficult to achieve, or to avoid handling unwanted catches would create disproportionate cost should be provided.

The information on discard rates and species from the fisheries on Table 5.11.1 is not available and, thus, STECF considers that there is not sufficient scientific basis to provide a single transitional generic *de minimis* percentage covering the discards of all the species of the fisheries identified in point 1 which will account for a generic level to reduce the discards.

STECF considers also that establishing *de minimis* is the resort of management, not of the scientific bodies, and does neither have the necessary information to stablish specific *de minimis* provisions as requested.

ToR 3.- Identify data gaps, assess what further sources of supporting information may be available (including relevant Advisory Councils), how this additional information could be supplied (e.g. discard data collection, selectivity studies) and, if relevant, the need for specific working arrangements to perform the tasks 1, 4, 5 and 6.

Tasks following the summer plenary (within a reasonable timescale, according to data collection needs and workload of the STECF)

ToR 4. Based, as a starting point, on recent study commissioned by DG MARE (Annex 2) provide, where possible, reasons for discarding, estimates of discard rates and other relevant information for the fisheries defined in point 1 and the species included in the (updated) list (point 1);

ToR 5. Assess if any of the species/fisheries defined in point 1 should be exempted from the landing obligation based on Article 15/4a&b (prohibited species and high survival rates) taking into account the relevant parameters.

ToR 6. Taking account of the previous point, advice for each species/fishery defined in point 1 on whether there is sufficient biological, technical and/or economic evidence to support a de minimis exemption on the basis that either increases in selectivity are very difficult to achieve, or handling unwanted catches would create disproportionate costs, and propose a meaningful percentage (or range) of discards, within the limits established in Article 15.7.

STECF considers that tasks 1, 4, 5 and 6 are related to the development of discard plans (specially for *de minimis* exemption) for EU fisheries in RFMOs. Joint recommendations for discard plans should include the contents described in Article 5 a-e of the Landing Obligation. STECF has previously provided guidelines to develop discard plans (see for example EWG 16-06).

STECF considers that the work requested under ToR 1, 4, 5 and 6 is not straightforward and would require a significant amount of work considering the number of fisheries/species/regions to be covered (see table 5.11.1). Thus, STECF considers that this work should be completed through a specific ad-hoc contract and/or by an STECF Expert Working Group on Landing Obligation for the EU fleets operating in International RFMOs. The results from this study should be presented to STECF for revision in its 2016 autumn Plenary Meeting. The Long Distance Advisory Council should be involved, as well as scientists participating in different RFMOs, should be involved in completing the background work required. STECF notes that it might be necessary to make a DCF data call to identify and describe the main fisheries, target and bycatch species, discards rate, etc.

STECF notes that the ToRs of EWG 15-14 on Landing Obligation - Part 6 (Fisheries targeting demersal species in the Mediterranean Sea) were similar to the points 1-3 above and, thus, **STECF considers** that the approach taken for the Landing Obligation in Mediterranean Sea could be followed to improve the knowledge basis for the implementation of Landing Obligation in EU fisheries in RFMOs.

STEC suggests the following possible ToRs/objectives for this expert working group and/or ad-hoc project:

- Complete the table 5.11.1
- Identify and describe the different EU fisheries (métiers) in RFMOs that are potentially affected by discard obligations. The fisheries shall be described in terms of species (target and bycatch), catch composition, fishing gear and fleets.
- For each of these fisheries, provide an overview of available information regarding discards and bycatch for individual stocks, including reasons for discards: e.g. management measures limiting catch retention of bycatch species or undersized, mixed fisheries and unavoidable bycatch, quota limited stocks, high grading.
- For each of these fisheries, identify the species that shall be exempted from the landing obligation on the basis of Article 15(4)a of the new CFP Regulation: species in respect of which fishing is prohibited and that are identified as such in a Union act adopted in the area of the Common Fisheries Policy
- Review available scientific information to assess the survivability of the species taking into account the characteristics of the gear, of the fishing practices and of the ecosystem and to assess whether the finding can be applicable to the stocks affected by LO

- Review existing mitigation measures to improve the selectivity of the fishing gears targeting those stocks and identify, on the basis of satisfactory evidences, the most effective measures that could be implemented in a short term for the different fisheries.
- Identify potential discard issues associated with the fisheries previously identified that cannot be addressed through improvements in selectivity or would lead to disproportionate costs of sorting unwanted catches on board.

STECF conclusions

ToR 1. - The table has been updated using expert knowledge available in STECF Plenary 16-02, RFMOs Scientific Reports as well as the DG MARE study provided as a background document. STECF concludes that the information provided in the table should be treated as preliminary and needs to be further completed before the October 2016 STECF Plenary (see workplan provided in TOR 3).

ToR 2. - **STECF concludes** that there is not sufficient scientific basis to provide a single transitional generic *de minimis* percentage covering the discards of all the species of a particular fishery identified in point 1 which will account for a generic level to reduce the discards.

STECF concludes that unless a generic *de minimis* would be established at or below the lowest observed current discard rate across a group of fishery/species, such a generic *de minimis* could be potentially higher than current discard rates for a particular fishery/species

ToR 3. - **STECF concludes** that an expert WG or ad-hoc project to collect all the information needed to develop delegated regulations (especially for *de minimis* exemption) for EU fisheries in RFMOs is needed.

5.12 Quality assurance procedures for biological and economic variables

Background

In accordance with Article 7.2 of Council Regulation (EC) No 199/2008, STECF is requested to evaluate the Annual Reports of Member States submitted annually, in terms of execution and quality. Quality of DCF data was formerly evaluated by the use of the coefficient of variation (CVs). However, this is no longer the case, as previous STECF EWGs have come to the conclusion that the levels of CVs, as requested by EU MAP (COM Decision 2010/93/EU), are not realistic and therefore cannot be met by Member States. As a result, this quality indicator has been removed from the Annual Report templates of Member States (for an example, see the guidelines produced in STECF EWG 15-15 and reviewed by STECF written procedure). In addition, the revised EU MAP, currently under discussion, no longer prescribes specific quality indicators for the reporting of Member States under the DCF. Instead, there is a more general reference to quality assurance in the Work Plan template (to replace the National Programmes), which is also currently under discussion. Under the future legal setup, Member States will be expected to follow guidelines provided by the Commission or scientific bodies, like ICES, STECF and expert bodies to the European Commission, in order to meet the quality standards for the DCF.

Request to the STECF

The STECF is requested to:

1. Review the background documents whether they will serve as appropriate guidance on quality standards for Member States, when they prepare their Work Plans and Annual Reports. These will in turn assist STECF in the evaluation of the quality of Annual Reports, in line with the DCF Regulation. These documents are the following: (i) Ad-hoc contract report on data quality for DCF socio-economic data, and (ii) two reports on quality assurance for DCF biological data for North Sea & Eastern Arctic and for Med & Black Sea (as part of 'MARE/2014/19 - Strengthening regional cooperation in the area of fisheries data collection'). Both documents have been discussed during STECF EWG 16-08.
2. Indicate whether additional guidance should be provided to Member States in terms of quality. If this is the case, indicate whether existing guidelines from scientific bodies like ICES and STECF, can be used as reference or new work needs to be conducted.

STECF observations and comments

Review of the background documents

STECF observes that in the agreed EUMAP, there are no quality indicators set as target for the data collection. The general principles on quality assurance and quality control are laid down in Article 5 of the Commission Implementing Decision laying down rules on the format for the submission of work plans (WP) for data collection in the fisheries and aquaculture sector. MS are requested to provide information in their WP about the quality assurance framework using Table 5A for biological data and Table 5 B for economic data presented in the Section 5 of the Annex. Both tables shall provide overview whether documentation in the data collection process exists and identify where relevant documentation can be found. The Table 5A for biological data to be compiled by MS for each sampling scheme and region includes following sections:

- Sampling design;
- Sampling implementation;

- Data capture;
- Data storage;
- Data processing

STECF observes that the quality assurance framework defined for the socio-economic (Annex Table 5B of rules for submission of WP) is more detailed than the Annex Table 5A on biological data in terms of documentation and it follows the structure of the Report on "Quality guidelines for DCF" (ad-hoc contract report) in defining quality control for the institution responsible for data collection. Table 5B includes a description of the institutional environment, statistical processes and statistical outputs. The table describes 10 detailed principles of the quality assurance framework that are to be addressed by documentation of the Member States procedures for quality assurance.

STECF observes that the EWG 16-08 reviewed the two project reports containing procedures for data quality checks for DCF biological data collected in the regions "North Sea and Eastern Arctic" and "Mediterranean and Black Sea" as well as the report on data quality for DCF socio-economic data (ad-hoc contract report).

STECF observes that these reports can be considered as good starting points for the development of the necessary quality assurance framework guidelines for biological and socio-economic data defining a detailed list of necessary administrative procedures and documentation.

Indicate whether additional guidance should be provided to Member States in terms of quality. Indicate whether existing guidelines from scientific bodies like ICES and STECF, can be used as reference or new work needs to be conducted

STECF notes that the Planning Group on Economic Issues (PGECON) and Regional Coordination Meetings/Groups (RCMs/RCGs) are the major bodies within DCF framework responsible for the methodological support of the data collection.

STECF observes that during the last PGECON meeting most of MS agreed with the proposed quality assurance framework for economic data, which could in the long term enable MS and PGECON to develop best practice guides increasing comparability and coherence of economic data collection at the EU level, and serve as a tool for all Member States in order to find the best methods for the collection of economic data using limited resources.

STECF observes that the description of the quality assurance framework as defined by the Commission implementing Decision on Work Plans (Annex Tables 5A and 5B) is based on national efforts on quality assurance. At the same time, quality checks and quality requirements are also set by end users, e.g. ICES has repository of data quality assurance[10], JRC implemented quality checking procedures, etc. MS should be encouraged to incorporate quality checks implemented by different end users in national data quality checking procedures.

STECF observes that the data collected should fit the purpose and the resources used to collect the data as well as methods employed are appropriate and follows available best practice guides and recommendations of relevant bodies. RCGs and PGECON should be used as main platform to discuss quality of the data collected, changes in methods and data calls.

[10] http://www.ices.dk/community/Pages/PGCCDBS-doc-repository.aspx

STECF observes that there is a tight deadline this year (31 October) regarding Member States preparation and submission of the Work Plans (WP).

STECF observes that a common repository on the Data Collection website with the best practices and methods as a start of the Quality Assurance Framework could provide a useful tool in relation to secure knowledge sharing between the parties involved. The repository could for instance contain the following:

- a section with methodological guidelines by thematic area, best practices identified so far, scripts used for data processing, quality assurance procedures imposed by end users and MS as well as quality checks and their scripts
- a master file, structured in a similar way as national WPs, with links to documents and methodological guidelines already available and the the most useful documents and summary reports on these matters. Preferably, such a file should be available before October to aid MS during preparation of the WPs.

STECF conclusions

STECF concludes that the two project reports on the regional collection of DCF biological data for the regions "North Sea and Eastern Arctic" and for the "Mediterranean and Black Sea" (as part of 'MARE/2014/19 - Strengthening regional cooperation in the area of fisheries data collection) as well as the "Quality guidelines for the DCF" (ad-hoc contract report) are useful for the preparation of the Quality Assurance Framework and should be circulated to MS by the Commission.

Furthermore, STECF also concludes that the quality assurance framework for economic and biological data should be harmonized, by merging Table 5A and Table 5B into one providing core requirements for the quality assurance framework without differentiating the quality assurance framework between biological and economic data.

STECF concludes that because of the tight deadline regarding submission of Work Plans, the Commission should consider to postpone the complete introduction of the Quality Framework for one year to allow a more in-depth review of requirements in order to prepare comprehensive guidelines to support the MS implementation in relation to quality indicators.

STECF suggests that the Commission organises an EWG on Quality Assurance in the spring 2017 with the main objective to improve the guidelines on data quality for MS and set the main principles for evaluation of data quality and results of data collection as well as establish minimum/meaningful requirements. End users, statisticians, economists and biologists as well as external experts should be invited.

STECF suggests that the RCGs as well as PGECON should take a lead on the development of standard guidelines and best practice guides in the long term at the regional level (EU level in the case of economic data). Given the possibility of differing requirements in the various RCGs, there is a need for harmonization/standardization at both the regional level and across RCGs.

Creation of documentation under Quality Assurance Framework and absence of clear quality targets in the EU MAP should not be considered as absence of quantitative quality control. Indicators of coverage, variability and bias should still be requested with the data during the data calls by end users and might be evaluated by STECF or RCGs/PGECON depending on the outcomes and proposals of STECF EWG on Quality.

STECF suggests that the Commission encourage Member States to provide at least basic documentation with description of sampling schemes and fill in the standard tables 5A and 5B based on the current documentation of procedures in place.

A timeline for the development and implementation of the Quality Assurance Framework could be as follows:

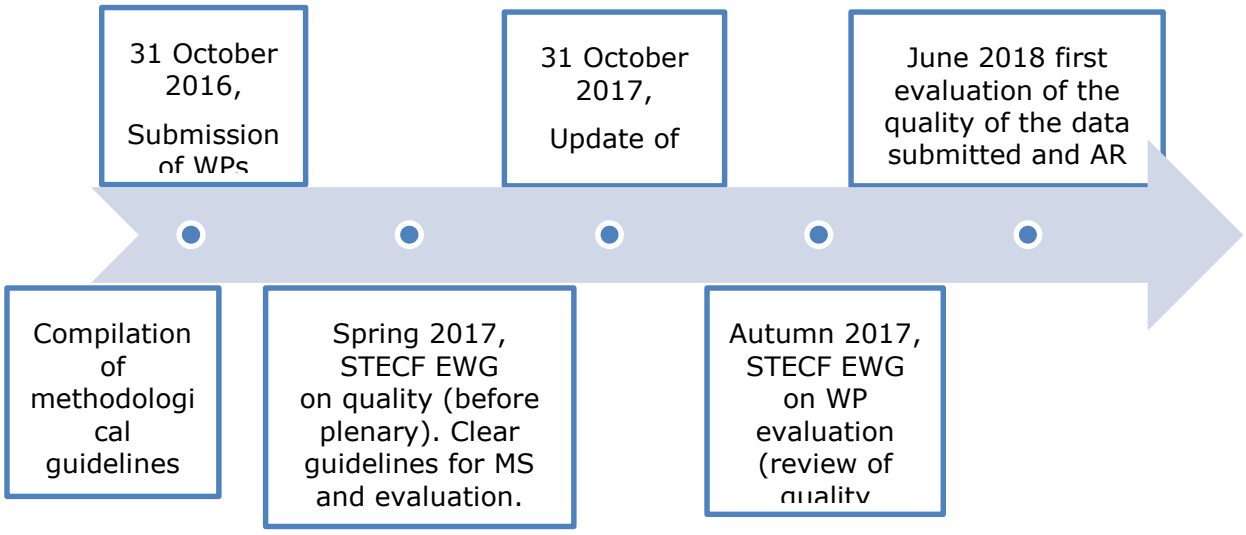


Figure 5.12.1: Possible timeline for quality assurance framework

5.13 Process for evaluation of DCF Work Plans

Background

Based on Article 6 of Council Regulation (EC) No 199/2008, STECF is responsible for evaluating the National Programmes of Member States, in terms of conformity to content set by this Regulation, scientific relevance of the data to be covered and quality of proposed methods and procedures. The National Programmes will be replaced by the Work Plans. According to the DCF recast proposal, STECF will be requested to evaluate the Work Plans of Member States, based on the same criteria, as before: conformity with EU multi annual programme, scientific relevance and quality. This year, Member States will submit their Work Plans for the first time (31st of October 2016) and STECF EWG 16-16 will be requested to evaluate them. The Commission shall adopt these work plans by the end of 2016. The tight deadlines imposed on all involved parties (MSs, STECF and Commission), make it essential to streamline the process as much as possible. On the STECF side, there is a need for clear guidance on the evaluation of the Work Plans, to help EWG deliver concrete assessment to the Commission, in order to meet the tight deadlines.

Request to the STECF

The STECF is requested to:

1. Indicate if and how the current evaluation procedure can be adapted to meet the new requirements of Work Plans, in terms of content, methodologies and quality assurance procedures and taking into consideration the tight deadlines for Commission to adopt the Work Plans
2. Suggest how the evaluation procedure can be further simplified

STECF considerations

STECF notes the tight schedule between submission of national Work Plans 2017-2019 (legal deadline according to Reg. 508/2014 article 21(1) is 31 October 2016) and STECF evaluation of Work Plans (EWG 16-16, starting 7 November 2016), leaving insufficient time for a pre-screening of Work Plans, as currently done for MS Annual Reports on DCF implementation. As the Commission has to adopt the Work Plans by 31 December (Reg. 508/2014 article 21(2)), the EWG evaluating the Work Plans cannot be moved much forward in time. Moving the meeting by one week, however, would allow for several days of pre-screening work that would enable the EWG to focus on the issues highlighted by pre-screening and thus make the EWG work more efficient. In case the EWG 16-16 evaluating the Work Plans cannot be moved to one week later, STECF suggests that Member States should be encouraged by the Commission to submit their Work Plans before the legal deadline.

In order to allow a well-structured evaluation of Work Plans, STECF considers that the evaluation criteria, procedures and templates have to be prepared well before the EWG meeting.

STECF conclusions

1. Adaption and timelines for Work Plan evaluation procedure

STECF would suggest the following schedule for adapting the evaluation procedures for Work Plans for this year:

- September 2016: Preparation of evaluation criteria and evaluation form by ad-hoc experts (one for biological data; one for transversal, economic and social data) to be used for the national Work Plans 2017-2019;
- Early October 2016, sub-group of the Expert Group on Fisheries Data Collection (former Liaison Meeting of the chairs of Regional Coordination Meetings, PGECON, end-users and the Commission): discuss and agree on a procedure for evaluating Regional Work Plans;
- 24-28 October 2016, STECF Plenary 16-03: endorsement/revision of evaluation criteria and evaluation form;
- 7-11 November 2016, STECF EWG 16-16: Evaluation of Work Plans.
- 14 December 2016– evaluation by STECF (written procedure)

For 2017 onwards, STECF suggests that the dates for the EWG evaluating the Work Plans should be set at least 2 weeks after the Work Plan submission deadline to allow for pre-screening. An alternative option would be to revise the legal deadline for WP submission to an earlier date.

2. Simplification of Work Plan evaluation procedures

With regard to possibilities for simplification of the evaluation procedures, STECF again stresses the need for the establishment of a database containing the information from individual Work Plan tables and text boxes. Formatting issues that currently take a significant amount of evaluation time will hence be dealt with earlier in the process and most of the compliance and consistency checks can be conducted automatically while problems can be flagged for the attention of STECF.

In general, STECF concludes that the focus of the evaluation should be on the scientific substance of the Member States' Work Plans, in particular with regard to the presented sampling designs and coverage of the fleet/fishing trips/aquaculture enterprises, and that the technical/formatting issues are dealt with by database queries.

To simplify the evaluation process in general, the Work Plan tables and text parts deserving highest evaluation priority (as they contain the most relevant information on planned sampling coverage) should be identified within the ad-hoc contracts preparing the evaluation criteria and evaluation form.

6. ITEMS/DISCUSSION POINTS FOR PREPARATION OF EWGs AND OTHER STECF WORK

6.1 New STECF - Discussion and possible agreement on STECF rules of procedures

The STECF bureau prepared a revised version of the rules of procedure but it was not possible to discuss the new version in plenary. STECF will agree on it at the next meeting in October.

6.2 Regular meeting with fisheries economists

STECF had a fruitful and constructive meeting with DG Mare A3 Unit. Views were exchanged regarding the possibilities and needs for economic advice in the short run as well as in the long run. Every need should be discussed as early as possible in order to facilitate the best possible outcome, including setting up a time schedule, estimating the resource needs, involvement of other scientific disciplines and determination of questions to be addressed. Models are available to address a range of questions, but depending on the question(s), these will have to be set up. An EWG in the beginning of 2017 could be considered in order to assess available methods for the assessment of social and economic impacts (including e.g. available models,) of LTMP, MSY policies, projections for the current year from the DCF data in the AER, etc.

6.3 Report on Fish processing sector in 2017

Background

DGMARE is looking into alternatives to STECF's suggestion to do full-fledged pilot project on raw material now in order to address the weakness of the report of 2014 (nothing on the various processing segments, no analysis by species, or raw material by origin, type, cost as well as little analysis of trade flows). The president of the EU processing sector has stepped forward to help with providing this data and EUMOFA is also willing to provide their expertise. How to integrate those different data sources/expertise is however a challenge. If STECF can advise/brainstorm on this that would be helpful."

STECF observations

STECF welcomes the initiative by DGMARE regarding clarifying the possibilities for collecting data on the sources of raw material for the fish processing industry, which STECF has recommended several times since 2010 (see PLEN10-03). Without that data, it is not possible to draw a link between the fishing fleet and the processing industry (e.g. on the dependency of the industry on EU landings or the dependency of processing companies on landings from a specific fleet segment).

STECF observes that there seems to be interest and data to undertake such an analysis in a pilot study. Data has been offered by the EU processing industry and EUMOFA on raw material by origin, type, as well as information on trade flows. This could potentially be sufficient to draw a direct link between the processing industry and specific parts of the fishing fleet.

STECF conclusions

STECF concludes that the best approach would be that DGMARE organises a meeting between STECF members, if necessary additional experts, representatives from the fish processing industry, and from EUROSTAT and EUMOFA. The meeting should be preferably before or the latest during the next plenary meeting in October (possible only Tuesday afternoon or Wednesday morning).

During the meeting topics to be discussed should include the data the processing industry is able to provide for analysis of raw material usage by species, origin and type. Additionally, the general availability of data on the fish processing industry should be elaborated (especially with EUROSTAT and EUMOFA representatives) as in the new EUMAP the economic data collection on the fish processing industry will likely only be optional and the EUROSTAT data is not as detailed as the data from the DCF.

- In the case of a positive outcome of this meeting, STECF recommends that initiatives by DGMARE are taken towards setting up a study of a few cases in order to illustrate the possibilities and complexities of establishing the link between primary sector, processing sector and also ancillary industry for the majority of the EU processing industry.

This study should include the following items to highlight the usefulness of the data on raw material:

- A short paragraph on the link between primary sector, processing sector and also ancillary industry
- How management decisions affect this sector in its entirety in terms of ecological, economic and societal impacts
- The need in order to link TAC and quota decisions and wider management decisions, to gain inside in the raw material streams of the industry.

6.4 Proposed changes to STECF DCF data calls from the workshop on transversal data

Background

For a number of years, scientists have struggled to provide integrated bio-economic advice for European fisheries because of the inability to link fleet-specific biological and economic data collected under the EU Data Collection Frameworks (DCR, DCF). Several management plans are stock-specific and require economic information on the vessels that exploit that specific stock. This level of information is generally not available at the EU level because DCF economic data are reported by fleet segment and fleets generally exploit a range of stocks and often across different management areas. Impact assessments and evaluation of management plans are other examples for which economic data are required at relatively high resolution (disaggregation).

Furthermore, the annual call for economic data on the EU fishing fleet has remained relatively standardised in terms of content and timing, with minor changes year to year. Nonetheless, the transversal data currently provided during the fleet economic data call does not fit into the metier resolution that is needed to support the evaluation of management plans. If more detailed data calls are to be launched to cater for such evaluations, it is necessary to determine what is needed (variables, format, level of disaggregation) and when it is feasible to make such requests (see STECF PLEN 15-01 for more details).

Request to the STECF

Two workshops, proposed by PGECON and supported by DGMARE, were convened in January 2015 and February 2016 respectively with a main aim summarised as "To ensure that economic and biological data can be meaningfully fused to allow for a more generic implementation of bio-economic modelling and spur the inclusion of economic advice in fisheries management." As part of this work the workshops proposed detailed standard methodologies for the calculation of fishing effort derived from logbooks. The second workshop also considered how data calls under the DCF may be rationalised in future and the possible development of national transversal data files based on primary data. The second meeting has proposed a time line of next steps in both cases.

Main conclusions

Standardised approach for calculating fishing effort

STECF agrees with the need to define standard definitions and methodologies for the calculation of fishing effort.

STECF considers that the final outputs of the two above mentioned workshops should be discussed and adopted during DCF regional coordination meetings (RCM). Endorsement by Regional Coordination Groups (RCG) is necessary to adapt the final conclusions of the workshops to regional specificities and align them to the requirements of the new EUMAP. In particular, three issues raised by the workshops remain to be further assessed / tested:

- Definition and methodologies for calculating fishing effort for the artisanal fleet (vessels < 10 m);
- Definition and methodologies for calculating fishing effort in cases where additional data collection activities are conducted by Member States to validate/integrate data collected for "control" purposes;
- R-scripts that (1) implement the agreed effort algorithms and compute the effort estimates, Fishing Days (fdas) and Days at Sea (das), and (2) check the format and coding compliance of the data prior to using the R-script for effort calculation.

Nationally held transversal data files

The second transversal data workshop proposed nationally held data bases of primary transversal data designed to a common format that would enable the use of the R-scripts (mentioned above), and thus implement the same calculation methods for all countries when answering data calls. STECF agrees that this is a good idea in principle since having raw data in a common format could be a help for Member States and serve to reduce workload. STECF notes, however, that further work is needed to propose common standards and methods that could be used by Member States.

STECF considers that a workshop would be required to progress on the development of the proposed harmonised national transversal data files. Since an agreed approach across member states is required, STECF considers that an ad hoc contract is not a suitable approach to address this proposal. STECF notes that the use of the proposed national transversal data files based on a common primary data format by Member States will be voluntary.

Revised Data Calls

STECF agrees with the fundamental approach of aligning and streamlining data call content, thus ensuring that one data provision can serve more than one use. In particular STECF considers that it is necessary to rationalise the data calls on fishing activity data (capacity, effort and landings). These data are currently requested under different data calls at different aggregation levels. STECF notes that efforts to harmonise biological and economic data calls will allow for better interoperability between the datasets available to calculate indicators such as used in the report on Balance between fleet capacity and fishing opportunities, and to provide integrated bio-economic advice.

STECF considered a proposal from the second transversal data workshop for a transitional harmonization procedure for 2017 (see Table 6.4.3 below). STECF notes that the proposed variables to be additionally requested in the Fisheries Dependent Information (FDI) call to allow full dataset interoperability between the FDI and economic data sets are: inclusion of "Days at Sea" calculated according to the standard methodology agreed by the second transversal data workshop, the "fleet segment", the "supra region" and the "EEZ" in the FDI and Mediterranean and Black Sea data calls. In addition to transversal data from 2016, the 2017 FDI call should request also 2015 transversal data because the 2017 economic data call will be for 2015 data.

STECF is in general agreement with the proposed 2017 transitional data call made by the second transversal data workshop, but in addition proposes that the 2017 Economic Data Call should also request effort and landing data by fleet segment, fishing activity DCF level 6 (métier), and geographic stratification level 4. Requesting this data should allow for subsequent linkage to the data being called under the FDI call.

STECF notes that the second transversal data workshop proposes to extend the remit of the FDI data call to all EU fleets, i.e. including the Mediterranean and Black Sea. Since the FDI call does not include scientific survey data an additional data call covering only fisheries independent data (surveys) would be required for the Mediterranean and Black Sea.

STECF notes that the EEZ parameter (Exclusive Economic Zone; required to distinguish between activities inside the EU EEZ, non-EU EEZs, and international waters) is in fact already a part of the FDI call, and would thus not need to be added.

Table 6.4.3. Proposal for transitional procedure in 2017 for Economic and Fisheries Dependent Information (FDI) DCF data calls. Proposals made by Ribeiro et al. (2016)[11] are shown in black, STECF changes are shown in red. Annexes 10-16 referred to in the Table are available in Ribeiro et al. (2016).

Data Call	**Economic Data Call**	**FDI Data Call merged with Med & BS Data Call**
Relevant data sets from the data call	All economic variables by fleet segment and supra-region	Effort and catches (EFF_01Catch and EFF_02_EFFORT)
Dimensions	~~Same as in 2016~~ Four additional dimensions: • Effort data at DCF level 6 (métier) • Effort data at geographic stratification level 4 • Landings data at DCF level 6 (métier) • Landings data at geographic stratification level 4	~~Three~~ Two additional dimensions: • Supra-region • Fleet segment • ~~EEZ~~
Relevant codifications	Gears, Fishing Areas, MS, Fishery, Species (as specified in Annexes 10-16)	Gears, Fishing Areas, MS, Fishery, Species (as specified in Annexes 10-16)
Variable names / acronyms	According to Annex 15	According to Annex 15
Time coverage	2015	2015
Scope	All EU fleets	All EU fleets

[11] Castro Ribeiro, C., Holmes, S., Scott, F., Berkenhagen, J., Demaneche, S., Prista, N., Reis, D., Reilly, T., Andriukaitiene, J., Aquilina, M., Avdič Mravlje, E., Calvo Santos, A., Charilaou, C., Dalskov, J., Davidiuk, I., Diamant, A., Egekvist, J., Elliot, M., Ioannou, M., Jakovleva, I. Kuzebski, E., Ozernaja, O., Pinnelo, D., Thasitis, I., Verlé, K., Vitarnen, J., Wójcik, I. Report of the 2nd Workshop on Transversal Variables. Nicosia, Cyprus. 22-26 February 2016. A DCF ad-hoc workshop. 109pp.EUR 27897; doi 10.2788/042271.

STECF considers that data calls and data submissions from 2018 onwards should be reduced in number as much as possible. STECF agrees that in the longer term fisheries-dependent data for the Mediterranean should be part of the FDI call (as part of the expansion of the FDI call to encompass the whole EU fleet). To receive biological data from the Mediterranean region the deadline for an FDI data call should be fixed to the end of July.

STECF suggests that any change in the data calls (content, format, timing) should be announced in RCGs (September 2016), and during the European Expert Group on the DCF (if one is planned before the end of the year). This applies both to the transitional changes for 2017 and data calls from 2018 onward. STECF further suggests that the outcome of the transitional data call for 2017 is assessed and presented to the relevant expert fora before new procedures are adopted from 2018 onwards.

STECF considers that in the long term all data should be compiled in one unique database in order to allow quality checks and comparisons among variables. The overview of variable names, definitions, acronyms and code lists currently used in the different data calls compiled by the second workshop on transversal variables could be used as a starting point to facilitate this process.

6.5 Meeting with ICES

An informal meeting gathering STECF bureau, ACOM leadership and staff from DG Mare was held on Tuesday July 5th, in order to exchange views on the potential areas of collaboration and synergies between ICES and STECF. It has been suggested as a first step that ICES and STECF agree on common guidelines and requirements for the evaluation of e.g. management plans, to ensure that the outcomes of one evaluation performed by one scientific body can be fully endorsed by the other scientific body. It is planned that such dialogue and coordination should continue informally on a regular basis.

Annex 1

Table 5.12.1: Species managed under TACs (or Minimum Conservation Reference Size, MCRS, in the MED) and harvested by the EU fleet in RFMOs. In bold: were the STECF is confident with the information provided. Strikethrough text: stocks that should not be included in the table because there are within third countries jurisdiction (CCAMLR), completely under EU jurisdiction (GFCM), from stocks not considered covered by the RFMO (NEAFC), or there is no EU fleet operating in these areas (CCAMLR) (for more details see footnotes).

RFMO	**Species under TAC (MCRS in the MED)**	**Already under LO**	**Fishery affected**	**Discarding (occurs or not)**	**LO in 2017**	**LO in 2019**	**Covered by a Delegated Regulation (exemptions to align with RFMO obligations to discard)**	**Covered by Discard Plan**	**P**	**HS**	**Minimis**
	Mackerel icefish – *Champsocephalus gunnari* (pelagic) Zone: FAO 48.3	No	EU trawlers	No	Yes	No	No	No	No	No	No[13]

[13] The bycatch of finfish species is very low in comparison to the bycatch limits in this fishery. Not needed or 0%

CCAM LR12	~~Mackerel icefish – *Champsocephalus gunnari* (pelagic)~~ ~~Zone: FAO 58.5.2~~	~~No~~	~~EU trawlers~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~
	Blackfin icefish – *Chaenocephalus aceratus* (demersal) **Exclusively for by-catch** Zone: FAO 48.3	No	EU trawlers	No	Yes	No	No	No	No	No	No[14]
	~~Unicorn icefish – *Channichthys rhinoceratus*~~ ~~**Exclusively for by-catch**~~ ~~Zone: FAO 58.5.2x[00]~~	~~No~~	~~EU trawlers~~	~~No~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No[14]~~
	Patagonian toothfish	No	EU LL	No	Yes[14]		No	No	No	No	No

[14] Only Spanish and UK vessels operating in Subarea 48.3 (UK), 48.4 (UK), 88.1 (SP+UK), 88.2 (SP+UK), Division 58.4.1 (SP). No EU fleet operating in other Subareas and Divisions

	– *Dissostichus eleginoides* (demersal) Zone: FAO 48.3		targeting PTootfish								
	Patagonian toothfish – *Dissostichus eleginoides* (demersal) Zone: FAO 48.4 **North of 60°S**	No	EU LL targeting PTootfish	No	Yes[13]		No	No	No	No	No
	Patagonian toothfish – *Dissostichus eleginoides* (demersal) Zone: FAO 48.4	Discard ban in CCAMLR (south of 60°S)	EU LL targeting PTootfish	No	Yes[13]		No	No	No	No	No

[14] Only in CCAMLR Convention Waters (nor in third country waters). TAC regulation is divided between TAC in convention area and third countries.In third countries discards are prohibited.

CCAMLR	Antarctic toothfish – *Dissostichus mawsoni* (pelagic) Zone: FAO 48.4	No	EU LL targeting PTootfish	No	Yes[13]		No	No	No	No	No
	~~Patagonian toothfish – *Dissostichus eleginoides* (demersal)~~ ~~Zone: 58.5.2~~	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~Yes[13]~~		~~No~~	~~No~~	~~No~~	~~No~~	~~No~~
	Krill – *Euphausia superba* (pelagic) Zone: FAO 48 **North of 60°S**	No	EU trawl targeting kril	No (only when it is damaged)	Yes[13]		No	No	No	No	No
	Krill – *Euphausia superba* (pelagic) Zone: FAO 48 **South of 60°S**	Discard ban in CCAMLR (south of 60°S)	EU trawl targeting kril	No (only when it is damaged)	Yes[13]		No	No	No	No	No
	Krill – *Euphausia superba* (pelagic) Zone: FAO 58.4.1 **North of 60°S**	No	EU trawl targeting kril	No (only when it is damaged)	Yes[13]		No	No	No	No	No
			EU trawl	No (only	Yes[13]				No	No	No

	Krill – *Euphausia superba* (pelagic) Zone: FAO 58.4.1 **South of 60°S**	Discard ban in CCAMLR (south of 60°S)	targeting kril	when it is damaged)			No	No			
	~~Krill – *Euphausia superba* (pelagic)~~ ~~Zone: FAO 58.4.2~~ ~~**North of 60°S**~~	~~No~~	~~EU trawl targeting kril~~	~~No (only when it is damaged)~~	~~Yes~~[13]		~~No~~	~~No~~	~~No~~	~~No~~	~~No~~
	~~Krill – *Euphausia superba* (pelagic)~~ ~~Zone: FAO 58.4.2~~ ~~**South of 60°S**~~	~~Discard ban in CCAMLR (south of 60°S)~~	~~EU trawl targeting kril~~	~~No (only when it is damaged)~~	~~Yes~~[13]		~~No~~	~~No~~	~~No~~	~~No~~	~~No~~
	Humped rockcod – *Gobionotothen gibberifons* (demersal) **Exclusively for by-**	No	EU trawlers	No	No (not target fishery)	Yes	No	No	No	No	No[15]

[15] The bycatch of finfish species is very low in comparison to the bycatch limits in this fishery, so one would not expect discard. Moreover, move on rules when bycatch is above a certain % of catch.

	catch Zone: FAO 48.3										
CCAM LR	Grey rockcod – *Lepidonotothen squamifrons* (demersal) **Exclusively for by-catch** Zone: FAO 48.3 & 58.5.2	No	EU trawlers	No	No (not target fishery)	Yes	No	No	No	No	No[16]
	~~Bigeye grenadier and ridge scaled rattail Macrourus holotrachys and Macrourus carinatus~~ ~~**Exclusively for by-catch**~~ ~~Zone: FAO 58.5.2~~	~~No~~	~~EU LL targeting PTootfish/EU trawlers~~	~~No~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No[16]~~
	~~Caml grenadier and Whitson's grenadier Macrouruscaml and Macrourus whitsoni (benthic/demersal) Exclusively for by-catch~~ ~~Zone: 58.5.2~~	~~No~~	~~EU LL targeting PTootfish/EU trawlers~~	~~No~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No[16]~~

CCAM LR	Grenadiers Macrourus spp. Exclusively for by-catch Zone: FAO 48.3	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No
	Grenadiers Macrourus spp. Exclusively for by-catch Zone: FAO 48.4	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No
	Marbled rockcod – Notothenia rossii (benthic/demersal) **Exclusively for by-catch** Zone: FAO 48.3	No	EU trawlers	No	No (not target fishery)	Yes	No	No	No	No	No[16]
	Crabs - Paralomis spp (benthic)	No	EU LL targeting PTootfish	Yes	No (not target fishery)	Yes	No	No	Yes	Yes [16]	No

[16] Resolution 41-02 requires that "any bycatch of crab shall, as far as possible, be released alive". Therefore, a delegate regulation is needed.

	TAC 0 Zone: FAO 48.3										
	S. Georgia icefish – *Pseudochaenichthys georgiannus* (demersal) **Exclusively for by-catch** Zone: FAO 48.3 and 58.5.2	No	EU trawlers	No	No (not target fishery)	Yes	No	No	No	No	No[16]
	Skates and rays – Rajiformes (benthic) **Exclusively for by-catch** Zone: FAO 48.3	No	EU LL targeting PTootfish	Yes	No (not target fishery)	Yes	No	No	Yes	Yes[17]	No
	Skates and rays – Rajiformes (benthic) **Exclusively for by-**	No	EU LL targeting PTootfish	Yes	No (not target fishery)	Yes	No	No	Yes	Yes[18]	No

[17] Resolution 33-03 requires Countries to release alive those skate specimens in good shape specified by scientific observers. A delegate act is needed.

	catch Zone: FAO 48.4										
	~~Skates and rays – Rajiformes (benthic)~~ ~~**Exclusively for by-catch**~~ ~~Zones: FAO 58.5.2~~	~~No~~	~~EU LL targeting PTootfish/EU Trawlers~~	~~Yes~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	~~Yes~~ [18]	~~No~~
CCAM	Dissostichus spp. **Zone: 58.4.1**	No	EU LL targeting PTootfish	No	Yes	No	No	No	No	No	No
	Skates and rays **Exclusively for by-catch** **Zone: 58.4.1**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	Yes	Yes [18]	No
	Macrourus spp. **Exclusively for by-catch** **Zone: 58.4.1**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No[16]
	Other species **Exclusively for by-**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No[16]

LR Exploratory Fisheries and associated by-catch	**catch Zone: 58.4.1**										
	~~Dissostichus spp.~~ **~~Zone: 58.4.2~~**	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~	No
	~~Skates and rays~~ **~~Exclusively for by-catch~~** **~~Zone: 58.4.2~~**	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	~~Yes~~ [18]	~~No~~
	~~Macrourus spp.~~ **~~Exclusively for by-catch~~** **~~Zone: 58.4.2~~**	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~ [16]
	~~Other species~~ **~~Exclusively for by-catch~~** **~~Zone: 58.4.2~~**	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~ [16]
	~~Dissostichus spp.~~ **~~Exploratory Fisheries~~** **~~Zone: 58.4.3a~~**	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~ [16]
	~~Skates and rays~~	~~No~~	~~EU LL targeting~~	~~No~~	~~No (not target~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	~~Yes~~	~~No~~

	~~**Exclusively for by-catch**~~ ~~**Zone: 58.4. 3a**~~		~~PTootfish~~		~~fishery)~~					~~18~~	
	~~Macrourus spp.~~ ~~**Exclusively for by-catch**~~ ~~**Zone: 58.4.3a**~~	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~[16]
	~~**Other species**~~ ~~**Exclusively for by-catch**~~ ~~**Zone: 58.4.3a**~~	~~No~~	~~EU LL targeting PTootfish~~	~~No~~	~~No (not target fishery)~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~[16]
CCAMLR Exploratory Fisheries and associated by-catch	Skates and rays **Exclusively for by-catch** **Zone: 88.1**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	Yes	Yes [18]	No[16]
	Macrourus spp. **Exclusively for by-catch** **Zone: 88.1**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No[16]
	Other species **Exclusively for by-catch**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No[16]

	Zone: 88.1										
	Dissostichus spp. **Zone: 88.1** Skates and rays **Exclusively for by-catch** **Zone: 88.2**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	Yes	Yes6	No[16]
	Macrourus spp. **Exclusively for by-catch** **Zone: 88.2**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No[16]
	Other species **Exclusively for by-catch** **Zone: 88.2**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No[16]
	Other species **Exclusively for by-catch**	No	EU LL targeting PTootfish	No	No (not target fishery)	Yes	No	No	No	No	No[16]

	Zone: 58.4.1										
	All sharks	No	EU LL targeting PTootfish	Yes	No (not target fishery)	Yes	No	No	Yes	Yes [18]	No
SEAFO	Alfonsinos – *Beryx sp* (demersal) **TAC 200 tonnes for the** SEAFO Convention Area of which a maximum of **132 tonnes** may be taken in Division B1	No	EU LL/Midwater trawl		Yes	No	No	No	No	No	No[19]
SEAFO	Deep sea red crab - *Chaceon spp* (benthic) **190 tonnes** in Division B1	No	EU Pots		Yes	No	No	No	No	No	No[20]

[18] Resolution 32-18 requires Countries to release alive all sharks specimens. Therefore, a delegate act is needed.

[19] No EU fishing activity in 2015. And when it occurs very low level of discards, no reaching the TAC.

SEAFO	Deep sea red crab - *Chaceon spp* (benthic) **200 tonnes** in the remainder of the Convention Area	No	EU Pots		Yes	No	No	No	No	No	No[20]
	Patagonian toothfish – *Dissostichus elegenoides* (demersal) **264 tonnes in** Sub area D	No	EU LL		Yes	No	No	No	No	No	No[20]
	Patagonian toothfish – *Dissostichus elegenoides* (demersal) in the remainder of the Convention Area **TAC 0**	No	EU LL		Yes	No	No	No	No	No	No[20]
	Orange roughy – *Hoplostethus atlanticus* (demersal) sub-area B1 **TAC 0 (4 tonnes bycatch allowance)**	No	No EU fleet		No	No	No	No	No	No	No
	Orange roughy –	No	No EU fleet		No	No	No	No	No	No	No

	Hoplostethus atlanticus (demersal) **50 tonnes** remainder of the Convention Area										
	Pelagic Armourhead - *Pseudopentaceros richardsoni* SEAFO Convention Area	No	EU LL		Yes	No	No	No	No	No	No[20]
SPRFMO	Jack mackerel – *Trachurus murphyi* (pelagic)	No	EU Pelagic Trawlers	Very low	Yes	No	No	No	No	No	No
WCPFC	Swordfish – *Xiphias gladius* (pelagic)	Yes	EU SWO LL	Very low	-	-	No	No	No	No	No
	Bigeye tuna – *Thunnus obesus* *Longline fishery*	Yes	EU SWO LL	Very low	-	-	No	No	No	No	No

ICCAT	Eastern BFT – *Thunnus thynnus* (pelagic)	Yes	LHP; LHM; LLD; LLS; PS; FPN		-	-	Del Reg 2015/98 & Del Reg 2016/171	No	-	-	na
	Eastern BFT (**by catch**) – *Thunnus thynnus* (pelagic)	Yes	OTM		-	-	Del Reg 2015/98 & Del Reg 2016/171	No	-	-	na
	Eastern BFT – *Thunnus thynnus* (***recreational fisheries***) (pelagic)	Yes	Sport/recreational		-	-	Del Reg 2015/98 & Del Reg 2016/171	No	-	-	na
	N. Albacore – *Thunnus alalunga* (pelagic)	Yes	LHP; LHM; PTM; LLD; LLS; LTL				No	No	No	na	Del. Reg. 1393/2014 only for PTM (7 % IN 2016 and 6 % in 2017)
	S. Albacore – *Thunnus alalunga* (pelagic)	Yes	LLD; LLS				No	No	No	na	No
	Bigeye Tuna – *Thunnus obesus*	Yes	BB; LL; PS				Del Reg 2015/98 &	No	No	High for	

ICCAT	(pelagic)						Del Reg 2016/171			BB low for the rest	
	Yellowfin Tuna (*Thunnus albacares*) (pelagic)	Yes	BB; LL; PS				Del Reg 2015/98 & Del Reg 2016/171	No		High for BB low for the rest	
	Blue marlin – *Makaira nigricans* (pelagic)	Yes	LL				No	Needed[20]	No	High	
	White marlin – *Tetrapturus albidus* (pelagic)	Yes	LL				No	Needed	No	High	

[20] ICCAT Recommnendation 15/05 states that "To the extent possible, as the CPC approaches its landings limits, such CPC shall take appropriate measures to ensure that all blue marlin and white marlin/spearfish that are alive by the time of boarding are released in a manner that maximizes their survival"

	Mediterranean swordfish *Xiphias gladius* (pelagic)	No[21]	LL		No	No	No	No	na	na	na
	North atlantic swordfish *Xiphias gladius* (pelagic)	Yes	LL				EU Reg 2015/98 & EU Reg 2016/171	No	No	Low	Na
	South atlantic swordfish *Xiphias gladius* (pelagic)	Yes	LL				Del Reg 2015/98 & Del Reg 2016/171	No	No	Low	na
	Cod – *Gadus morhua* (demersal) **Exclusively for by-**	No	Greenland halibut and redfish			Yes	Yes (in prep)	No			

[21] Landing Obligation does not apply because Mediterranean Swordfish is not listed in Annex III to Regulation (EC) Nº 1967/2006 establishing minimum sizes for Mediterranean species.

NAFO	**catch** Zone: NAFO 2J3KL		fisheries. No directed fishery to cod by EU.								
	Cod – *Gadus morhua* (demersal) **Exclusively for by-catch** Zone: NAFO **3NO**	No	Greenland halibut, skate, redfish, witch flounder fisheries. No directed fishery to cod by EU.			Yes	Yes (in prep)	No			
	Cod – *Gadus morhua* (demersal) **Zone: NAFO , 3M**	No	Cod and redfish fisheries in Div 3M.		Yes		Yes (in prep)	No			
	Witch flounder – *Glyptocephalus cynoglossus* (benthic) **TAC 0** **Exclusively for by-catch** **Zone: NAFO 3L**	No	Greenland halibut and redfish fisheries. No directed fishery to witch flounder by EU.			Yes	Yes (in prep)	No			

NAFO	Witch flounder – *Glyptocephalus cynoglossus* (benthic) **Zone: NAFO 3NO**	No	Witch flounder, Greenland halibut, skates and redfish fisheries		Yes		Yes (in prep)	No			
	American plaice – *Hippoglossus platessoides* (benthic) **Zone: NAFO 3M**	No	Cod and redfish fisheries in Div 3M. No directed fishery to American plaice by EU.			Yes	Yes (in prep)	No			
	American plaice – *Hippoglossus platessoides* (benthic) **Exclusively for by-catch** **Division 3LNO**	No	Greenland halibut, skate, redfish, witch flounder fisheries. No directed fishery to American plaice by EU.			Yes	Yes (in prep)	No			
	Shortfin squid – *Ilex*	No	None EU		No	No	Yes (in prep)	No			

	illecebrosus (pelagic) **Zone: NAFO sub-zones 3 and 4**		fleet								
	Yellowtail flounder – *Limanda ferruginea* (benthic) **EU TAC 0** **Exclusively for by-catch** **Zone: NAFO 3LNO**	No	Greenland halibut, skate, redfish, witch flounder fisheries. No directed fishery to Yellowtail flounder by EU.			Yes	Yes (in prep)	No			
NAFO	Capelin – *Mallotus villosus* (pelagic) **TAC 0** **Zone: NAFO 3NO**	No	No EU fleet targeting capelin in NAFO 3NO				Yes	No			
	Northern prawn - Pandalus borealis **Exclusively for by-catch** **Zone: NAFO 3 L**	No					Yes (in prep)	No			
	Northern prawn -	No					Yes (in prep)	No			

	Pandalus borealis **Exclusively for by-catch** **Zone: NAFO 3 L**										
	Northern prawn - Pandalus borealis **Exclusively for by-catch** **Zone: NAFO 3 M**	No					Yes (in prep)	No			
	Greenland halibut – *Reinhardtius hippoglossides* (benthic) **Zone: NAFO 3LMNO**	No	Greenland halibut and redfish fisheries.		Yes		Yes (in prep)	No			
	Skate – Rajidae (benthic) **Zone: NAFO 3LNO**	No	Greenland halibut, skate, redfish, witch flounder fisheries.		Yes		Yes (in prep)	No			
	Redfish – Sebastes spp. Zone: NAFO 3LN	No	Greenland halibut, skate, redfish,			Yes	Yes (in prep)	No			

			witch flounder fisheries								
	Redfish – Sebastes spp. Zone: NAFO 3M	No	Cod and redfish fisheries in Div 3M		Yes		Yes (in prep)	No			
	Redfish – Sebastes spp. Zone: NAFO 3O	No	Greenland halibut, skate, redfish, witch flounder fisheries.			Yes	Yes (in prep)	No			
	Redfish – Sebastes spp. Zone: NAFO 3M	No					Yes (in prep)	No			
	White hake - *Urophysis tenuis* (demersal) **Division NAFO 3NO**	No	White hake, Greenland halibut, skate, redfish, witch flounder fisheries				Yes (in prep)	No			

CCSBT	Southern BFT – *Thunnus maccoyi*i (pelagic)	Yes	IOTC/ICCAT SWO LL		na	na	No (conflict with RFMO regulation)	No	No	No	No
IOTC	Yellowfin Tuna - *Thunnus albacares* (pelagic) reduce Purse seine catches by 15 % from the 2014 levels	No[22]	EU PS/LL		No	No	No	No	No	No	No
GFCM[23]	Hake (*Merluccius merluccius*) **All international waters of the Mediterranean Sea**	No		Yes	Yes		No	No	No	No	Requested in the JR (only for European GSAs)

[22] Yellowfin in the Indian Ocean is not subject to TAC.

[23] GFCM GSA 1, 17, 18, 19, 20, 22, 23, and 29 are under EU jurisdiction and, therefore, should not be appeared in this table.

	Red mullet (*Mullus* spp.) **All international waters of the Mediterranean Sea**	No		No. Mullus spp is coastal species so EU trawlers presumably will not have access to such waters and would not catch such species	Yes		No	No	No	No	Requested in the JR (only for European GSAs)
	Small pelagic species (*Sardina pilchardus* and *Engraulis encrasicolus*) **All international waters of the Mediterranean Sea**	Yes	EU trawlers and purse seiners	Yes			Yes (only for the GSA17 and 18)	Yes	No	No	Yes
	~~Sea breams (*Pagellus* spp.)~~ ~~**GSA 1**~~	No					No	No			
GFCM	~~Deep-water rose shrimp (*Parapenaeus longirostris*)~~ ~~**GSA 1**~~	No					No	No			
	~~Norway lobster (*Nephrops*	No					No	No			

	~~*norvegicus*~~) **~~GSA 1~~**										
	~~Mackerel and horse mackerel (*Scomber* spp. and *Trachurus* spp.)~~ **~~GSA 1~~**	No					No	No			
	Deep-water rose shrimp (*Parapenaeus longirostris*) **GSAs 12-16**	No		Yes	Yes	Yes	No	No	No	No	Requested in the JR
	~~Sole (*Solea vulgaris*)~~ **~~GSA 17~~**	No					No	No			
	~~Norway lobster (*Nephrops norvegicus*)~~ **~~GSAs 17-18~~**	No					No	No			
	~~Deep-water rose shrimp (*Parapenaeus longirostris*)~~ **~~GSAs 19-20~~**	No					No	No			
	~~Norway lobster (*Nephrops norvegicus*)~~ **~~GSAs 22-23~~**	No					No	No			
	~~Sprat (*Sprattus sprattus*)~~ **~~GSA 29~~**	Yes					No	No			

	~~Turbot (*Psetta maxima*)~~ **~~GSA 29~~**	No					No	No			
	Greater silver smelt (*Argentina silus*) Union and international waters of I and II	Yes	EU midwater trawlers (OTM)	No	No	No	Del. Reg. 1393/2014	Yes	No	No	No
	Greater silver smelt (*Argentina silus*) Union and international waters of V, VI and VII	Yes	EU midwater trawlers (OTM)	No	No	No	Del. Reg. 1393/2014	Yes	No	No	No
	Tusk (*Brosme brosme*)	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No

NEAFC [24]	Union and international waters of I, II and XIV										
	Tusk (*Brosme brosme*) Union and international waters of V, VI and VII	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No
	~~Cod (*Gadus morhua*) IV; Union waters of IIa; that part of IIIa not covered by the Skagerrak and Kattegat~~										

[24] Rows deleted are from stocks not considered covered by NEAFC.

NEAFC	~~Cod (*Gadus morhua*) VIb; Union and international waters of Vb west of 12º 00' W and of XII and XIV~~				~~Yes~~			~~Yes~~			
	~~Cod (*Gadus morhua*) VIa; Union and international waters of Vb east of 12º 00' W~~	~~Yes~~						~~Yes~~			
	~~Cod (*Gadus morhua*) VIIb, VIIc, VIIe-k, VIII, IX and X; Union waters~~	~~Yes~~						~~Yes~~			
	~~Cod (*Gadus morhua*) I and IIb~~										

NEAFC	~~Megrims~~ ~~(*Lepidorhombus spp.*)~~ ~~Union and international waters of Vb; VI;~~ ~~international waters of XII and XIV~~				~~Yes~~			~~Yes~~			
	~~Megrims~~ ~~(*Lepidorhombus spp.*)~~ ~~VII~~				~~Yes~~			~~Yes~~			
	~~Megrims~~ ~~(*Lepidorhombus spp.*)~~ ~~VIIIa, VIIIb, VIIId and VIIIe~~										
NEAFC	~~Megrims~~ ~~(*Lepidorhombus spp.*)~~										

	~~VIIIc, IX and X; Union waters of CECAF 34.1.1~~										
	~~Anglerfish (*Lophiidae*) VI; Union and international waters of Vb; international waters of XII and XIV~~										
	~~Anglerfish (*Lophiidae*) VII~~										
NEAFC	~~Anglerfish (*Lophiidae*) VIIIa, VIIIb, VIIId and VIIIe~~				~~Yes~~			~~Yes~~			
	~~Anglerfish (*Lophiidae*) VIIIc, IX and X; Union waters of~~				~~Yes~~			~~Yes~~			

NEAFC	~~CECAF 34.1.1~~										
	~~Capelin~~ (~~*Mallotus villosus*~~) ~~IIb~~										
	~~Capelin~~ (~~*Mallotus villosus*~~) ~~Greenland waters of V and XIV~~										
	~~Haddock~~ (~~*Melanogrammus aeglefinus*~~) ~~IV; Union waters of IIa~~										
	Haddock (*Melanogrammus aeglefinus*) Union and international waters of VIb, XII and XIV	No	EU demersal trawlers	Yes	No?	Yes?	No	NEAFC discard ban since 2009	No	No	No

NEAFC	~~Haddock~~ ~~(*Melanogrammus aeglefinus*)~~ ~~Union and international waters of Vb and VIa~~										
	~~Haddock~~ ~~(*Melanogrammus aeglefinus*)~~ ~~VIIb-k, VIII, IX and X; Union waters of CECAF 34.1.1~~										
	~~Whiting~~ ~~(*Merlangius merlangus*)~~ ~~IV; Union waters of IIa~~										
	~~Whiting~~ ~~(*Merlangius merlangus*)~~										

NEAFC	~~VI; Union and international waters of Vb; international waters of XII and XIV~~										
	~~Whiting~~ ~~(*Merlangius merlangus*)~~ ~~VIIb, VIIc, VIId, VIIe, VIIf, VIIg, VIIh, VIIj and VIIk~~										
	~~Whiting~~ ~~(*Merlangius merlangus*)~~ ~~VIII~~										
	~~Hake~~ ~~(*Merluccius merluccius*)~~ ~~IIIa; Union waters of Subdivisions 22-32~~										
	~~Hake~~	~~Yes~~						~~Yes~~			

NEAFC	~~(*Merluccius merluccius*)~~ ~~VI and VII; Union and international waters of Vb; international waters of XII and XIV~~										
	~~Hake~~ ~~(*Merluccius merluccius*)~~ ~~VIIIa, VIIIb, VIIId and VIIIe~~	~~Yes~~						~~Yes~~			
NEAFC	~~Hake~~ ~~(*Merluccius merluccius*)~~ ~~VIIIc, IX and X; Union waters of CECAF 34.1.1~~	~~Yes~~						~~Yes~~			
	Blue ling (*Molva dypterygia*) Union and	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No

	international waters of Vb, VI, VII										
NEAFC	Blue ling (*Molva dypterygia*) International waters of XII	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No
	Blue ling (*Molva dypterygia*) Union and international waters of II and IV	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No
	~~Blue ling (*Molva dypterygia*) Union and international waters of III~~										
	Ling (*Molva molva*) Union and international waters	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No

	of I and II										
	~~Ling~~ ~~(*Molva molva*)~~ ~~IIIa; Union waters of IIIbcd~~										
	Ling (*Molva molva*) Union and international waters of V	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No
	Ling (*Molva molva*) Union and international waters of VI, VII, VIII, IX, X, XII and XIV	No	EU deepwater trawlers	?	Yes?	No?	No	No	No	No	No
	~~Norway lobster~~ ~~(*Nephrops norvegicus*)~~ ~~IIIa; Union waters of~~										

	~~Subdivisions 22-32~~										
	~~Norway lobster (*Nephrops norvegicus*)~~ ~~VI; Union and international waters of Vb~~	~~Yes~~						~~Yes~~			
	~~Norway lobster (*Nephrops norvegicus*)~~ ~~VII~~	~~Yes~~						~~Yes~~			
	~~Norway lobster (*Nephrops norvegicus*)~~ ~~VIIIa, VIIIb, VIIId and VIIIe~~	~~Yes~~						~~Yes~~			
	~~Norway lobster (*Nephrops norvegicus*)~~	~~Yes~~						~~Yes~~			

	~~VIIIc~~										
	~~Norway lobster~~ ~~(*Nephrops norvegicus*)~~ ~~IX and X; Union waters of CECAF 34.1.1~~	~~Yes~~						~~Yes~~			
	~~Plaice~~ ~~(*Pleuronectes platessa*)~~ ~~IV; Union waters of IIa; that part of IIIa not covered by the Skagerrak and the Kattegat~~										
	~~Plaice~~ ~~(*Pleuronectes platessa*)~~ ~~VI; Union and international waters of Vb; international waters of XII and XIV~~										

	~~Plaice (*Pleuronectes platessa*) VIIb and VIIc~~										
	~~Plaice (*Pleuronectes platessa*) VIIf and VIIg~~										
	~~Plaice (*Pleuronectes platessa*) VIIh, VIIj and VIIk~~										
	~~Plaice (*Pleuronectes platessa*) VIII, IX and X; Union waters of CECAF 34.1.1~~										
	~~Pollack~~										

	~~(*Pollachius pollachius*)~~ ~~VI; Union and international waters of Vb; international waters of XII and XIV~~										
	~~Pollack~~ ~~(*Pollachius pollachius*)~~ ~~VII~~				~~Yes~~			~~Yes~~			
	~~Pollack~~ ~~(*Pollachius pollachius*)~~ ~~VIIIa, VIIIb, VIIId and VIIIe~~										
	~~Pollack~~ ~~(*Pollachius pollachius*)~~ ~~VIIIc~~										
	~~Pollack~~										

	~~(*Pollachius pollachius*)~~ ~~IX and X; Union waters of CECAF 34.1.1~~										
	~~Saithe~~ ~~(*Pollachius virens*)~~ ~~IIIa and IV; Union waters of IIa, IIIb, IIIc and Subdivisions 22-32~~										
	~~Saithe~~ ~~(*Pollachius virens*)~~ ~~VI; Union and international waters of Vb, XII and XIV~~										
	~~Saithe~~ ~~(*Pollachius virens*)~~ ~~VII, VIII, IX and X; Union waters of CECAF 34.1.1~~										

	~~Saithe~~ ~~(*Pollachius virens*)~~ ~~International waters of I and II~~										
	~~Greenland halibut (*Reinhardtius hippoglossoides*)~~ ~~Union waters of IIa and IV; Union and international waters of Vb and VI~~										
	~~Greenland halibut (*Reinhardtius hippoglossoides*)~~ ~~International waters of I and II~~										
	Redfish (shallow pelagic) (*Sebastes spp.*) Union and international waters	No	EU midwater trawlers (OTM)	No	No	No	No	No	No	No	No

	of V; international waters of XII and XIV										
	Redfish (deep pelagic) (*Sebastes spp.*) Union and international waters of V; international waters of XII and XIV	No	EU midwater trawlers (OTM)	No	No	No	No	No	No	No	No
	Redfish (*Sebastes spp.*) International waters of I and II	No	EU midwater trawlers (OTM)	No	No	No	No	No	No	No	No
	~~Common sole~~ ~~(*Solea solea*)~~ ~~VI; Union and international waters of Vb; international waters of XII and XIV~~										
	~~Common sole~~ ~~(*Solea solea*)~~	~~Yes~~						~~Yes~~			

	~~VIIb and VIIc~~										
	~~Common sole (*Solea solea*) VIIf and VIIg~~	~~Yes~~						~~Yes~~			
	~~Common sole (*Solea solea*) VIIh, VIIj and VIIk~~	~~Yes~~						~~Yes~~			
	~~Common sole (*Solea solea*) VIIIa and VIIIb~~	~~Yes~~						~~Yes~~			
	~~Sole (*Solea spp.*) VIIIc, VIIId, VIIIe, IX and X; Union waters of CECAF 34.1.1~~	~~Yes~~						~~Yes~~			
	Spurdog/picked dogfish (*Squalus acanthias*)	No	EU trawlers	?	No?	Yes?	No	No	(zero TAC	Yes	No

	Union and international waters of I, V, VI, VII, VIII, XII and XIV								)		

7. STECF RECOMMENDATIONS FROM STECF-PLEN-16-02

ToR 4.2

STECF recommends that the Commission encourages submissions from Member States groups, as well as from individual Member States, regarding the effectiveness of the implementation of the landing obligation.

STECF recommends that the Commission encourages all possible actors (MSs, EFCA), regional bodies, industry, science, NGOs, etc.) to work to ensure that catches are effectively monitored and that any shortfalls are adequately documented and clearly understood. This is particularly important for monitoring-at-sea programmes where all information associated with these programmes also requires to be collected (for example, observer refusal rates, coverage, cross checks with other sources of information such as CCTV etc.).

STECF recommends that the Commission facilitates further investigation of the list of candidate metrics, including identification of the metrics with the greatest potential to illustrate progress towards the implementation of the landing obligation.

8. BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on: https://stecf.jrc.ec.europa.eu/plen1602

9. CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS

1 - Information on STECF members and invited experts' affiliations is displayed for information only. In any case, Members of the STECF, invited experts, and JRC experts shall act independently. In the context of the STECF work, the committee members and other experts do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members and experts also declare at each meeting of the STECF and of its Expert Working Groups any specific interest which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: http://stecf.jrc.ec.europa.eu/adm-declarations

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

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