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SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES – 58TH PLENARY MEETING REPORT (PLEN-18-02)

Edited by Clara Ulrich & Hendrik Doerner

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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 58th plenary on 2-6 July 2018 in Brussels.

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PLENARY MEETING

2-6 July 2018, Brussels

1. INTRODUCTION

The STECF plenary took place at the Centre Borschette, Brussels, from 2 to 6 July 2018. The chair of the STECF, Clara Ulrich, opened the plenary session at 11:00h. The terms of reference for the meeting were reviewed and discussed 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 6 July 2018.

2. LIST OF PARTICIPANTS

The meeting was attended by 25 members of the STECF, one invited expert and two JRC personnel. 18 DG MARE attended parts of the meeting. Section seven of this report provides a detailed participant list with contact details.

The following STCF members were unable to attend the meeting:

1. Haritz Arrizabalaga
2. Massimiliano Cardinale
3. Didier Gascuel
4. Arina Motova
5. Hilario Murua
6. Evelina Sabatella
7. Antonello Sala

3. INFORMATION TO THE PLENARY

2018 meetings:

The STECF was informed on updates of planning for meetings in the 2nd half 2018.

- EWG MAP for EU fisheries exploiting demersal stocks in Adriatic Sea – date changed to 3-7 December, venue tbd, chair E. Jardim
- EWG EU aquaculture economics – date 22-26 October, JRC Ispra, chair R. Nielsen
- EWG 18-13: Stock assessments in the Black Sea 2018 (24-28 September, Ispra, chair: M. Cardinale) has been cancelled and replaced by:
- EWG-18-13 Fishing effort regime for demersal fisheries in the western Mediterranean Sea – PART II, date: 8-12 October, Copenhagen, chair C. Ulrich

4. ASSESSMENT OF STECF EWG REPORTS

4.1 EWG 18-04 Preparation for the evaluation of the list of mandatory research surveys at 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.

Additional request:

Background provided by the Commission

In line with STECF Plenary Meeting 18-01 (point 5.7 of Report), the STECF EWG 18-04 - that took place between 14-18 May 2018 - was a scoping meeting, in order to prepare for the review of surveys.

As part of its TORs, the EWG 18-04 proposed a timeline for next steps (see annexed), that will lead to an EWG on the revision of the mandatory research surveys under the Data Collection Framework (DCF). The EWG 18-04 used as a basis the proposal of STECF PLEN 18-01 (Annex), having in mind a one-year gap between this meeting and the actual review of surveys.

The EWG 18-04 also developed a new evaluation system for the surveys, which is schematically represented by a flow chart, called the Decision Support Tool (DST). This tool includes all six criteria from the DCF Regulation (Recast), regarding the surveys. Each step/question in the flow chart can be answered by 'yes' or 'no' (binary system). Depending on the answer, the survey will be either proposed for inclusion in the mandatory list of surveys or excluded. Some surveys that are excluded will be sent to expert groups for further evaluation and possible re-application of the DST at a later iteration. The entry point of the DST is the stock, rather than the survey. In order to ensure the availability of all necessary data for the review of surveys using the DST, the EWG 18-04 decided to outline a Stocks database and a Surveys database. The two databases are set up as general as possible, in order to accommodate the width of survey set-ups across the relevant EU areas. Also, the two databases will be used by the future survey review EWG to identify data gaps (e.g. stocks with no surveys). The background information to populate the two databases was already provided by MS, as coordinated by Regional Coordination Groups (RCGs), and end users (ICES) prior to the EWG 18-04. However, work still needs to be done in that respect, as the format in which the information was originally requested for the EWG 18-04 is not the same, as the format of Stocks and Surveys databases.

Request to the STECF:

1. Test the DST: STECF PLEN 18-02 is requested to investigate the suitability of the proposed DST and associated databases (Survey and Stock databases). To do this, STECF PLEN 18-02 should populate the Stocks and Surveys databases with the information already provided by MS, as coordinated by RCGs, and end users (ICES) to EWG 18-04. The testing should be done by choosing only a number of suitable case studies from different marine regions, not the whole list of surveys and stocks. The aim of this exercise is to: (i) assess the capacity of the databases to give sufficient information to go through the DST evaluation process and (ii) to check how the DST works. Any discrepancies and cases where the DST does not work should be highlighted.

2. To make certain the guidelines for applying the DST are clear and complete. STECF PLEN 18-02 is requested to ensure consistency of the guidelines between the: (1) DST; (2) Stocks database and (3) Surveys database. As the two databases are meant to provide the information for running of the DST, STECF PLEN 18-02 is requested to cross check that fields across the two databases and the DST have the same title and definition/ description and that there are neither gaps nor unnecessary duplications.

3. To provide advice on improvements of the Stocks and Surveys databases and the DST.

4. To describe in detail the information needed to be provided by end users in order to assess the question in the DST originally drafted as follows: 'Is the survey essential to the advice?

Timeline as agreed in STECF PLEN 18-01 (page 84 of report)

Timeline for next steps towards survey review

STECF concludes that a similar timeline as in 2010 should be used:

Action	Responsible	Before
Finalise checking surveys against use in the advice, prepared by ICES	ICES	EWG 18-04
Gather background information on surveys in the Mediterranean, Black Sea and ICCAT region from the RCG Med&BS and RCG on Large Pelagics	RCG Med&BS and RCG LP chairs	EWG 18-04
Agree on criteria, ToRs, roadmap and preparation needed for the survey review	EWG 18-04	end of May 2018
Endorse EWG 18-04 report	STECF PLEN 18-02	mid-July 2018
Send request for consistent information on surveys (template to fill in) to MS	EC	mid-July 2018
Fill out the template on survey information and send to RCGs	MS	end of Aug 2018
Compile the survey information from MS by region	RCGs	end of Sep 2018
Compile survey information for all regions	Liaison Meeting	Oct 2018
Send compiled survey information to MS and end-users for final checks	EC	end of Oct 2018
Provide final updated background information on surveys to survey review meeting	EC	end of 2018
Review group meeting (EWG 19-XX)	STECF	early 2019
Report survey review to STECF Plenary	EWG 19-XX chair	April 2019

STECF Response

Background

Member States (MS) regularly conduct research surveys of marine fish resources to provide fundamental data for assessing the condition of exploited fish stocks and for monitoring general conditions of the marine ecosystem. A number of these surveys are included in the Data Collection Framework (DCF). They have been consequently supported financially by direct management (2002-2013) and the European Maritime Fisheries Fund (EMFF) (2014-2020). The list of mandatory research surveys at sea (Appendix IX of the Multiannual Community Programme) was first reviewed in 2007 (Sub-Group of Research Needs (SGRN) 07-01). This meeting was followed by two other EWGs (SGRN 09-04 which developed the TORs and roadmap for SGRN 10-03). However, the resulting 2010 Scientific, Technical and Economic Committee for Fisheries (STECF) recommendations did not lead to modifications in the data collection legal framework of 2011, because the specific elements were incorporated in the National Programmes of Member States (MS). The ensuing legal revisions of the DCF (roll over 2014-2016 and current EU MAP) have kept the original list of surveys intact, as reviewed in 2007.

STECF recommended that surveys should be subject to frequent evaluation (at least once every 5 years). An EWG was originally called to revise the existing research surveys listed in Table 10 of the EU MAP in 2017, but this was subsequently moved to May 2018, in order to allow for proper preparation. Since then, Regional Coordination Groups (RCGs) and MS have been compiling information on current and future surveys, naming conventions and coordinating with main end-users (e.g. International Council for the Exploration of the Sea -ICES). This preparatory work is not yet finalised and/or consistent across all sea basins. In addition, STECF has recommended that criteria, scoring rules and criteria weightings for prioritizing and evaluating the surveys should be adopted and approved by the STECF before the surveys review meeting (as was the case in 2010). The STECF work carried out in 2009/2010 needs to be updated, if one takes into account (i) the new regulatory DCF framework ((EU) 2017/1004, Recast[1] that has been adopted recently (2016-2017), in which specific requirements should be met, (ii) new management needs and (iii) the experience gained by MS, the priorities that have changed and the science that has advanced.

In view of the above, there is a clear need to conduct a scoping meeting, in order to prepare for the review of surveys in a future meeting. This will also allow for MS and end user consultation between the proposed scoping meeting in May and the actual review of surveys, at a date to be determined.

During its PLEN 18-01, the STECF discussed the proposed by the Commission draft ToRs for EWG 18-04. Considering the relatively short time left until the EWG 18-04, STECF acknowledged the proposed change in direction of the EWG from the originally foreseen review of surveys to a scoping meeting, setting the framework and procedures for the actual survey review by the Commission plan of action.

STECF observations

1 Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008 (Recast)

The Expert working group 18-04 was held in Varese, Italy, from 14th to 18th May 2018 to discuss and plan for a future EWG that will review research surveys of marine fish resources and propose surveys to be included on the list of mandatory surveys, as a revision to Table 10 of the EU Multiannual Program (EU MAP). The meeting was attended by 17 experts in total, including 2 STECF members and 4 JRC experts.

Tasks for the EWG were the following:

1. The EWG is invited to develop the draft TORs and roadmap for the EWG meeting that will evaluate the research surveys at sea.
2. Based on the information compiled by MS and RCGs, the EWG is invited to:
   a. evaluate the information provided on the current and proposed list of surveys and describe any additional information required to conduct the review of surveys;
   b. define the format to report such additional information and provide specific guidelines and a timeline to ensure provision of the necessary information needed for the EWG on the revision of surveys;
   c. discuss whether access to existing data held in supranational databases is necessary for the compilation of additional information or necessary for the EWG on the revision of surveys.
3. Based on the above and any end user feedback, the EWG is invited to collate existing information on the data collected under surveys versus the data needed for the scientific advisory process and for fulfilling Common Fisheries Policy (CFP) priorities. The EWG is invited to include an assessment of which surveys are used for scientific advice, as well as the extent of coverage of stocks by surveys. Gaps should be also highlighted as part of these analyses.
4. The EWG is invited to define the characteristics of a survey and what makes it mandatory.
5. The EWG is invited to discuss and agree on the criteria, scoring rules, criteria weightings, methodologies and data quality aspects to be used for the prioritization and evaluation of surveys.
6. The EWG is invited to discuss the frequency of revision of the survey review, if the latter departs from STECF recommendation of an, at least, 5-year cycle.
7. The EWG is invited to propose a format of description and categorization of the mandatory research surveys at sea in the future DCF legal framework, using Table 10 of EU MAP as a starting point.
8. As a secondary task, the EWG is invited to discuss methodologies on how to evaluate the cost of surveys.

The STECF notes that the following tasks were not addressed by the EWG due to time limitations:
Task No. 6. Frequency of survey reviews.
Task No. 7. Propose a format for describing and categorizing the mandatory surveys.
Task No. 8. Discuss methodologies for evaluating the cost of surveys.

The STECF, however acknowledges that the primary task of the group, "to develop the draft TORs and roadmap for the EWG meeting that will evaluate the research surveys at sea"; including a proposed Decision Support Tool for survey (DST) review and associated databases was fully addressed.

STECF comments

The STECF observes that the EWG 18-04 has proposed a set of tasks for the future EWG's on review of the list of the research surveys at sea, and the roadmap of tasks that need to be completed before the surveys' review are conducted. They also proposed a Decision Support Tool (DST) together with the appropriate databases, to evaluate the

importance of the surveys. However, STECF notes that prior to the meeting of the survey review EWG, detailed instructions on the use of the tool will have to be provided in a yet-to-be-written guidance document, together with guidance how to approach the questions that must be answered when applying the tool. STECF notes that given the heavy workload of RCGs, it would be preferable to use ad hoc contracts rather than asking RCGs to develop a guidance document with details how to populate the databases and how to use the data within DST.

The STECF notes that the proposed tasks for the future survey review EWG are rather extensive. Besides the evaluation of the surveys listed in Table 10 of the EU MAP and the identification of management needs (TORs 1 and 2), the tasks include also the identification of the survey information on ecosystem data supporting Marine Strategy Framework Directive descriptors 1, 3, 4, 6 and 10. This extensive scope of the EWG would need a wide expertise among the participants.

The STECF notes that the EWG18-04 considered a fundamentally different approach for inclusion of surveys in the mandatory list compared to the previous evaluations in 2007 and 2010, where each individual survey was scored against a set of criteria laid out in the DCF or based on those criteria. The proposed new approach is driven from the viewpoint of the end-user needs, rather than from the viewpoint of the surveys.

This new approach, which the group described as a Decision Support Tool (DST), considers each individual fish stock (including also stocks that are not analytically assessed) and various characteristics of any associated surveys (e.g. international coordination, data accessibility etc.), to generate a binary (Yes/No) decision regarding whether the associated surveys should be placed on the list of mandatory surveys. The STECF notes that some EWG members expressed concerns that the proposed DST approach would be less transparent than the previous survey-scoring approach because the DST would not result in a ranked list. However, STECF considers that the additional information from the proposed stock- and survey- databases (see below) as well as the new DST approach starting from end-users needs, will improve the evaluation of the surveys. It is also expected that it will efficiently identify gaps and duplication in survey coverage. The DST has also the advantage that it is specifically designed to identify those surveys that are mandatory, whereas the criteria used for the previous surveys' review were developed to identify those surveys at sea that would be eligible for funding under the DCF.

The STECF also notes that the DST includes various feedback loops allowing for end-user input (through associated expert groups) and the possibility of adjusting and improving the design of those surveys that otherwise would not immediately qualify as a candidate for the mandatory list of surveys.

STECF further observes that two databases would be needed for the implementation of the DST. The proposed **Stocks database** would be the primary source of information on which the DST would be applied for evaluating whether surveys should be included in the future list of mandatory surveys. The Stocks database would also be used to identify possible duplicate surveys and stocks that are not covered by surveys. The proposed **Surveys database** would provide detailed information about the characteristics of EU surveys at sea used to collect data needed for stock assessment or the provision of management advice, either with respect to fisheries or to the ecosystem. The proposed database would contain information for all surveys at sea currently listed in Table 10 of the EU MAP and for any additional existing or future surveys proposed by Member States and the RCGs. The STECF notes that making the Stock and Survey databases up-to-date before the meeting of the survey review EWG is of critical importance with respect to evaluating the present list of mandatory surveys as well as the potential new ones.

The STECF notes that each stock and its associated surveys would be screened through a number of criteria, including all six from the DCF Regulation EU/2017/1004 (Recast), regarding the surveys, prior to making any decisions on the future of the survey.

- Is fishery management advice is provided for the stock?
- Are indices from the survey used in the assessment or TAC calculation for the stock?
- Is the survey is internationally coordinated and harmonized?
- Are the data from the survey are accessible and available for scientific use?
- Does the survey provide the basis for the assessment or management advice for the stock?
- Does the survey provide adequate coverage for the stock?
- Does any duplication exist between this particular survey and other surveys for this stock?

STECF suggests that all surveys, listed in EU MAP Table 10 and those proposed by the Member States and RCGs, should be evaluated approximatively every 5 years.

STECF endorses the following TOR's proposed by the EWG-18-04 for future EWG's on survey review

TOR 1. Evaluate the list of surveys.

The surveys review EWG is requested

a) to evaluate a list of candidate surveys at sea to be supported by the DCF based on the ***Stocks*** database, ***Surveys*** database, and Decision Support Tool (DST), which are described briefly below and more fully in the report;
b) to provide quality assurance of the information contained in the ***Stocks*** database and ***Surveys*** database;
c) to produce a set of tables that summarize the DST results;
d) to produce a list of surveys proposed for inclusion on the list of mandatory surveys (a revision to Table 10 of the EU MAP) based on the application of the DST; and
e) to identify potential duplicate surveys that need evaluation.

TOR 2. Identify fishery management needs.

The surveys review EWG is requested to provide analyses of the ***Stocks*** database …

a) that identify stocks not covered by surveys and
b) that identifies duplicate surveys and compares this list of duplicates with the list of duplicates identified under TOR 1e.

TOR 3. Identify survey information relating to an ecosystem-based approach to fishery management.

The surveys review EWG is requested to provide an analysis of the ***Surveys*** database that identifies contributions by the surveys of ecosystem data supporting Marine Strategy Framework Directive (MSFD) descriptors 1, 3, 4, 6, and 10.

STECF responses to the additional ToRs

1. STECF did not attempt to conduct an in-depth investigation on the suitability of the proposed DST, as the stocks and survey databases are not available yet and the EWG 18-04 has tested the DST extensively. However, STECF examined the examples

provided in the EWG-18-04 for the Baltic and the North Sea and found that the proposed DST approach is an improvement from the previously used survey scoring approach as it starts from end-user needs and is likely to identify gaps and duplication in survey coverage. The STECF notes that the stocks and survey databases, required for a comprehensive testing of the DST, will be completed within the coming months by *inter alia* the Regional Coordination Groups (RCGs), as outlined by the roadmap proposed by the EWG.

2. The STECF concludes that the DST draft guidance provided in the report of the EWG18-04 is clear and includes all essential criteria to evaluate the surveys. Cross-checking the structure of the two databases and DST did not reveal any major inconsistencies.
3. STECF considers the EWG proposals for the structure of the stocks and survey databases and the DST as sufficient to allow for an efficient full review of surveys
4. The EWG on survey review should take into account existing information from stock assessments regarding the importance of the surveys in developing stock advice.

STECF conclusions

STECF endorses the implementation of the Decision Support Tool (DST) approach, based on updated Stock and Survey databases for review EWGs in order to derive a candidate list of mandatory surveys at sea. STECF also concludes that all surveys, both those currently listed in EU MAP Table 10 and those additionally proposed by the Member States and RCGs should be evaluated on routine basis every 5 years approximatively.

STECF endorses the draft Terms of Reference and proposed Roadmap for the future survey review EWG, proposed by the EWG 18-04. STECF also notes that, given the heavy workload of RCGs, it would be preferable to use ad hoc contracts rather than asking RCGs to develop a guidance document with details how to populate the databases and how to use the data within DST.

4.2 EWG 18-05: Economic impact of mixed fisheries options

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

The Expert Working Group, STECF EWG 18-05, on the Economic impact of mixed fisheries options was convened in Copenhagen, Denmark, at the ICES headquarter, 21-25 May 2018. It ran in parallel to the ICES Working group on mixed fisheries.

STECF observes that the EWG was able to address all ToRs. This was the first meeting to analyse economic impacts of the mixed fisheries advice and TAC options by applying integrated bio-economic models. It is, therefore, to be seen as a test case to illustrate what kinds of results can be expected.

Two areas were selected to run the bio-economic models: North Sea and Atlantic Iberian Waters. For these two areas a number of updated integrated bio-economic models were available in the EWG:

- SIMFISH, FISHRENT, FLBEIA and DISPLACE for North Sea
- FLBEIA for Atlantic Iberian Waters

STECF notes that the bio-economic models include generally a well-developed biological and economic module incorporating an annual feedback mechanism. This means that the biological module of the models project the dynamic of the stocks and the results regarding available catch options feed into the economic and management module. The fishing fleet(s) in the model then utilise the fishing opportunities and this feeds back into the biological module for the assessment of stocks in the following year. Therefore, these models are able to analyse medium-term developments based on different scenarios and a set of assumptions about the development of certain factors (e.g. fuel costs, selling prices) over the next few years. The time frame for the test case is 5 years (2019-2023).

STECF notes that the aim of this parallel meeting of the EWG with ICES WGMIXFISH was to test the possibilities of producing economic assessment of the ICES MIXFISH advice (TOR 1 of the EWG). The main link between the two working groups is the dataset the WGMIXFISH produces for the two selected case studies that the EWG covered (North Sea (NS) and Atlantic Iberian Waters (AIW)).

STECF observes that the EWG assessed whether data produced by WGMIXFISH could be directly used in the bio-economic models without further data transformation. This was tested for the North Sea with the SIMFISH model. STECF notes that this direct use was not straightforward to do as the fleet segmentation used in WGMIXFISH is an aggregation of the standard AER fleet segments intended to reduce the number of modelling units in the model. Therefore, additional work is required to produce consistent model economic parameters at that higher level of aggregation.

STECF notes that for short-term assessments (TOR 3) the EWG applied options (next years TAC proposal) compared to the medium term (TOR 2) where scenarios were used (medium term 2019 to 2023). Options and scenarios were tested applying two simulation models – FISHRENT in the North Sea and FLBEIA in the Atlantic Iberian

Waters.; a limited exercise was also done by applying the two other models DISPLACE and FLBEIA in the North Sea (North Sea only).

STECF notes that results do not represent a full Impact Assessment of options or scenarios; but only a subset of which scenarios might be analysed in a full impact assessment. In addition, the EWG was not using the most recent data, but the ICES WGMIXFISH 2017 dataset. This was done as the WGMIXFISH data for 2018 was not yet available at the beginning of the meeting. WGMIXFISH needs approximately 4 days for the compilation of the data and, therefore, the EWG used the 2017 data for this test case.

STECF observes that the EWG applied two options to analyse the short-term effects of TAC options for 2019: Option 1: Fmsy; Option 2: MSY Fupper for the stocks that were estimated as being potential choke species under Option 1 run.

STECF observes that three scenarios are applied for the medium-term period 2019-2023: Fmsy in 2019, Fmsy in 2020 and Fupper. The Fupper scenario uses Fupper for all identified choke species in 2019 until end of period. These scenarios were chosen by the EWG to illustrate the range of possible scenarios and illustrate trade-offs when assessing impacts at different time steps. If a regular assessment is requested, then DG Mare and STECF would need to discuss which scenarios should be applied.

STECF observes that one result for the North Sea is that applying Fupper as a target for potential choke stocks (to reduce the risk of early closures of the fishery) generally lead in the short term to higher economic indicators (e.g. Gross Value Added) as when applying Fmsy. However, when considering the cumulated impacts in the medium term using Net Present Value of Gross Value Added/Net Profit, the Fmsy option can provide more overall economic benefits over the whole 5-year period than the Fupper scenario. The reason for this is that Fupper leads to lower stock levels than Fmsy in the medium term.

STECF observes that the EWG answered TOR 4 by elaborating on which data are available to assess the dependency of a local economy on the fish processing industry. A dependency assessment would enable partial analysis of the impact of changes in landings on downstream parts of the value chain. The EWG considered the TAC dependency tool developed by JRC (see STECF 17-05) and a 'social community indicator' by assessing registered vessels in ports.

STECF conclusions

STECF concludes that it was possible to run the bio-economic models during the EWG, resulting in projections of medium term bio-economic implications of the selected management options.

STECF concludes that the added value of applying integrated bio-economic models is to identify possible developments of choke stocks, quota uptake rates and economic indicators of the fleet (among others) over longer time periods, for various management scenarios and TAC options. Because of the longer time horizon of the models, short term versus medium-term trade-offs can be identified and assessed by calculating the Net Present Value of revenues, GVA or profits from different modelled scenarios or options.

STECF concludes that merging AER and ICES WGMIXFISH datasets requires common protocols to define meaningful levels of fleet aggregation and corresponding estimates of transversal and economic model parameters. The work initiated by Jardim et al. (2013)) in this regards needs to be further considered.

STECF concludes that a multi-model approach is useful to capture the details of the studied systems. It is also useful to understand the impact of model assumptions on the

outcomes of scenarios, in order to identify management options that are robust to model error.

Currently, this kind of evaluation cannot be performed for all the fleets and stocks within EU waters, because updated and operational bioeconomic models are not readily available for all EU regions (gaps are West of Scotland, Irish Sea, Ionian and Aegean Seas and the Black Sea). For some other regions only one model is available (e.g. Celtic Sea).

STECF concludes that there are clear benefits of a joint effort of the STECF EWG with the ICES WGMIXFISH in terms of data availability and quality. There is, however, a necessity to merge the different databases.

STECF acknowledges that the projections from the bio-economic models may not be necessarily consistent with the projections provided in the Annual Economic Report using BEMEF model. The AER projections are derived from analysing different fleets or fleet segments under different sets of assumptions. Fully integrated bioeconomic models account for the technical interactions among the fleets. STECF concludes that both models may serve different purposes and may not be directly comparable.

STECF concludes that an evaluation of impacts on society beyond the fishing fleets alone (i.e., markets; communities etc, such as dependency of fish processing industry on certain fleets and stocks for example) is less straightforward and existing protocols are less well established. Appropriate methods and data would need to be further agreed on, especially with reagrds to the social aspects.

STECF proposes the following steps to provide regular economic and social advice regarding mixed fisheries options:

1) **Data accessibility:** Clarification is required on how required data sets can be made accessible. For EWG 18-05 the data of ICES and STECF were available. However, some preparatory work is necessary to have all the data available before the meeting. In addition, in order to merge the datasets quality protocols need to be developed.
2) **Model updates:** The bio-economic models need to be regularly updated by including the most recent data.
3) **Scoping meeting**: A scoping meeting with the European Commission would define the areas, stocks, and fleet segments to be included in advice. Management options and scenarios would need to be discussed and agreed with the Commission.
4) **EWG Meeting**: Further discussion will be necessary about the timing of the EWG. Meeting after the WGMIXFISH would allow experts to apply the most recent data. As the WGMIXFISH needs a lot of time to compile the data a parallel meeting as performed this year does not allow for full integration..

STECF concludes that STECF and DG Mare should discuss further about the approach for the MIXFISH advice in 2019. This discussion should include e.g. possible formats for presentation of results, options to be tested, stocks and fisheries to be analysed.

References

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Scientific, Technical and Economic Committee for Fisheries (STECF) 2017. – Bio-Economic Methodology (EWG-17- 05); Publications Office of the European Union, Luxembourg; EUR 28359 EN; doi:10.2760/759034

4.3 EWG 18-06 Evaluation of LO joint recommendations

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group meeting, and the additional information received from the Regional Groups after the EWG, evaluate the findings and make any appropriate comments and recommendations.

STECF response

Background of the EWG 18-06

The report of the Expert Working Group 18-06 (STECF EWG 18-06) represents the findings of the meeting convened to review the joint recommendations (JR) from Member States regional groups for the implementation of the landing obligation (LO) in 2019. Joint recommendations for discard plans represent the agreement among Member States (MS) cooperating regionally on the elements for the preparation of Union law (Commission delegated act) in accordance with Article 15.6 of the Common Fisheries Policy. These elements are: definitions of fisheries and species; *de minimis* and high survivability exemptions; fixation of minimum conservation references sizes; additional technical measures to implement the landing obligation; and the documentation of catches. EWG 18-06 reviewed the new or amended joint recommendations from the North Sea, North Western waters (NWW), South Western waters (SWW) and Western Mediterranean. EWG 18-06 also carried out an analysis of the progression in implementing the landing obligation, working to the following Terms of Reference:

1. *Screen any changes in the defined fisheries to be subject to the landing obligation in 2019 for potential, provide comment on the potential impact in terms of changes in the scope i.e. increases in the level of the fleet covered and provide comment where appropriate if such changes may potentially introduce any unintended consequences e.g. different conditions in different sea basins.*
2. *Review the supporting documentation underpinning exemptions on the basis of high survivability in respect of:*
    - *Exemptions agreed for 2018 on the basis of high survivability where there was a requirement for further information to be supplied.*
    - *New exemptions based on high survivability. In data poor situations, assess what further supporting information may be available and how this be supplied in the future (e.g. survival studies, tagging experiments).*
3. *Review the supporting documentation (biological, technical and/or economic) for de minimis exemptions on the basis that either increasing selectivity is very difficult to achieve, or to avoid handling unwanted catches would create disproportionate cost in respect of:*
    - *De minimis exemptions agreed for 2018 where there was a requirement for further information to be supplied.*
    - *New de minimis exemptions. In data poor situations, assess what further supporting information may be available and how this could be supplied in the future (e.g. discard data collection, selectivity studies).*

- *Consider the potential implications where joint recommendations have proposed combined (multi-species) de minimis exemptions.*

4. *Review whether there is sufficient information to support proposed minimum conservation reference size(s) that deviate from existing minimum landing sizes, and whether they are consistent with the objective of ensuring the protection of juveniles.*
5. *Review the supporting documentation provided for technical measures aimed at increasing gear selectivity for reducing or, as far as possible, eliminating unwanted catches.*

STECF observations

As noted by EWG 18-06, ahead of the final year of full implementation of the Landing Obligation in 2019, the number of exemptions proposed in the JRs for the EWG 18-06 to consider was higher than in previous years. The listed exemptions increased from just over 40 for 2018 to nearly 70 for 2019. . For the Mediterranean, in some cases the same recommendations were proposed by the different regional groups (SUDESTMED, PESCAMED and ADRIATICA); these groups submitted seven of the same exemptions. The EWG 18-06 combined these across the regions and assessed them as seven separate exemptions, which meant that the total number of proposed and assessed exemptions across all regions (NS, NWW, SWW, MED) was 58 (Table 4.3.1).

Table 4.3.1. Number of recommendations by type and region evaluated by EWG 18-06.

	Recommendations evaluated		
Region	*de minimis*	high survivability	Total
North Sea	8	8	16
North Western Waters	5	10	15
South Western Waters	10	3	13
Mediterranean (consolidated)	8	6	14
Total	31	27	58

As stated by EWG 18-06, the high number of recommendations reflects that 100 out of 175 stocks are currently subject to LO (excluding the Med), either fully or partially, and the remaining 75 stocks and partially implemented stocks will have to be brought in under the LO at the beginning of 2019.

To manage the large number of recommendations, the STECF response is structured as follows: general observations, then specific observations on the joint recommendations

submitted from each of the region, North Sea (Table 4.3.2), North Western Waters (Table 4.3.3), South Western Waters (Table 4.3.4), and Mediterranean (Table 4.3.5).

EWG 18-06 reviewed only the new or amended joint recommendations from each region. As part of this evaluation, EWG 18-06 identified specific data shortfalls in the material submitted to support JRs. Following EWG 18-06, regional groups were requested to provide additional data and supporting information by the Commission so that it could be considered by STECF PLEN 18-02. For each JR, the EWG response is summarized. Then the STECF comments include a description of any information received after EWG 18-06. The supporting evidence dealt with by plenary could not be scrutinised and checked for consistency in such depth and detail as was carried out in the dedicated EWG. In this regard, STECF emphasises that the JRs, including supporting evidence based on the templates developed by STECF, should be submitted in a timely manner to allow for proper assessment by STECF and the EWG.

STECF acknowledges that the EWG 18-06 has addressed all of the Terms of Reference. The focus of the EWG evaluation and the STECF review was on the assessment of the JRs. The high number of recommendations meant however that it was not possible for EWG 18-06 to apply the same level of scrutiny to each proposal as in previous years.

STECF observes that the role of EWG 18-06 and STECF PLEN 18-02, and any future STECF meetings to evaluate joint recommendations, is to evaluate the scientific rigor and robustness of the underpinning information supplied by Member States to support the joint recommendations. STECF cannot adjudicate on whether exemptions should be accepted or not.

STECF observes that the EWG 18-06 is of the opinion that the quality of submissions to support the exemptions has, in many cases, improved since the first JR's were submitted in 2014. In particular, EWG 18-06 recognises progress made in carrying out discard survival experiments, which follow the recommendations made by ICES and STECF. However, EWG 18-06 also notices that there were many *de minimis* cases where the quality of submission had fallen, making it difficult to make any evaluation at all. In 2017, Member State Regional Groups generally used the templates developed by STECF to supply fisheries and fleet descriptors, but this year fewer recommendations were supported with this information.

In line with STECF PLEN 17-01, 18-01, and EWG 18-06, STECF highlights the "lack of [required] reporting by vessel operators of fish discarded under exemptions…". There was little included to address this in the latest JR's, and STECF stress again the need to improve the collection of catch documentation data. If the data situation does not improve and the true quantities being caught as reported do not reflect the actual removals, it will likely have a significant impact on the quality of scientific advice and may compromise the achievement of the MSY objective. As STECF PLEN 18-01 pointed out, innovative monitoring measures such as CCTV and Remote Electronic Monitoring (REM) have been applied in pilot studies and could be a more effective way to enforce the landing obligation (STECF EWG 13-23).

EWG 18-06 highlighted the marked increase in the number of combined *de minimis* recommendations requested for 2019. Following an assessment of this approach by STECF PLEN 18-01, it was shown that, under a combined *de minimis* of 5%, the discards of individual species can be substantially more than 5%. There are currently no combined *de minimis* in place which allow more than 5% discards for any single stock. STECF previously concluded that to be in line with CFP objectives, the maximum possible amount of combined *de minimis* for each stock that could potentially be discarded, should be deducted from the TAC of that stock. STECF observe that in several cases, the submissions from the regional groups have provided combined *de minimis* cases using the tables developed in STECF PLEN 18-01 to illustrate the implications of the proposal.

For high survivability recommendations, STECF has previously emphasised the need to consider estimates of survivability in the context of the discard rate for the fishery seeking an exemption (STECF 17-02), highlighting that medium survival rates in high discarding fisheries still lead to high discard mortality rates. An example is given in Figure 4.3.1. Plots are interpreted by noting that the lower bar in each case shows the discard rate while the upper bar shows the effect of the addition of the estimated survivability. The key observation is the size of the red 'dead discards' bar in the upper plot and the percentage of the overall catch from the exempted fishery that this would represent. In the example given, the dead discards with an exemption in place makeup around 15% of the total catch for this fleet. It is important to note that the percentage scales in each plot are scaled and so the numbers need to be read carefully. In some cases, the percentage of dead discards is small (below 5%), while in others it can be higher, indicating that a significant proportion of the catch is returned to the sea and dies in the exempted fishery (assuming no change in selectivity).

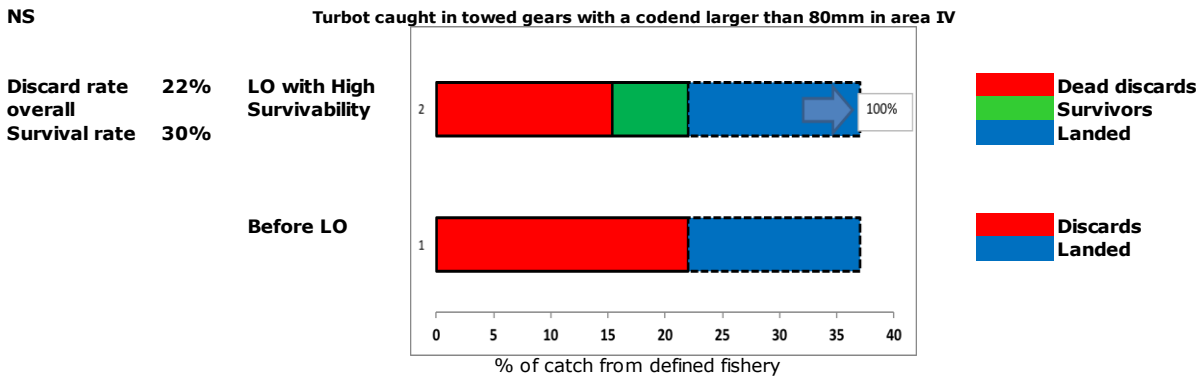


Figure 4.3.1. Illustration of the share of dead discards vs. survivors depending on discard and survival rates.

Plots are included for the North Sea and NWW requests. For the SWW and Mediterranean areas, the high survival exemption requests were either i) not supported by scientific studies or ii) lacking in discard rate information or iii) associated with zero discard estimates. In some cases, where either the survival rate or discard rate is variable, two plots are included to illustrate the range of outcomes.
Regarding survival, a number of studies have documented that survival rates decrease with sorting time, and can become significantly lower after prolonged air exposure.

Therefore, STECF re-iterates the observations of EWG 18-06 that exposure time should be factored into the discard plan if survival exemptions are to be granted.

STECF reiterates that the avoidance of unwanted catch through improved selectivity or other means should be the primary focus in implementing the landing obligation. STECF notes that the JRs received contained few measures to increase selectivity. However, other than the North Western Waters, none of the JR's include any concrete proposals for increasing selectivity. In the NWW, in some case the measures proposed are not likely to increase selectivity over and above the current minimum requirements.

STECF reiterates other relevant observations from previous evaluations of JRs:

- Survival experiments do not cover all complex "situations" and therefore many gaps in knowledge remain regarding differences in survival rates concerning different areas, seasons & temperature, handling practices, habitat (discarding bottoms), experimental conditions vs commercial conditions, etc.;
- The subjective nature of the conditionalities for exemptions (high survival, disproportionate costs, *de minimis* & economic data) means that the observations and conclusions are based on many assumptions;
- Many of the requests for *de minimis* exemptions remain of a "national nature" rather than regionally focused;
- While many regional groups use the template developed by STECF, there are still limitations in the information provided (landings, fleets, speculative assumptions). Often information is provided for one fleet but not for other fleets using similar gears and which would be also affected. In these cases, further clarification may be required.

The outputs of the EWG evaluations and STECF review are summarised in Tables 4.3.2-5, the number of recommendations means that the volume of information is still substantial. As a means to visualise an overview of the outcome of the assessments, figures were devised to illustrate the quality of evidence associated with each recommendation. The figures do not indicate that STECF supports the exemption or not, but rather show whether the supporting information and data supplied was of good quality and adequate to conduct an evaluation (Figures 4.3.2-4.3.5). The evidence is separated into three categories, i) the clarity of the request – was the recommendation clear, ii) the justification – is there empirical evidence on selectivity, economic implications of handling catches or discard survival rates which supports the request, and iii) the fishery information, which provides context for the recommendation – the number of vessels and quantity of catch etc. Figures 4.3.2-4.3.6 show that the quality of the evidence used to support the JRs varies within, and between, regions. STECF notes that the lowest quality of evidence is associated with justifying *de minimis* exemptions.

Table 4.3.2. Main findings of the STECF EWG 18-06 and summary of additional information received relating to exemptions presented: **North Sea**.

De minimis	
Recommendation	Whiting and cod caught using bottom trawls (OTB, < 100mm (TR2)
Main findings of EWG 18-06	Existing exemption but revised by increasing the scope of this exemption to the whole of area IV. The original exemption only applied in area IVc. The justification is largely the same as in 2017. No new information provided to support widening the scope of the exemption. Information is only supplied for the FR fleet although indications that NL vessels are involved. Suggested additional data to be requested: a) Information to support widening the scope of the exemption.
Comments STECF PLEN 18-02	STECF notes that evidence of fishing effort in IVb was provided for the French fleet to the PLEN 18-02. This is based on VMS tracks for three vessels covering a short period in June 2018. STECF concludes this information supports increasing the scope of this exemption for the French vessels. STECF notes no fleet information has been provided for other Member States.
Recommendation	Fish bycatch in Northern prawn trawl fishery with a sorting grid, with unblocked fish outlet in area IIIa
Main findings of EWG 18-06	Existing combined species *de minimis* but revised by increasing the number of species included under the exemption reflecting species previously not under the landing obligation. The justification is the same as in 2017. Additional catch data has been provided for the species added. The volumes of *de minimis* are quite low reflecting the relatively low levels of unwanted catches in this fishery.
Comments STECF PLEN 18-02	No additional comments
Recommendation	Fish bycatch in a *Nephrops* targeted trawl fishery
Main findings of EWG 18-06	Existing combined species *de minimis* but revised through the inclusion of hake to the list of species covered by this exemption. The basis for the exemption is the same as in 2017. Additional catch data has been provided for hake. The volumes of *de minimis* are quite low reflecting the relatively low levels of unwanted catches in this fishery.
Comments STECF PLEN 18-02	No additional comments
Recommendation	Bycatch in the brown shrimp fishery in the North Sea
Main findings of EWG 18-06	New exemption. Based on major increases in selectivity being difficult to achieve beyond existing measures. In addition, the handling of unwanted catches is regarded as having an economically disproportionate impact given the difficulties in sorting very small undersized individuals from the target species. No supporting documentation is provided to support either of these assertions even though it is likely that both are important for this fishery. A reasonably detailed description of the fishery and fleets is provided but there is no breakdown by Member State and the catch data is only provided as a percentage of the overall catches and not by volume. Suggested additional data

	to be requested: a) Supporting documentation on disproportionate costs of i) separating out small fish and ii) need for extra crew. b) Breakdown of the fleets by Member State and the catch data is only provided as a percentage of the overall catches and not by volume.
Comments STECF PLEN 18-02	STECF notes that additional information on disproportionate costs has been provided to the PLEN 18-02. This information adequately documents the increasing time required for sorting small fish from the brown shrimp catch as well as providing economic data relating to the costs of employing extra crew to carry out this sorting on board. STECF notes that a breakdown of the fleets involved in the fishery has also been provided and a justification for not supplying catch data relating to bycatch volumes has also been supplied which seems reasonable.
Recommendation	Pelagic species under landing obligation for demersal vessels using bottom trawls (OTB, OTT, PTB, TBB) of mesh size 70-99mm (TR2, BT2) in the North Sea (area IV)
Main findings of EWG 18-06	New combined species *de minimis*. Based on improvements in selectivity being difficult to achieve and also on disproportionate costs of handling unwanted catches of pelagic species on board. Limited supporting information is provided regarding either of these conditionalities. Reference to some French selectivity studies although they do not relate directly to the selectivity of pelagic species. Additionally, there is a reference to a French study (EODE study) which deals with disproportionate costs but not specifically with handling catches of pelagic species. A detailed description of the relevant French fisheries and fleets is provided. No information provided on other fleets who may wish to avail of this exemption. Indication that beam trawls are to be included but no catch or fleet information is provided. Suggested additional data to be requested: a) Supporting information regarding either i) improvements in selectivity being difficult to achieve or ii) on disproportionate costs of handling unwanted catches of pelagic species onboard. b) Catch or fleet information on i) other fisheries involving UK, NL, SE and DK vessels or on ii) beam trawls.
Comments STECF PLEN 18-02	STECF notes that additional supporting information has been provided to PLEN 18-02 in the form of two selectivity studies carried out in France in 2010 and 2014. These studies contain limited information for pelagic species but show that pelagic bycatch can be reduced in the TR2 fisheries using a range of selective gears. The reports also show the consequential reductions in marketable catches associated with the use of these selective gears. While these supporting studies are informative, STECF is unable to assess whether this demonstrates that improvements in selectivity to reduce pelagic bycatch are very difficult to achieve in these fisheries owing to the limited scope and scale of the studies. STECF also cannot assess whether the losses associated with the use of the gears tested would render the fisheries uneconomic. Further, STECF notes that current levels of unwanted catches in the TR2 fisheries are amongst the highest in any demersal fisheries in the North east Atlantic but the legal gears used (80mm+80mm smp) are relatively unselective. STECF notes that no further information on disproportionate costs has been provided. STECF notes that clarification regarding the catch data is provided, which indicates the original data supporting the exemption covers catches from all vessels fishing with TR2 and BT2 gears in the North Sea. This data has been extracted from the FDI database and is presented as aggregated data covering the fleets from all Member States and both gear types. No breakdown of catches by gear type and no breakdown of the fleets involved in the relevant fisheries have been provided. Therefore, STECF concludes that it is still difficult to assess

	the extent of this *de minimis* exemption.
Recommendation	Ling (*Molva molva*) for vessels using bottom trawls (OTB, OTT and PTB) > 100mm in the North Sea (area IV)
Main findings of EWG 18-06	New exemption. Based on improvements in selectivity being difficult to achieve given the relevant fisheries are already selective. No supporting information is provided other than referring to the morphology of ling, which makes reducing unwanted catches of ling difficult. Reference to several French studies although they do not relate directly to the selectivity of ling. Suggested additional data to be requested: A detailed description of the relevant French fishery and fleet is provided. No information on other fleets which may wish to avail of this exemption. Suggested additional data to be requested: a) Supporting information on selectivity being difficult to achieve, other than referring to the morphology of ling. b) Clarification that this exemption would apply to similar fleets from other Member States. There is reference to DE vessels operating in the fishery, but no details are provided.
Comments STECF PLEN 18-02	STECF notes that no new supporting information has been provided to the PLEN 18-02 to support this exemption. The only arguments put forward are that the gear used in the fisheries are already selective in the relevant fisheries and that improving selectivity further will render the fisheries uneconomic While it is reasonable to assume that improvements in selectivity to reduce unwanted catches of ling are technically challenging given their morphology, STECF cannot definitively assess the impact on the fisheries of improving selectivity and whether such improvements are very difficult to achieve in the relevant fisheries. STECF notes that no additional catch or fleet information has been provided for the fleets from other Member States who may participate in the fisheries (i.e. DE and UK).
Recommendation	Bycatch of industrial species for demersal vessels using TR1, TR2 or BT2 in areas IIIa and IV)
Main findings of EWG 18-06	New combined species exemption. Based on handling of unwanted catches are regarded as economically disproportionate given the difficulties in sorting very small undersized individuals from the target species. No supporting documentation is provided other than that the catches are insignificant in the demersal fisheries. Indications that there are no methods available to reduce bycatch of industrial species in these fisheries, but no supporting information is provided. Very limited information on the fleets and fisheries. Reference to beam trawl fisheries but no information is provided on the catches or fleets involved. Suggested additional data to be requested: a) Supporting detailed documentation on catches b) Clarification on the fleets and fisheries to which this exemption would be applied.
Comments STECF PLEN 18-02	STECF notes that no additional supporting information has been provided to the PLEN 18-02 so no assessment can be made as to whether improvements in selectivity are very difficult to achieve or whether the costs of handling unwanted catches are disproportionate. However, STECF acknowledges that the catch information provided show the level of bycatch in the relevant fisheries is minimal so the volume of *de minimis* will be small. STECF notes that additional catch information has been provided for the Swedish fleets using TR1 and TR2 gears in the North Sea and Skagerrak. No information has been supplied for the beam trawl fisheries.

Recommendation	Whiting caught by beam trawls 80-119mm in the North Sea (area IV)
Main findings of EWG 18-06	New exemption. Based on major increases in selectivity being difficult to achieve over and above measures already introduced into the fishery. In addition, the handling of unwanted catches is regarded as economically disproportionate given the difficulties in sorting very small undersized individuals being difficult to sort from the target species. Limited supporting evidence, other than reference to several selectivity studies being undertaken in NL and reference to several studies that have looked at the economic impacts of the landing obligation. These show, in a general sense, that additional handling on board of unwanted catches generates extra costs and sorting time for crews. Catch data provided for only the NL fleet. Not clear whether fleets from other Member States intend to avail of this exemption. Suggested additional data to be requested: a) Evidence to support the assertions that selectivity difficult to achieve and handling small undersized fish involves disproportionate costs. b) Detailed information on the fleets and fisheries to which this exemption is to be applied.
Comments STECF PLEN 18-02	STECF notes that additional supporting information has been provided to the PLEN 18-02 in the form of an impact assessment study. However, this study is in Dutch and STECF is unable to assess whether it supports the proposed exemption. STECF notes detailed catch and fleet information has been provided for all BT2 fleets. The catch information shows that the volume of *de minimis* requested is greater than the observed discards in the fisheries. This is because the *de minimis* is calculated on the combined total catches of plaice and sole. STECF does not understand the logic behind this approach and notes that this may act as a dis-incentive to improve selectivity for whiting in the relevant fisheries as all unwanted catches of whiting could potentially be discarded
High survivability	
Recommendation	Common sole (undersized only) caught with trawl gears in area IVc
Main findings of EWG 18-06	Existing exemption that EWG 18-06 did not assess but notes that the information on nursery areas has not been provided. Suggested additional data to be requested: a) location of sole nursery grounds.
Comments STECF PLEN 18-02	STECF notes that no new information on nursery areas has been provided.
Recommendation	*Nephrops* caught by demersal trawls with a codend larger than 80mm (70mm/35mm)
Main findings of EWG 18-06	Consolidation of several previous exemptions. No information is provided on fleets and catch data is only provided for the UK. There is an inconsistency in the fishery data provided for UK. Based on a scientific study on post-catch survivability following the ICES WKMEDS recommendations. Survival rates were provided for two areas: i) west coast (Minches): overall rate 53%; 45.7% in summer; 56.3% in winter; ii) east coast (Firth of Forth): survival rate in summer was 74.5%. Survival results for the Scottish west coast appear representative of the wider fleet operating on the west coast. However, for the east coast, substantial differences were observed, meaning to apply the discard survival estimates to the whole fleet in this fishery would require several assumptions to be made. There is limited information to assess whether these assumptions are justified and therefore whether the results from the studies are representative for the

	whole of the east coast. No assessment could be carried out of whether extending the survival rates to the *Pandalus* fishery is justified as no supporting information was provided. The gears and characteristics of the fishery are very different to the *Nephrops* fishery which means the survival estimates provided cannot be considered representative of the *Pandalus* fishery. Suggested additional data to be requested: a) Detailed catch and discard figures.
Comments STECF PLEN 18-02	STECF re-iterates the concerns raised by EWG 18-06 regarding the assumptions made on the survival estimates observed in the east coast fisheries and whether the estimates are representative for the whole area. Nonetheless the supporting scientific information is based on a robust approach and the validation technique used in the context of the wider fleets is reasonable. STECF also re-iterates the concerns raised by EWG 18-06 on the lack of information to justify the inclusion of the *Pandalus* fishery in this exemption. STECF notes the additional catch data submitted by the UK to the PLEN 18-02 addresses the inconsistencies identified by EWG 18-06. STECF notes that depending on gear, survival estimates range between 38% (SELTRA) to 75%(Grid). At the prevailing discard rate (6%) indicated in the JR supporting material, the range of survivability values imply that between 2 and 4% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Bycatch of plaice by vessels using setnets in areas IIIa and IV
Main findings of EWG 18-06	Based on studies in Danish fisheries in the Baltic Sea, and on the assumption that the principles and evidence are also applicable to the North Sea. The studies provide initial evidence of the survivability caught with trammel nets. Results from the study showed 100% survivability. Studies should be repeated in the North Sea with a more complete analysis (more samples; considering the environmental conditions and the fishing handling practices, long term mortality, air exposure, etc.) in representative fisheries. In addition, no data is provided for other types of static nets. The handling procedures related to the discarding of plaice particularly those to minimize air exposure, are a key factor affecting the survivability of this species. These should be well specified in the discard plan if the exemption is granted. Suggested additional data to be requested: a) Fishery data for the static 'net' categories.
Comments STECF PLEN 18-02	STECF notes additional catch and fleet information has been provided to the PLEN 18-02. STECF has no additional comments on the supporting information which seems reasonable. STECF notes that the survival estimate is 100%, if confirmed over a range of conditions this implies that none of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Bycatch of plaice by vessels using Danish seine in areas IIIa and IV
Main findings of EWG 18-06	Fleet information is supplied only for the Denmark, but it is assumed no other Member States has vessels using this gear. No detailed catch information is presented. Data only shows percentages of unwanted catch of plaice, which is on average 8% by volume in the Skagerrak, and 1% in the North Sea. The supporting study provides evidence on the survivability of discarded plaice in Danish Seine fisheries. The sample size is high enough to obtain reliable estimates of overall survival rates and the survival rates are likely to represent the lowest survival rates expected during the year given the study was carried out during the summer months.

	The study only covers the Skagerrak, but it seems reasonable to assume that the results are broadly representative given the proximity of the areas, similar catch compositions and the gears are identical. The large differences in survival rates with increasing air exposure (before and after 30 minutes) shows this is an important factor that should be incorporated in the discard plan if the exemption is granted. Suggested additional data to be requested: a) Information on the air exposure times during the catch sorting process in the commercial fleet.
Comments STECF PLEN 18-02	STECF notes that additional information has been provided to the PLEN 18-02 regarding sorting times at the fleet level. This shows that based on the average catch rates, the estimated sorting time would be 45 minutes. However, the survival studies show that survival rates decrease significantly after sorting times of 30 minutes. STECF highlights that if sorting times are on average longer than 30 minutes then the survival rates observed are not applicable for this fishery. The actual survival rates will be significantly lower.
Recommendation	Plaice below MCRS caught by 80-119mm beam trawls (BT2) in area IV
Main findings of EWG 18-06	No data on the fleets or fisheries is provided and it is unclear as to whether the exemption is to apply to all beam trawl fisheries or just to vessels using pulse trawls. There is no justification for the three-year duration other than to allow further studies to be carried out and additional control measures to be introduced. There is no indication the exemption would be removed if follow-up studies did not show reasonable survival rates for discarded plaice. The JR states that "plaice has a proven potential for high survival, given already existing high survival exemptions in place in the North Sea and other regions". However, the results of all the studies provided do not corroborate this statement as the mean survival rates presented are in all cases lower than 20%. The survival studies presented were all carried out with pulse trawls and EWG 18-06 cannot assess whether the results presented are representative of standard beam trawl gears used. If the intention is for this exemption to cover standard beam trawl gear as well as pulse trawls then it would be appropriate to repeat these studies with standard beam trawl gear. The request includes a description of the fisheries concerned and indicates that the exemption is conditional on a package of measures and incentives which affect two different components of the fleet in various ways. However, the reasoning for considering these two fleet segments (< 221kw and > 221kw) is not justified. For the small vessel fleet (<221 kw) the exemption applies if the average trawl duration is <90 min. However, the threshold of 90 min is not well supported because the results presented in the show that no effect of short (90 instead of 120 min) hauls on discards survival probability could be detected. For the large vessels (>221kw) a package of measures and incentives towards more selective fishing will be developed over a three-year period. However, little detail is provided on how these measures will be introduced. The total sample sizes used in the survival studies are adequate to obtain an overall survival rate. However, although the sea trips were spread out over the year (January, May, June, July, September, October, December) to account for the potential effect of variable environmental and fishing conditions on discards survival, the low number of individuals in each trip prevents using these as reliable monthly survival estimates. The studies show survival was strongly affected by fish condition. Therefore, the recommendation that measures aimed at increasing the survival of discards should focus on improving the condition of discarded fish during the capture process rather than the catch processing seems appropriate. Suggested additional data to be requested: a) Reasoning for why a three-year period is requested for the exemption.

Comments STECF PLEN 18-02	STECF acknowledges that the supporting scientific study is of good quality. STECF notes that survivability in this case is affected by many factors and that survivability is highly variable. STECF re-iterates the concerns raised by EWG 18-06 regarding the estimated survival rates which are less than 20%. STECF also highlights that given the indicative high discard rates and relatively the low survival rates it is likely that significant quantities of plaice discarded will not survive. STECF also re-iterates the concerns raised by EWG 18-06 regarding the representativeness of the survival estimates from the pulse trawl fishery to standard beam trawls. If the intention is for this exemption to include standard beam trawls or other towed gears then additional survival studies should be carried out. STECF re-iterates the concerns of the EWG 18-06 regarding the duration of the exemption and notes that no further justification for the length of the exemption (3 years) has been provided. STECF notes that the available survival estimate is relatively low at 20%, while plaice discard rate in the North Sea is quite high at 34% (ICES 2018). Assuming the discard rate of <mcrs plaice is at least 34%, this implies that at least 27% of the undersized catch affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Bycatch of plaice using trawl (OTB, PTB) of mesh sizes ≥120mm in areas IIIa and IV in winter
Main findings of EWG 18-06	Based on a scientific study on discard survival of plaice caught in the demersal trawl mixed fishery in the Skagerrak during summer 2017 and winter 2018. The study followed the ICES WKMEDS guidelines with large sample sizes. The mean survival rate for undersized plaice was higher in winter (75%) than in summer (44%). The mean rate for undersized plaice caught when targeting *Nephrops* during winter was lower (41%) than when targeting plaice in the same season. The larger amount of *Nephrops* in the catch caused more physical damage to the fish, reducing survival rates. In the summer when targeting plaice, discard survival rates were affected by air exposure duration. After 60 minutes exposure, the survival rates dropped to 8%. The air exposure times used in the experiment were within commercial practice, but it is not known if air exposure time is higher at the fleet level. The low survival values in summer justifies the exemption being restricted to winter months as indicated in the JR. Suggested additional data to be requested: a) Data on catch and discard quantities. b) Information on the air exposure times during the catch sorting process in the commercial fleet.
Comments STECF PLEN 18-02	STECF notes that additional information has been provided to the PLEN 18-02 on the typical sorting times by catch size. Information on average catch weights in the relevant fisheries is also provided. This information shows that average sorting times are in the region of 40-60 minutes. STECF highlights that survival rates in the supporting study dropped to < 10% with sorting times greater than 60 minutes in the summer months. The actual survival rates in the fishery are likely to be much lower than those observed and this re-enforces the recommendation to restrict this exemption to the winter months. STECF notes that the winter survival estimate is 75%. The prevailing discard rates provided in the JR supporting material indicate values of 60% in III and 6.4% in IV. These discard values imply that between 2 and 15% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2). STECF notes that additional catch and fleet information has been provided by Sweden.
Recommendation	Skates and rays caught by all fishing gears in the North Sea (areas IIIa, IV and EU waters of IIa)
Main findings of	New exemption. Scope is very wide covering all species of skates and rays and

EWG 18-06	also all fishing gears, which is a major concern. The JR also recommends that discard rates need to be included in the annual ICES assessment and a methodology devised to calculate quota uplifts for skate and ray species to take account of discards. The JR contains a comprehensive review of the existing estimates of discard and survival rates of skate and rays, based on existing information and survival studies. This review shows discard rates and survivability estimates depend greatly on the species, area and métier considered. An average survival estimate of 45% is put forward in the JR. Vitality data on discarded skates and rays show less variability, with most (>95%) rays in longline, otter trawl and static net fisheries being alive and in good or moderate condition at the point of release. However, the supporting information highlights there are significant data gaps that need to be addressed. More work is needed to fill the gaps and provide a more complete picture of survival across different skate and ray species in different fisheries/areas/métiers. During the period of the requested exemption (i.e. 3 years), the aim is to promote good practice by fishermen as well as implementing avoidance and selectivity measures to minimise the unwanted catches of skate and rays. However, it is not clear which of these measures will be implemented by each fishery or their likely effectiveness. The justification for the three-year period is limited, if the recommendation is awarded, a shorter period would allow for the exemption to be reviewed quickly in the light of emerging data. Very few landings and discards data provided. EWG18-06 recognises these data are sparse and that there are quite a lot of species, however, Regional Group should provide whatever they do have to assist inform the evaluations.
Comments STECF PLEN 18-02	STECF acknowledges that a significant amount of information has been presented to support this proposed exemption. However, STECF observes that the scope of this exemption is wide, covering many species and fisheries, and as such, not consistent with existing survivability exemptions. STECF recognizes that the effects of different variables on discard survival is not well understood and this introduces risks in extrapolating discard survival evidence between species, fisheries and seasons. STECF notes that the raw data underpinning the information provided in the JR has been supplied, although this is of limited value other than confirming the basis for the proposed exemption.
Recommendation	Turbot caught in towed gears with a codend larger than 80mm in area IV
Main findings of EWG 18-06	No data on the fleets or fisheries (e.g. fleet, landings and discard rates) involved is provided. It is also unclear as to whether the exemption is to apply to all trawl fisheries or just to vessels using pulse trawls. The exemption is proposed on a temporary basis for three years. However, there is no justification provided. Based on survival studies which provide a preliminary survival rate estimate of 30% with provision for further studies The survival rates in summer were higher than in winter which is unusual based on results of previous survival studies with different species. Given this unexpected outcome, it would seem appropriate to repeat the survival studies to confirm this is the case. The survival studies presented were all carried out with pulse trawls. EWG 18-06 cannot assess whether the results presented are representative of standard beam trawl gears or other trawl gears. If the intention is for this exemption to cover demersal trawls and standard beam trawl gear as well as pulse trawls then it would seem appropriate to repeat these studies with these gears. The total sample sizes used in the survival studies are adequate to obtain an overall survival rate. However, although the sea trips were spread out over the year (January, May, June, July, September, October, December) to account for the potential effect of variable environmental and fishing conditions on discards survival, the low number of individuals in each trip prevents using these as reliable monthly survival estimates. The studies show survival was strongly affected by fish condition backing up the

	recommendation made in the JR that measures aimed at increasing the survival of discards should focus on improving the condition of discarded fish during the capture process rather than the catch processing. Suggested additional data to be requested: a) Data on catch and discard quantities.
Comments STECF PLEN 18-02	STECF re-iterates the concerns raised by EWG 18-06 regarding the survival rates estimated which are typically 30% with considerable variability. STECF also highlights that given the indicative discard rates which for some fleets are high and survival rates are relatively low in the BT2 fishery then it is likely that significant quantities of turbot discarded will not survive. Most catches of turbot are taken in the BT2 fishery. STECF notes that for the towed areas combined (beam trawl and otter trawl) the available combined discard rate was 22% and the survival estimate is relatively low at 30%. This implies that at least 15% of the undersized catch made by the gears affected by this exemption is discarded and dies (Fig 4.3.2). STECF notes that the survival estimates are based on studies carried out in the pulse trawl fishery. STECF cannot assess the representativeness of these estimates compared to standard beam trawls or TR2 gears. Further studies to consider the effects of differing environmental conditions and fishing operations would seem appropriate. STECF notes that detailed catch and fleet information has been supplied to the PLEN 18-02 for both TR2 and BT2 fisheries.

Table 4.3.3. Main findings of the STECF EWG 18-06 and summary of additional information received relating to exemptions presented: **North Western Waters**.

Recommendation	Whiting caught with bottom trawls and seines >80mm and pelagic trawls and beam trawls (80-119mm) to catch whiting in the Eastern Channel (VIId)
Main findings of the EWG 18-06	Existing provision but with a request to also include beam trawls (BT2). No supporting information has been provided to substantiate this extended request. Suggested additional data to be requested: a) Data on the fishery, including catch and discard quantities.
Comments STECF PLEN 18-02	Additional fishery information provided to PLEN 18-02 by France, Netherlands and UK. Data for UK is not clearly explained but the quantities appear to be small. Information indicates that most catches are made by French trawlers and that the BT2 gear does not appear to add significant quantities. STECF concludes that the addition of BT2 does not materially alter the original justification and evidence for this exemption.
Recommendation	Combined *de minimis* for Gadoids (cod, haddock, whiting) caught using bottom trawls, seines and beam trawls of greater than or equal to 80mm mesh size in the Celtic Sea and the Channel (ICES VIIb-c, e-k)
Main findings of the EWG 18-06	This request involves the use of 'safeguards' and the approach was evaluated by STECF Plenary 2018-01. EWG 18-06 note that studies on selectivity have been provided only for the Irish fleets with general information from France. Fishery information on all fleets is required (not just French and Irish) and STECF further notes that there are some inconsistencies in the data provided. EWG 18-06 notes that since the requested 5% *de minimis* provides only a partial solution (discard rates are 27% for TR1 and 53% for TR2), improvements in

	selectivity are required. Due to several remaining questions, lack of key data, incomplete selectivity data and general shortage of material justifying disproportionate costs, EWG 18-06 is unable to fully assess the merits of this case. Suggested additional data to be requested: a) Data on the fishery, including catch and discard quantities (other than for France and Ireland). b) Clarification on landings and discard data provided. Estimated landings and the estimated discards for gadoids report the same value, and this is not consistent with the reported discard rate.
Comments STECF PLEN 18-02	Additional fishery information provided to PLEN 18-02 by NL and UK. Inconsistencies were sorted out. Fishery data provided by Spain related to an exemption that was not requested in the JR. The combination of species were different to the original proposal contained in the JR. STECF notes that while there is partial information on selectivity this is limited to one fleet and there is little information to justify an argument on the basis of disproportionate cost. STECF concludes that in the absence of supporting information, no assessment can be made as to whether improvements in selectivity are very difficult to achieve or whether the costs of handling unwanted catches are disproportionate. The basis of the safeguard component of this request was considered by STECF Plenary 2018-01. STECF reiterates its conclusion that to be in line with CFP objectives, the maximum possible amount of *de minimis* (i.e. the maximum amount including safeguard) for each species that could potentially be discarded, must be deducted from the respective TACs.
Recommendation	Undersized whiting in the TR2 *Nephrops* trawl fishery in ICES division VIIa
Main findings of the EWG 18-06	EWG 18-06 notes that 99% of the whiting catch (558t UK and 535t IE) is discarded because it is below the MCRS, and that a *de minimis* of 5% would produce a volume of 28t UK and 27t IE. The *de minimis* level provides only a partial solution to reducing discards, indicating that significant selectivity improvements are still required.
Comments STECF PLEN 18-02	STECF agrees with the EWG comments. STECF notes that in order to reduce discards there will need to be a focus on improvements in selectivity and/or the development of other measures to avoid <MCRS fish.
Recommendation	Undersized by-catches of haddock in the TR1 demersal trawl fisheries in ICES area VIIa
Main findings of the EWG 18-06	The discards of haddock under MCRS amount to 3.3 tonnes in UK, and 34 tonnes in Ireland. The *de minimis* volume requested for Ireland is 3 tonnes, which is a small proportion of expected discarding. EWG 18-06 notes that there are several relevant selectivity studies providing increased selectivity which will remove most of the undersized catch. EWG 18-06 notes that the argument that handling costs have a disproportionate negative economic impact, is ambiguous for the UK fleet, since 70% of the small quantity of haddock discards are >MCRS and may be sold. Recent observer data suggest a discard rate of only 0.6% which would render the *de minimis* request excessive. EWG 18-06 concludes that there are selective gears which could reduce discards.
Comments STECF PLEN 18-02	STECF agrees with the EWG comments. STECF further concludes that the justification for this exemption is weak and that uptake of

	selective gears should be a matter of priority.
Recommendation	By-catches of pelagic species (mackerel, horse mackerel, herring, boarfish, greater silver smelt) caught by vessels using bottom trawls and seines, and beam trawls in ICES subarea VI and VIIb-k
Main findings of the EWG 18-06	Information (on selectivity and disproportionate costs) to support the justification for this combined *de minimis* was not provided. TR2 pelagic discards (STECF data for all countries- 2016) amount to about 6% of discards but no comparable information was presented on beam trawl and seine fisheries included in this exemption. EWG 18-06 notes that the supporting information proposes a safeguards approach (25%) based on a French discard profile indicating that safeguards should be revised over time. Profiles are required for other countries. STECF (PLEN 18-01) provided advice on a similar combined *de minimis* request (see above) incorporating safeguards and raised several concerns. Due to lack of information, EWG 18-06 is unable to assess whether selectivity is difficult to improve in this fishery or whether costs of handling unwanted catches are disproportionate. Suggested additional data to be requested: a) Fishery information for beam trawl and seine net fisheries. b) Information related to safeguards countries other than France, including discard profiles.
Comments STECF PLEN 18-02	Additional fishery information was provided to PLEN 18-02 for several countries. STECF notes that supporting studies were not provided and so STECF is unable to assess whether this indicates that improvements in selectivity to reduce pelagic bycatch are very difficult to achieve in these fisheries. STECF also cannot assess whether the losses associated with the use of the gears tested would render the fisheries uneconomic. Further, STECF notes that current levels of unwanted catches in some of the small mesh fisheries covered by this *de minimis* are amongst the highest in any demersal fisheries in the North east Atlantic but the legal gears used (80mm+80mm smp) are relatively unselective.
High Survivability	
Recommendation	Common sole (undersized only) caught with trawl gears in area VIId
Main findings of the EWG 18-06	Existing provision. EWG 18-06 notes that new information in relation to nursery areas (as requested in the 2018 discard plan COM 2018/46) was not provided in the JR. Suggested additional data to be requested: a) Location of sole nursery grounds.
Comments STECF PLEN 18-02	No new information was supplied to the STECF Plenary on the location of nursery grounds in VIId. Additional comments were, however, provided by the UK outlining the difficulties of identifying nursery ground areas. STECF notes, however, that a late submission was made by France after the Plenary. This consisted of the coordinates of 5 small areas located along the French coast in VIId (no charts were provided). There was no accompanying text to explain whether the positions represent updates of existing information, or to indicate the source of the material, or the significance of those areas to the sole population in VIId. No information was available for the English coastal areas and therefore STECF was unable to further evaluate the relevance of the

	nursery grounds in the context of this existing exemption.
Recommendation	*Nephrops* in the TRI fisheries in Area VII and in the TR2 fisheries in Area VII in combination with highly selective gears
Main findings of the EWG 18-06	EWG 18-06 considers that the supporting scientific work involving a 300 mm square mesh panel (SELTRA) trawl is robust and the results (64%) are in line with previous discard survival estimates for highly selective *Nephrops* trawls from North Sea and Skagerrak. EWG 18-06 notes that the scope of the proposed exemption in terms of areas, seasons and variability of fisheries and gears is broader than in other existing exemptions based on *Nephrops* survival. Furthermore, the other gear options proposed as eligible for the exemption (TR1 and a variety of TR2 trawls) have different selection properties compared with the SELTRA trawl. Since catch volume, catch composition and fleet characteristics are important in *Nephrops* discard survivability, EWG 18-06 suggests that the estimate in the current study (64%) may not be representative of all the proposed gear options in area VII. EWG 18-06 also notes that the proposed derogation is linked to suggested changes in technical measures. EWG 18-06 further notes that the supporting fisheries documentation for countries other than Ireland is insufficient to assess the overall magnitude and effect of this exemption. Suggested additional data to be requested: a) Data on the fishery (from countries other than Ireland), including catch and discard quantities.
Comments STECF PLEN 18-02	Additional quantitative fishery information was received by PLEN 18-02 from France and the UK providing a good indication of the scale of the fishery affected by this exemption. STECF agrees with EWG18-06 that the SELTRA trawl estimate of 64% survival is supported by a robust study. STECF notes, however, that the uncertainty surrounding survival rates in the various other gears and fisheries potentially covered by this exemption makes it difficult to assess the overall effect on the extensive *Nephrops* fisheries in VII. STECF notes that assuming the 64% survival rate applies to all gears, then at a discard rate of around 15% (provided in the JR documentation), this implies that only about 5% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	*Nephrops* caught by 80-110mm otter trawl gears in ICES subarea VIa, within 12 miles of coasts
Main findings of the EWG 18-06	EWG 18-06 notes that the supporting scientific report presents new estimates of *Nephrops* discard survival rate and also discusses the wider application of this new survival estimate in Northwest waters and North Sea waters more generally. The reported annual mean survival rate for *Nephrops* in TR1 and TR2 based on the new summer and winter trials on one vessel was 53% (46% in summer and 56% in winter). EWG 18-06 judges that the supporting scientific information is based on a robust approach and that the validation technique used in the context of the wider fleets is commendable. Owing to skewed sampling of individuals in the summer experiment, EWG 18-06 considers that the reported survival rate (53%) may be an overestimate. EWG 18-06 notes that, similar to the area VII proposal, the scope of the proposed exemption is broader than other existing *Nephrops* exemptions based on survival. Furthermore, the proposal is also very similar to, and based on much the same supporting information, as the proposal for exemption of *Nephrops* in North Sea trawls.

	Given that almost all the catches are made by Scotland, the available fishery data (for Scotland only) is adequate to assess the scale of any potential impact. EWG 18-06 also notes that the discard rate is relatively low (7%) in the area meaning that the risk of unaccounted mortality due to a survival exemption is probably limited.
Comments STECF PLEN 18-02	STECF agrees with the EWG 18-06 observations and concludes that the survivability study is robust and indicates a survival rate of 53%. Combined with the discard rate of 7% (indicated in the accompanying fishery data), this implies that about 2% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Skates and ray species caught by any gear in the North Western Waters (areas VI and VII)
Main findings of the EWG 18-06	This request is identical to one submitted by the Scheveningen group for the North Sea. A comprehensive analysis/synthesis of the existing estimates of discard and survival rates of skate and rays, based on existing literature and studies has been provided. EWG 18-06 notes that discard rates and survivability estimates depend greatly on the species, area and métier considered. Although an average value (45%) of discard rate over 2014-2016 for skates and ray species combined is presented, estimates can vary greatly between species and within species. Similar to this, the survival rates can greatly vary between species and fisheries. Health vitality data on discarded skates and rays show less variability, with most (>95%) rays in longline, otter trawl and netting fisheries being alive and in good or moderate condition at the point of release EWG 18-06 notes that the current data outlined in support of the requested exemption is very limited because the high variability in survivability estimates and the existent data gaps. EWG 18-06 acknowledges that more work is needed to fill the gaps and provide a more complete picture of survival across different skate and ray species in different fisheries/areas/métiers. EWG 18-06 notes there is a necessity to have catch and discard data by species. Given the patchy nature of the data, EWG 18-06 is concerned about the current wide scope of the request. EWG 18-06 notes that in the case of the North Sea request, the North Sea Member States aim to promote good practice as well as implement avoidance and selectivity measures to minimise the chance of skate and ray species being caught. EWG 18-06 however cannot evaluate which of these measures will be implemented by each fishery. EWG-06 also suggest a cautious approach in relation to the duration of any exemption, if the recommendation is awarded, a shorter period would allow for the exemption to be revisited quickly in the light of emerging new data. Suggested additional data to be requested: a) Any additional data on landings and discards
Comments STECF PLEN 18-02	STECF acknowledges that a significant amount of information has been presented to support this proposed exemption. However, STECF observes that the scope of this exemption is wide, covering many species and fisheries, and as such, not consistent with existing survivability exemptions. STECF recognizes that the effects of different variables on discard survival is not well understood and this introduces risks in extrapolating discard survival evidence between species, fisheries and seasons. STECF notes that the raw data underpinning the information already provided in the JR was received by PLEN 18-02 has been supplied to STECF, although this is of limited additional value other than confirming the basis for the proposed exemption.

Recommendation	Plaice caught by trammel nets in ICES divisions VIId and VIIe
Main findings of the EWG 18-06	The supplementary material to the JR provided as scientific evidence of the high survivability of plaice is too limited to be reviewed. Experimental details about a large extent of the study are missing (e.g. analysis, control group, vitality assessment and animal observations). Fleet and fishery descriptions are only provided for the United Kingdom, EWG 18-06 notes that without provision of more complete information it is not possible to assess the merits of this proposed high survivability exemption. Suggested additional data to be requested: a) Fleet and fishery descriptions for countries other than UK. b) Scientific evidence of the survivability of discarded plaice, including experimental details (e.g. analysis, control group, vitality assessment and animal observations).
Comments STECF PLEN 18-02	Additional material was supplied to PLEN 18-02. A comprehensive and detailed paper provides scientific information indicating a plaice survival rate of 73% in the trammel net fishery in VIId and VIIe. Fishery information was provided by UK and France. STECF concludes that the survivability study is robust and indicates a survival rate of 73%. Combined with the discard rate of 32% indicated in the accompanying document, this implies that about 9% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Plaice caught by trammel nets in ICES divisions VIIf and VIIg
Main findings of the EWG 18-06	The supplementary material to the JR provided as scientific evidence of the high survivability of plaice is too limited to be reviewed. Experimental details about a large extent of the study are missing (e.g. analysis, control group, vitality assessment and animal observations). EWG 18-06 notes that without provision of more complete information it is not possible to assess the merits of this proposed high survivability exemption. Suggested additional data to be requested: a) Fleet and fishery descriptions for countries other than UK. b) Scientific evidence of the survivability of discarded plaice, including experimental details (e.g. analysis, control group, vitality assessment and animal observations).
Comments STECF PLEN 18-02	Additional material was supplied to PLEN 18-02. A comprehensive and detailed paper provides scientific information indicating a plaice survival rate of 49% in the trammel net fishery in VIIf and VIIg. Fishery information was provided by UK and France supplied a fishery description. STECF concludes that the survivability study is robust and indicates a survival rate of 49%. STECF notes that the additional information indicated a discard rate in the UK fishery of 73%, with a survival rate of 49% this implies that 37% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Plaice caught by Otter Trawls in ICES divisions VIId and VIIe
Main findings of the EWG 18-06	The supplementary material to the JR provided as scientific evidence of the high survivability of plaice is too limited to be reviewed. Experimental details about a large extent of the study are missing (e.g. analysis, control group, vitality assessment and animal observations).

	EWG 18-06 notes that without provision of more complete information it is not possible to assess the merits of this proposed high survivability exemption. Suggested additional data to be requested: a) Fleet and fishery descriptions for countries other than UK. b) Scientific evidence of the survivability of discarded plaice, including experimental details (e.g. analysis, control group, vitality assessment and animal observations).
Comments STECF PLEN 18-02	Additional material was supplied to PLEN 18-02. A comprehensive and detailed paper provides scientific information from the western channel (VIIe) indicating a plaice survival rate of 64% in the otter trawl fishery. It is assumed this also applies in VIId. Fishery information was provided by UK and France supplied a fishery description. STECF concludes that the survivability study is robust and indicates a survival rate of 64%. STECF notes that the additional information indicated a discard rate in the UK fishery of 32%, with a survival rate of 64% this implies that around 11% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Plaice caught by otter trawl gears in ICES subarea VIIf and VIIg
Main findings of the EWG 18-06	The supplementary material to the JR provided as scientific evidence of the high survivability of plaice is too limited to be reviewed. Experimental details about a large extent of the study are missing (e.g. analysis, control group, vitality assessment and animal observations). EWG 18-06 notes that without provision of more complete information it is not possible to assess the merits of this proposed high survivability exemption. Suggested additional data to be requested: a) Fleet and fishery descriptions for countries other than UK. b) Scientific evidence of the survivability of discarded plaice, including experimental details (e.g. analysis, control group, vitality assessment and animal observations).
Comments STECF PLEN 18-02	Additional material was supplied to PLEN 18-02. A comprehensive and detailed paper provides scientific information from the Bristol channel (VIIf and VIIg) indicating a plaice survival rate of 78% in the otter net fishery. Fishery information was provided by UK and France supplied a very brief fishery description. STECF concludes that the survivability study is robust and indicates a survival rate of 78%. STECF notes that the additional information indicated a discard rate in the UK fishery of 73%, with a survival rate of 78% this implies that around 16% of the overall catch of the gears affected by this exemption is discarded and dies (Fig 4.3.2).
Recommendation	Plaice caught with beam trawls in ICES subareas VIIa to VIIk
Main findings of the EWG 18-06	The documentation provided shows that survivability is highly variable (4-93%) and significantly related to trawl duration, sorting duration, wave height, sea temperature, sediment catch and total catch. The scientific underpinning of these conclusions is considered to be robust and gives an indication on which factors could potentially improve survivability for plaice in this fishery. Proposed gear modifications will likely increase plaice survivability but the extent of these improvements is unknown and should be studied. Fleet and fishery descriptions are provided for Ireland, but the source related to numbers supplied is unknown. There are other countries associated with the proposed exemption that have not been described. EWG 18-06 notes that without provision of more complete information it is not possible to assess the merits of this proposed

	high survivability exemption. Suggested additional data to be requested: a) Missing fleet and fishery descriptions.
Comments STECF PLEN 18-02	Additional fishery information was provided to PLEN 18-02 by France and UK but not from Belgium, a key participant in this fishery. STECF agrees with the EWG 18-06 that the scientific study of survivability in a traditional beam trawl is of good quality. STECF notes that survivability in this case is affected by many factors and that survivability is highly variable (4-93%). STECF further notes that as a consequence of this variability it is not possible to reliably assess what the impact of this exemption is likely to be. STECF notes that discard rates provided by the Regional Group are at least 40%. Based on the range of estimates for survivability a 40% discard rate would imply that anywhere between 3% and 38% of the overall plaice catch of the gears affected by this exemption would be discarded and die (Fig 4.3.2).STECF suggests that gear modifications to improve survivability or, better still, selectivity should be further developed and adopted.
Recommendation	Fish caught in pots, traps and creels in North Western Waters
Main findings of the EWG 18-06	The supporting information provided is essentially identical to the information behind an existing exemption in the North Sea that was evaluated by EWG 17-03. The exemption assumes that all fish released from pots and creels have the same survival chances as cod released from pots used to target fish. There is no direct evidence to support this, but it is reasonable to infer that, at the point of release, and assuming environmental and technical operations are comparable, the likelihood of survival is high. The risk of substantial predation by seabirds of discarded fish needs to be considered in such an exemption (as in the North Sea discard plan). Fleet and fishery descriptions are detailed for Scotland, but there are other countries associated with the proposed exemption that was not submitted. Suggested additional data to be requested: a) Missing fleet and fishery descriptions.
Comments STECF PLEN 18-02	Additional fishery information was provided to PLEN 18-02 for UK and Ireland. STECF notes that some of the figures provided are difficult to interpret and, depending on MS, relate to different things. STECF agrees with the EWG that survival of fish discarded from trap and pot fishing is likely to be substantial. STECF notes that since there is a risk of avian predation, mitigation measures (such as sub-surface release) could reduce the impact on survivability.
Technical Measures	
Recommendation	Range of selective measures for the demersal fisheries in the Celtic Sea and Irish Sea
Main Findings of EWG 18-06	The NWW JR contains a series of proposals for the use of selective gears. While the majority of these represent improvements in selectivity, there is one case where the proposal is likely to reduce selectivity. This case is the proposed derogation for vessels with <10% gadoids to use and 80mm cod end + 100mm SMP in a part of area VIIf, which represents a reduction in selectivity from the current Regulations in place. Other gear options for vessels with >55% whiting or anglerfish, hake and megrim combined are not likely to increase selectivity from the current minimum requirements. Notwithstanding this, the proposed changes to increase selectivity in North Western Waters is one of very few attempts from regional groups to mitigate issues with unwanted catches in relation to the phasing-in of the Landing Obligation.

Comments STECF PLEN 18-02	STECF agree with the conclusions of the EWG

Table 4.3.4. Main findings of the STECF EWG 18-06 and summary of additional information received relating to exemptions presented: **South Western Waters**.

De minimis	
Recommendation	Hake caught with trawls in directed fisheries in ICES subareas VIII and IX
Main Findings of EWG 18-06	Existing but re-assessed on basis of new information. Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) It is stated that "There is no way to calculate the number of vessels practicing one métier at any time of the year. Thus, it is not possible to calculate a discard rate for the specific vessels practicing each métier which are subject to the LO but a discard rate for the overall otter trawl fleet is available". EWG is unable to evaluate, given the information provided, how the métier-specific discard rates were calculated. b) More clarifications are needed for the 'non-Spanish data' in Table 1 (data for French, Belgian and Portuguese métiers). It is unclear to which year(s) they refer and how the respective calculations of discards have been made. c) More clarifications are needed for two of Spanish métiers in the Bay of Biscay, namely "Bottom otter trawl (OTB_MCF>70) targeting mixed cephalopod and demersal species in Div. 8abd" and "Bottom otter trawl (OTB_MPD>70) targeting mixed pelagic and demersal species in Div. 8abd". These métiers are not included in Table 1 and it is stated in the text that "In 2018, trips deployed by these gears "are not currently under the landing obligation". d) The Regional Group should supply, if available, additional information on selectivity and socio-economics relevant to this exemption for countries other than Spain.
Comments STECF PLEN 18-02	Fleet, catch and discard data (b above) were provided to the PLEN 18-02 by France and Spain (appended to STECF EWG 18-06). Additional data on how the métier-specific discard rates were calculated (b above) were provided by Spain. Following a post-stratification of the métiers for randomly sampled trips, discards estimates are calculated within the same strata (métiers), quarter and area of fishing following standard procedures of discard raising commonly used in ICES. For (c) above, a response from Spain confirmed that these métiers are currently not under the landing obligation. STECF note that these métiers will be subject to the landing obligation from 2019 and are not included within the *de minimis* request. STECF agree with the conclusions of the EWG and emphasize that the information to support the justification is weak and priority should be given to improving selectivity.
Recommendation	By catches pelagic species: horse mackerel (*Trachurus spp*.), mackerel (*Scomber scombrus*), anchovy (*Engraulis encrasicolus*) and boarfish (*Caproidae*). Combined *de minimis* for the species up to a maximum of 7% in 2019 and 2020, and up to a 6% in 2021 of the total annual catches of these species made by **trawlers** (gear codes: OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB, TBB, SDN, SX, SV) in fisheries in ICES divisions VIII and IX.
Main Findings of EWG 18-06	Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) Information on economics or selectivity studies. b) Information on number of vessels involved and no information on Spanish and Portuguese fleets.

	c) Information on observer trip numbers compared to total fishing trips. d) Information on discard rates except for France.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by France and Spain. *Additional information from France*: All French trawlers fishing in areas 8 and 9 are relevant to this exemption (615 vessels). OBSMER observer program sampled on average 0.2% of the trips and 12% of the vessels for these fisheries. The main métiers involved are: • *Nephrops* trawlers in the Bay of Biscay: 16.3% of vessels (28 over 172 vessels) and 0.2% of fishing trips (35 over 17 337 trips) • Mixed bottom trawlers: 7.2% of vessels (26 over 360 vessels) and 0.2% of fishing trips (42 over 18 716 trips) *Additional information from Spain:* Information on selectivity trials and costs of handling and landing unwanted catches (a above) were provided. The study presented showed the limited potential for square mesh panel designs (80-90mm mesh) to enhance the selectivity towards some of these species. Detailed costs and challenges associated with handing and landing unwanted catches are provided. STECF note that the main cause of these difficulties is the targeting of unregulated species (with no TAC and MCRS, such as red mullet, pouts, squids), at a size which coincides with undersized species (MRCS) with TACs. *Additional information from Spain:* For c and d above, data on observed trips, discard rates and vessel numbers have been provided (appended to STECF EWG 18-06). STECF consider that while some evidence is presented on difficulties in improving selectivity and difficulties in handling, there is only partial justification for the recommendation and priority should be given to improving selectivity.
Recommendation	By-catches of anglerfish (*Lophiidae*), sole (*Solea spp*.), turbot (*Psetta maxima*), red seabream (*Pagellus bogaraveo*), great forkbeard (*Phycis blennoides*), a combined *de minimis* up to a maximum of 7% in 2019 and 2020, and up to a 6% in 2021 of the total annual catches of these species made by **trawlers** (gear codes : OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB, SDN, SX, SV) in the Gulf of Cadiz part of ICES subarea IXa.
Main Findings of EWG 18-06	Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) Information on economics or selectivity studies b) Information on observer trip numbers compared to total fishing trips.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by Spain*:* For b above, data on observed trips, discard rates and vessel numbers have been provided (appended to STECF EWG 18-06). STECF consider that while some evidence is presented on difficulties in improving selectivity and difficulties in handling, there is only partial justification for the recommendation and priority should be given to improving selectivity. STECF observe that anglerfish is proposed for *de minimis* exemption for all trawlers in two different requests for the same area (IX, IXa).
Recommendation	By-catches of the species megrim (*Lepidorhombus spp*.), anglerfish (*Lophiidae)*, plaice (*Pleuronectes platessa*), whiting (*Merlangius merlangus*) and pollack (*Pollachius pollachius*), a combined *de minimis* up to a maximum of 5% of the total annual catches of these species made by **trawlers** (gear codes: OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB, TBB, SDN, SX, SV) in divisions VIII and IX.
Main Findings of EWG 18-06	Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) Information on numbers of vessels involved.

Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by France, Portugal and Spain. *Additional information from France*: All French trawlers fishing in areas 8 and 9 are relevant to this exemption (615 vessels). *Additional information from Spain*: More fishery data have been provided (appended to STECF EWG 18-06)Data provided by Portugal had no supporting description and cannot be interpreted by STECF. STECF consider that while some evidence is presented on difficulties in improving selectivity and difficulties in handling, there is only partial justification for the recommendation and priority should be given to improving selectivity. STECF observe that anglerfish is proposed for *de minimis* exemption for all trawlers in two different requests for the same area (IX, IXa).
Recommendation	By-catches of the species megrim (*Lepidorhombus spp*.), anglerfish (*Lophiidae*), plaice (*Pleuronectes platessa*), whiting (*Merlangius merlangus*) and pollack (*Pollachius pollachius*), a combined *de minimis* up to a maximum of 4% of the total annual catches of these species made **by gillnetters** (gear codes: GNS, GND, GNC, GTR, GTN) in divisions VIII and IX**.**
Main Findings of EWG 18-06	Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) References on economic/selective studies. b) The request based on disproportionate costs is from the risk of presence of choke species that may generate hold overloading and increase the sorting time on board for the crew management, but no supporting information is provided. c) Number of vessels involved.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by France, Portugal and Spain. *Additional information from France*: All French gillnetters fishing in areas 8 and 9 are relevant to this exemption (267 vessels). *Additional information from Spain:* Vessel numbers have been provided; two independent estimates of the total *de minimis* weight were provided but were not comparable, at 1.4 tonnes and 28 tonnes (appended to STECF EWG 18-06)v). There was a lack of clarity in the presentation of the Portuguese data and it could not be evaluated by STECF. STECF agree with the conclusions of the EWG and emphasize that the information to support the justification is weak.
Recommendation	By-catches of the following pelagic species: horse mackerel (*Trachurus spp*.), mackerel (*Scomber scombrus*), anchovy (*Engraulis encrasicolus*) and boarfish (*Caproidae*), a combined *de minimis* for the species up to a maximum of 3% in 2019, 2020 and 2021, of the total annual catches of these species made **by gillnetters** (gear codes: GNS, GND, GNC, GTR, GTN) in fisheries in ICES divisions VIII and IX, X and CECAF areas 34.1.1, 34.1.2, 34.2.0.
Main Findings of EWG 18-06	Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) Information on economic/selective studies. b) Request based on disproportionate costs is from the risk of presence of choke species that may generate hold overloading and increase the sorting time on board for the crew management. No references were reported. c) Information on number of vessels. d) Catch and discard profile only provided for Spain –material for other MSs should be provided. e) Information on the number of observer trips relative to total number of fishing

	trips.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by France, Portugal and Spain. *Additional information from France*: All French gillnetters fishing in areas 8 and 9 are relevant to this exemption (267 vessels). OBSMER observer program sampled on average 1% of the trips and 20% of the vessels for these fisheries. The main métiers involved are: • Gillnetters in the Bay of Biscay under 15 meters length: 23.5% of vessels (100 over 426 vessels) and 0.6% of fishing trips (187 over 32 016 trips) • Gillnetters in the Bay of Biscay over 15 meters length: 16.4% of vessels (12 over 73 vessels) and 1.3% of fishing trips (47 over 3 513 trips) *Additional information from Spain:* Data provided give discard rate estimates of 13% for mackerel and 12% for horse mackerel, however caution is advised as this is based on limited data from 2010-11; it is noted that the relevant vessels have not been included the Spanish National Sampling Plan since 2003. In a separate response, the combined discard rates are given at 2.75%, the recommendation is applicable for 68 vessels and the total *de minimis* volume is estimated at 65 tonnes. There was a lack of clarity in the presentation of the Portuguese data and it could not be evaluated by STECF. STECF agree with the conclusions of the EWG and emphasize that the information to support the justification is weak.
Recommendation	For by-catches of the following pelagic species: horse mackerel (*Trachurus spp*.), mackerel (*Scomber scombrus*), anchovy (*Engraulis encrasicolus*) and boarfish (*Caproidae*), a combined *de minimis* for the species up to a maximum of 1% in 2019, 2020 and 2021, of the total annual catches of these species made by for **longliners** (codes: LHP, LHM, LLS, LLD) in fisheries in IX, X and CECAF area s 34.1.2, 34.2.0
Main Findings of EWG 18-06	Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) Request based on disproportionate costs from the risk of presence of choke species that may generate hold overloading and increase the sorting time on board for the crew management. No references were reported. b) Are anchovy and boarfish required here? c) Number of vessels involved. d) Catch and discard profiles.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by Portugal and Spain. *Additional information from Spain:* For Spain, species of interest are mackerel and horse mackerel (relates to b above). For c and d above, no data on discards on board longline métiers are available. Longlines are not included in the Spanish National Sampling Plan. The number of vessels is 64 (appended to STECF EWG 18-06)). There was a lack of clarity in the presentation of the Portuguese data and it could not be evaluated by STECF. STECF agree with the conclusions of the EWG and emphasize that the information to support the justification is weak.
Recommendation	By-catches of all species regulated with TAC and quota, a combined *de minimis* up to a maximum of 1% in 2019, 2020 and 2021 of the total annual catches made by the **artisanal fleet** in ICES divisions VIII, IX, X and CECAF areas 34.1.1, 34.1.2,

	34.2.0.
Main Findings of EWG 18-06	Unable to assess fully whether the request demonstrates that selectivity is difficult to achieve or whether the cost of handling unwanted catches is disproportionate. Suggested additional data to be requested: a) Information on France and Portugal fisheries. b) Annex I cited in the text was not provided.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by France and Spain. *Additional information from France:* The SWW group proposes to replace "artisanal fleet" by "vessels up to 25 meters length overall", as it is already stated in the R(CE) 2018/190 for example to define artisanal fishery in the pelagic discard ban for NWW (same in R(CE) 2018/189 for North Sea). *Additional information from Spain:* For b above, reference to Annex I should have been deleted before submission. Information on fisheries is provided (appended to STECF EWG 18-06)), which gives 4455 vessels relevant to this exemption and an estimated *de minimis* volume of 103 tonnes. STECF do not consider that vessels up to 25 meters length overall can be categorized as artisanal. The SWW skates and ray survivability recommendation (below) reports 4455 as the total number of all vessels, indicating that this exemption for artisanal vessels is for all Spanish vessels in this region. STECF agree with the conclusions of the EWG and emphasize that the information to support the justification has not been provided. STECF observes that this *de minimis* proposal overlaps with all others presented, and implies that the same species might receive multiple *de minimis* exemptions.
Recommendation	*De minimis* exemption to the landing obligation of alfonsinos (*Beryx spp*.) captured by **bottom hook and line** in Central North Atlantic Waters (ICES sub-area X)
Main Findings of EWG 18-06	The evidence presented supports the justification based on difficulties in improving selectivity and of disproportionate costs.
Comments STECF PLEN 18-02	STECF has no further comments.
Recommendation	*De minimis* exemption to the landing obligation of greater forkbeard (*Physis blennoides*) captured by **bottom hook and line** in Central North Atlantic Waters (ICES sub-area X)
Main Findings of EWG 18-06	The evidence presented supports the justification based on difficulties in improving selectivity and of disproportionate costs.
Comments STECF PLEN 18-02	STECF has no further comments.
High Survivability	
Recommendation	Skates and rays (*Rajiformes*) caught with all gears in ICES subareas VIII and IX.
Main Findings of EWG 18-06	Extrapolating the outcomes of the DESCARSEL study to *all* skates and rays caught with *all* gears in subareas *VIII and IX (as requested in the JR)* is difficult to justify without additional information. A time limited survival exemption from 1 January 2019 until 31 December 2021 is proposed. If the recommendation is awarded, a shorter period may allow the suitability of the exemption to be reviewed more quickly in the light of the latest evidence. Suggested additional data to be requested: a) A detailed description of the fleets and fisheries covered by 'all gears'.

	b) Numerical table of fishery information. c) Power point presentation (with main points from the DESCARSEL project and next work planned) is used as supporting evidence to justify the exemption but the presentation is not in English.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by France and Spain. *Additional information from France*: All French trawlers, netters and longliners are relevant to this exemption (over 1000 vessels). The ENSURE project has preliminary results showing a high potential of survivability for skates and rays, sole, plaice and seabass. The following discard data (which does include *Raja undulata*) was supplied from the based on OBSMER observer program: • Trawls: skates and rays represent 13.4% of catches. Discards represents 37.4% of skates and rays catches. • Nets: skates and rays represent 1.4% of catches. Discards represent 28% of skates and rays catches. • Hooks and lines: skates and rays represent 0.2% of catches. Discards represent 100% of skates and rays catches. These data are only for *Raja microocellata*. A table of fishery information including catch weights be species and gear was not supplied. *Additional information from Spain*: fishery information was provided (appended to STECF EWG 18-06)) giving 4455 vessels, an overall discard rate of 29% and an estimated discard survival rates of 58% and 95.5% from studies provided. STECF note that no further details are provided on the discard survival evidence to justify the exemption. STECF observe that the scope of this exemption is wide, covering many species and fisheries, and as such, not consistent with existing survivability exemptions. STECF recognizes that the effects of different variables on discard survival are not well understood and this introduces risks in extrapolating discard survival evidence between species fisheries and seasons. No further justification for the duration of the exemption is provided,
Recommendation	Red seabream (*Pagellus bogaraveo*) caught with artisanal gear called "voracera" used in the south of Spain in ICES subareas IXa.
Main Findings of EWG 18-06	The studies provided represent sound scientific evidence for the discard survival of red sea bream. Provision of fishery data would help assess the quantities of fish involved.
Comments STECF PLEN 18-02	Additional information was provided to the PLEN 18-02 by Spain: fishery information has been provided which gives 11 vessels relevant for this recommendation, a discard rate of 0% and a discard survival rate of 90.6 ± 6.2%. STECF agree with the conclusions of the EWG.
Recommendation	Red seabream (*Pagellus bogaraveo*) caught in ICES subareas X with hooks and lines.
Main Findings of EWG 18-06	The studies provided represent sound scientific evidence for the discard survival of red sea bream. Provision of fishery data would help assess the quantities of fish involved.
Comments STECF PLEN 18-02	STECF agree with the conclusions of the EWG, no additional fishery information was received.

Table 4.3.5. Main findings of the STECF EWG 18-06 and summary of additional

information received relating to exemptions presented: **Mediterranean**.

De minimis	
Recommendation	6% in 2019 and 2020, 5% in 2021 of total annual catches of Hake and Mullets caught by trammel and gill nets
Main Findings of EWG 18-06	Existing provision – modified. Spatial measure suggestions were provided in the annex by MEDAC. There is sound science and excellent detail in many of these. Suggested additional data to be requested: a) Information to support claim of disproportionate costs. b) Fishery information by member state fleets.
Comments STECF PLEN 18-02	SUDESTMED and PESCAMED responded to the request for additional data to PLEN 18-02. SUDESTMED did not provide any additional supporting evidence. They made a general statement that it was not feasible for Mediterranean Member States to create onshore handling stations for undersized specimens and there is a focus on improving selectivity. The work of the MINOUW project on "Handling, storage, transport and utilization of unwanted catches" was mentioned but no details were provided. PESCAMED provided detailed catch and fleet information for FR and ES but no further supporting information to justify the exemption. No information was provided by ADRIATICA. No further STECF assessment was possible.
Recommendation	6% in 2019 and 2020, 5% in 2021 of total annual catches of Hake and Mullets caught by rapido beam trawls
Main Findings of EWG 18-06	Existing exemption. The basis for the acceptance of the 1% *de minimis* previously supported cannot be the same when applying for a 6-fold increase in *de minimis* level. Suggested additional data to be requested: a) Discard data (per species and MS) to support the increase in *de minimis* rate b) Information on disproportionate cost changes that justify the increase in *de minimis* rate
Comments STECF PLEN 18-02	See SUDESTMED response above to PLEN 18-02. No further STECF assessment was possible. STECF agree with the conclusions of the EWG and emphasize that specific information to support the justification has not been provided.
Recommendation	6% in 2019 and 2020, 5% in 2021 of total annual catches of Common Sole caught by trawl nets
Main Findings of EWG 18-06	This request represents a *de minimis* rate increase from 3 to 6% on an existing exemption. The data source supporting the existing exemption could not be identified and no additional data were provided. There is no scientific justification to change the current derogation based on the information provided. Suggested additional data to be requested: a) Discard percentages per MS and trawl fleet to support the increase *de minimis* rate b) Information on disproportionate cost changes that justify the *de minimis* rate increase
Comments STECF PLEN 18-02	See SUDESTMED response above to PLEN 18-02. No further STECF assessment was possible. STECF agree with the conclusions of the EWG and emphasize that specific information to support the justification has not been provided.
Recommendation	In July, August and September - 6% in 2019 and 2020, 5% in 2021 of total catches of Norway lobster caught by bottom trawls during these months
Main Findings of EWG 18-06	The request for a *de minimis* which is higher than estimated discard rates is difficult to justify. Suggested additional data to be requested:

	a) Justification for disproportionate costs specific to *Nephrops* fishery. b) Clarify if the composition of the trawling fleets targeting *Nephrops* per member state.
Comments STECF PLEN 18-02	See SUDESTMED response above to PLEN 18-02. Additional catch and fleet information was provided by PESCAMED. No further STECF assessment was possible. STECF agree with the conclusions of the EWG and emphasize that specific information to support the justification has not been provided.
Recommendation	7% in 2019 and 2020, 6% in 2021 of total annual catches of demersal finfishes under landing obligation for under MCRS specimens - **Hake, Mullets and pelagic species excepted** - caught by bottom trawls
Main Findings of EWG 18-06	Given that this exemption covers a broad group of species with a wide range of discard rates there may be a risk that an average discard rate across the species will mask higher discard rates for individual species. The incentive to reduce high discard rates for individual species may also be reduced and quantifying the permitted discards under such a complex exemption will be particularly challenging. It is not clear to which fleets the exemptions and for which species. Suggested additional data to be requested: a) A breakdown of fleets by MS, a list of species and discard rates b) Supporting studies on disproportionate costs – couldn't be found online.
Comments STECF PLEN 18-02	See SUDESTMED response above to PLEN 18-02. Additional catch and fleet information was provided by PESCAMED for FR and ES. No further STECF assessment was possible. STECF agree with the conclusions of the EWG and emphasize that specific information to support the justification has not been provided.
Recommendation	7% in 2019 and 2020, 6% in 2021 of total annual catches of demersal finfishes under landing obligation for under MCRS specimens - **Hake, Mullets and pelagic species excepted** - caught by trammel and gill nets
Main Findings of EWG 18-06	Discard levels suggested to be lower than the requested *de minimis*. Only partial data on the proportion of discards which are below MCRS is provided. Suggested additional data to be requested: a) Specific information on disproportionate cost relevant to this request b) A breakdown of fleets by MS, a list of species and respective discard rates
Comments STECF PLEN 18-02	See SUDESTMED response above to PLEN 18-02. Additional catch and fleet information was provided by PESCAMED for FR and ES. No further STECF assessment was possible. STECF agree with the conclusions of the EWG and emphasize that specific information to support the justification has not been provided.
Recommendation	7% in 2019 and 2020, 6% in 2021 of total annual catches of demersal finfishes under landing obligation for under MCRS specimens - Hake, Mullets and pelagic species excepted - caught by hooks and lines
Main Findings of EWG 18-06	Discard levels suggested to be lower than the requested *de minimis*. Only partial data on the proportion of discards which are below MCRS is provided. Suggested additional data to be requested: a) Specific information on disproportionate cost relevant to this request b) A breakdown of fleets by MS, a list of species and respective discard rates
Comments STECF PLEN 18-02	See SUDESTMED response above to PLEN 18-02. Additional catch and fleet information was provided by PESCAMED for FR and ES.

	No further STECF assessment was possible. STECF agree with the conclusions of the EWG and emphasize that specific information to support the justification has not been provided.
Recommendation	7% in 2019 and 2020, 6% in 2021 of total annual by-catches of pelagic species (Anchovy, Sardine, Mackerel, Horse mackerel) under landing obligation
Main Findings of EWG 18-06	The discard proportions presented far exceed the *de minimis* requested. The request raises questions as to how the member states would resolve the issue of the *remaining unwanted catch* if no landing facilities exist on-land. Suggested additional data to be requested: a) Gear specifications are provided – assumed that this refers to demersal gears. Please confirm. b) A list of relevant species (and respective discard rates).t
Comments STECF PLEN 18-02	See SUDESTMED response above to PLEN 18-02. PESCAMED have provided catch and fleet information for FR and ES. No further STECF assessment was possible. STECF agree with the conclusions of the EWG and emphasize that specific information to support the justification has not been provided.
High survivability	
Recommendation	Scallop (*Pecten jacobeus*), Carpet clams (*Venerupis* spp.), Venus shells (*Venus* spp.) caught by mechanized dredges
Main Findings of EWG 18-06	No new evidence provided despite requests from the Commission. EWG has not assessed this further.
Comments STECF PLEN 18-02	PESCAMED have provided limited catch and fleet information to PLEN 18-02 for FR and IT. PESCAMED also re-iterated that this exemption was granted in 2017 on the basis that these species are sold alive. As in 2017, STECF does not consider this as a scientific justification, notes that no additional supporting information has been provided and has therefore not assessed this further.
Recommendation	Norway lobster (*Nephrops norvegicus*) caught by bottom trawls, excepted during the months of July, August and September
Main Findings of EWG 18-06	Modified request because no new evidence to support high survival in the summer months (Jul, Aug, Sep) generated by the regional group. No additional assessment was conducted.
Comments STECF PLEN 18-02	STECF has no further comments.
Recommendation	Deep water rose shrimp (*Parapanaeus longirostris*) caught by bottom trawls
Main Findings of EWG 18-06	Data provided on catches and discards for France and Spain only, but no information provided on survivability specific to this fishery. EWG 18-06 was unable to assess this request, suggested that relevant evidence on survivability is requested.
Comments STECF PLEN 18-02	STECF notes that PESCAMED has provided catch and fleet information to PLEN 18-02 for FR but no additional supporting information. PESCAMED indicate that no scientific evidence is available to support this exemption and indicate that if the high survivability exemption cannot be granted then this species would be included in the combined *de minimis* for demersal finfish. STECF agree with the conclusions of the EWG and emphasize that specific information to support the exemption has not been provided. STECF notes that if a decision is taken to include this species in the combined *de minimis* for demersal finfish then supporting information would be required.

Recommendation	Red sea bream (*Pagellus bogaraveo*) caught by hooks and lines
Main Findings of EWG 18-06	A detailed description of the fisheries, catch, estimated discards, discard rates was not provided. Survival studies are provided in support of this exemption. EWG recommends similar studies are conducted at different times of the year and other locations in the Mediterranean. Suggested additional data to be requested: a) Description of MS and associated fisheries, including catches, discards and discard rates. c) Details on seasonal and area changes in fishery composition and environmental conditions.
Comments STECF PLEN 18-02	STECF notes that PESCAMED has provided catch and fleet information to PLEN 18-02 for ES, FR and IT, and that further survival evidence would strengthen this case.
Recommendation	Lobster (*Homarus gammarus*) and crawfish (Palinuridae) caught by nets and by pots and traps
Main Findings of EWG 18-06	No supporting data was provided. EWG notes that discard survival rate is expected to be high in pots and traps but would require additional information. EWG was unable to assess the request. Some indication of scale of fisheries is also needed.
Comments STECF PLEN 18-02	STECF notes that PESCAMED has provided catch and fleet information to PLEN 18-02 for IT and FR. PESCAMED have also provided a survival study conducted with trammel nets carried out in the Balearic Islands. STECF notes that this is a reasonably robust study which shows short-term survival rates of undersized crawfish of 78.5% noting that the sample size was quite small (16 individuals).
Recommendation	Norway lobster (*Nephrops norvegicus*) caught by pots and traps
Main Findings of EWG 18-06	There is no data provided on fisheries or discards. Discard survival rates of *Nephrops* caught in traps are known to be high in other regions. In the Atlantic, they appear to decrease with decreasing latitude, but remain above 80% as far south as Portugal. However, EWG cannot infer survival rates in the Mediterranean from results obtained in other areas.
Comments STECF PLEN 18-02	STECF notes that PESCAMED has provided catch and fleet information to PLEN 18-02 for IT and FR. PESCAMED also indicate that catches of Norway lobster are low in these fisheries (< 1 tonne in the FR fisheries). STECF agree with the conclusions of the EWG and emphasize that specific information to support the exemption has not been provided. STECF recognizes that the effects of different variables on discard survival is not well understood and this introduces risks in extrapolating discard survival evidence between species fisheries and seasons.

STECF conclusions

STECF endorses the findings presented in the Report of the EWG 18-06 and agrees with the following conclusions:

- The role of EWG 18-06 and any future STECF EWGs set up to evaluate joint recommendations remains to evaluate the scientific rigour and robustness of the underpinning information supplied by Member States to support the main elements of joint recommendations. STECF cannot adjudicate on whether exemptions should be accepted or not.
- EWG 18-06 re-iterates that it is difficult to provide conclusive advice on whether the information presented is sufficient to accept or reject any individual application based on the exemption provisions. The subjective nature of the

conditionalities – "high survival", "very difficult to achieve" or "disproportionate costs" means that there is a large element of judgement required in deciding on whether to permit or reject a proposal that cannot be based solely on scientific option of the evidence presented.

- Anomalies between sea basins (see for example EWG 17-03) such as fleets fishing a TAC species in two adjacent areas, one covered by the LO and one not covered, should no longer occur. As a consequence, EWG 18-06 has not spent time on this TOR. EWG-06 does, however, note that with the increasing number of exemptions in all areas, there is increasing scope for different exemptions (and associated conditions) to be in place in adjacent areas and for trans boundary fishing operations to have to deal with growing complexity in this aspect of the LO.
- EWG 18-06 notes that the quality of submissions to support the exemptions has, in many cases, improved since the first JR's were submitted in 2014. In particular EWG 18-06 recognises the progress made in the carrying out of survival experiments which in a number of cases closely follows the recommendations made by STECF and also ICES. EWG 18-06 has noticed, however, that there are quite a few cases where the quality of submission has fallen making it very difficult to conduct an analysis at all. EWG-06 also notes that whereas last year Member State Regional Groups generally used the templates developed by STECF in 2016 to supply fisheries and fleet descriptors, this year fewer had done so. EWG 18-06 continues to point out that some of the exemptions submitted by the regional groups are very much presented as ″national″ rather than regional exemptions. In many cases the information provided originates from one single Member State and while other Member States may be included frequently the information on the respective fleets are not provided. In developing future cases it would be better if exemptions were regionally focused and covering all relevant fleets. This would help the Commission avoid having to request additional information and clarifications from Member States on which fleets the exemptions should apply and also make it much easier for STECF to evaluate them.
- EWG 18-06 reiterates that when using the provisions of *de minimis* under Article 15, the requirements of Article 2 of the Common Fisheries Policy CFP) to fish at FMSY can only be met if the *de minimis* discard quantities are deducted from the agreed catch opportunity (TAC) arising from FMSY based advice. If *de minimis* were operated as an addition to the FMSY-advised catch, then mortality rates would be predicted to exceed the FMSY target. Furthermore, depending on the way in which the *de minimis* quantity is calculated and applied (for example 5% of an aggregate catch of several stocks applied as a *de minimis* on one stock) the departure from FMSY could be substantial. EWG 18-06 considers that the only relevant way is to apply the *de minimis* % to the total catch of the given species in the given fishery where the exemption is sought. This is not always the case in the exemptions submitted by the Member States regional group.
- EWG 18-06 has identified areas where there are limitations in the information presented or the methodologies used, and in some cases, where there are inconsistences. In these cases, further clarification may be required. Where evidence is presented and shows that for example increasing selectivity results in losses of marketable fish, then this is noted, but whether this constitutes a technical difficulty is not something that can be readily answered by the EWG. Inevitably, improvements in selectivity result in some degree of loss, and therefore some reduction in revenue. However, these should be viewed in the broader context of medium term gains in stocks and in the absence of improvements in selectivity, would the fishery be worse of in comparison due to choke effects and utilization of quota for fish that have little or no value.

- STECF has consistently proposed that the justification for *de minimis* exemptions is largely economic. However, EWG 18-06 acknowledges that providing detailed information for individual fisheries is challenging. Therefore, it is apparent that STECF will only be able to consider the validity of the supporting information underpinning the exemptions provided and due to the lack of economic data in many cases will not be able to carry out any meaningful analysis of the economic impacts. If a deeper analysis is required by DGMARE, then, this needs to be discussed with the Member States and Advisory Councils so that they are clear what information should be provided and also with STECF to establish what they should evaluate. In this regard EWG 18-06 highlights the alternative option appraisal approach in *de minimis* submissions developed by EWG 16-06.
- EWG 18-06 re-iterates that assessing what constitutes high survivability is problematic, which is made more complex by the limited information available and the high variability in the available survival estimates. What is clear is that there are a wide range of factors that can affect survival, and these are likely to be the primary cause of the high variability observed across the various studies. However, identifying and quantifying these is difficult due to the relatively limited species-specific information and differences between experiments including timing, season, gear handling, observation period. This means that passing judgment on the representativeness of individual or limited studies as an indicator of discard survival across an entire fishery is difficult given the range of factors that can influence survival and how they may vary in time even within a fishery.
- EWG 18-06 notes that obliging fishermen to land catches of fish that would otherwise have survived the discarding process could, in some specific cases, result in negative consequences for the stock. This is because any surviving discarded fish contribute positively to the stock and landing those individuals therefore removes that benefit. Where discards are included in the stock assessment but the (known) survival is not accounted for, this in effect elevates fishing mortality and changes in exploitation pattern which may lead to reductions in fishing opportunities to maintain fishing mortality levels consistent with management objectives (e.g. FMSY). Conversely, if they are not included in the assessment, then the mortality is higher than estimated, even if part of the discards survive, and in this case, bringing everything to land would provide better control of fishing mortality. For some stocks (e.g. *Nephrops*) ICES takes account of discard survival rate – in future this is something which should be discussed in the assessment forums for other species also.
- EWG 18-06 considers that avoidance of unwanted catch through improved selectivity or other means should be the primary focus implementing the landing obligation and should also consider the potential benefits for other stocks and the broader ecosystem that would arise from changes in exploitation patterns. Therefore, the choice of survival levels/value(s) in the context of article 15.2(b) will depend on which objective (e.g. avoidance of waste; improve stock sustainability; improve financial viability) is set as a priority. Nevertheless, provided the methodologies employed in carrying out survival experiments are appropriate, and the limitations of the results are fully explored, EWG 18-06 considers that the decision to accept or reject an exemption proposal based on the survival value presented is largely one for managers.
- EWG 18-06 notes that article 15.5(c)(ii) states that where continued discarding is permitted through the application of *de minimis* provisions, whilst these catches "shall not be counted against the relevant quotas; however, all such catches shall be fully recorded". EWG 18-06 re-iterates that no specific provisions have been included in the JR's to address this. In this regard EWG 18-06 stresses the need to improve the collection of catch documentation data. As highlighted in by STECF

PLEN 17-01 and 18-01, there would appear a lack of "lack of reporting by vessel operators of fish discarded under exemptions, discards of fish currently not subject to the landing obligation and catches of fish below MCRS". The joint recommendations evaluated by EWG 18-06 would strongly benefit from containing provisions that strengthen data collection in this respect. As STECF PLEN 17-01 pointed out, innovative monitoring measures such as CCTV and Remote Electronic Monitoring (REM) have been applied only in pilot studies but would be a more effective way to enforce the landing obligation if applied in a commercial setting (STECF EWG 13-17). If the data situation does not improve and the true quantities being caught as reported do not reflect the actual removals, they may have a significant impact on the quality of scientific advice for next year's fishing opportunities, as additional quota top-ups allocated in combination with continued discarding may also compromise the achievement of the MSY objective.

- EWG 18-06 notes that some exemptions have been in place for some time now but have not taken account of new data, information or circumstances which may render a necessary change to the exemption. EWG 18-06 considers that some updating procedure is required to ensure that exemptions only remain in place if required and still justified by the available information.
- EWG 18-06 notes the marked increase in the number of combined *de minimis* cases which were requested for 2019. These cases allow for potentially large quantities of fish to continue to be discarded. *De minimis* cases of any kind require careful monitoring of catches and the quantities of fish being discarded, the need for enhanced monitoring to ensure the combined *de minimis* cases operate appropriately is imperative.
- The increasing numbers of exemptions in some areas raises the question of whether in fact all fisheries in some areas have exemptions and thereby diminish the overall objectives of the Landing Obligation.

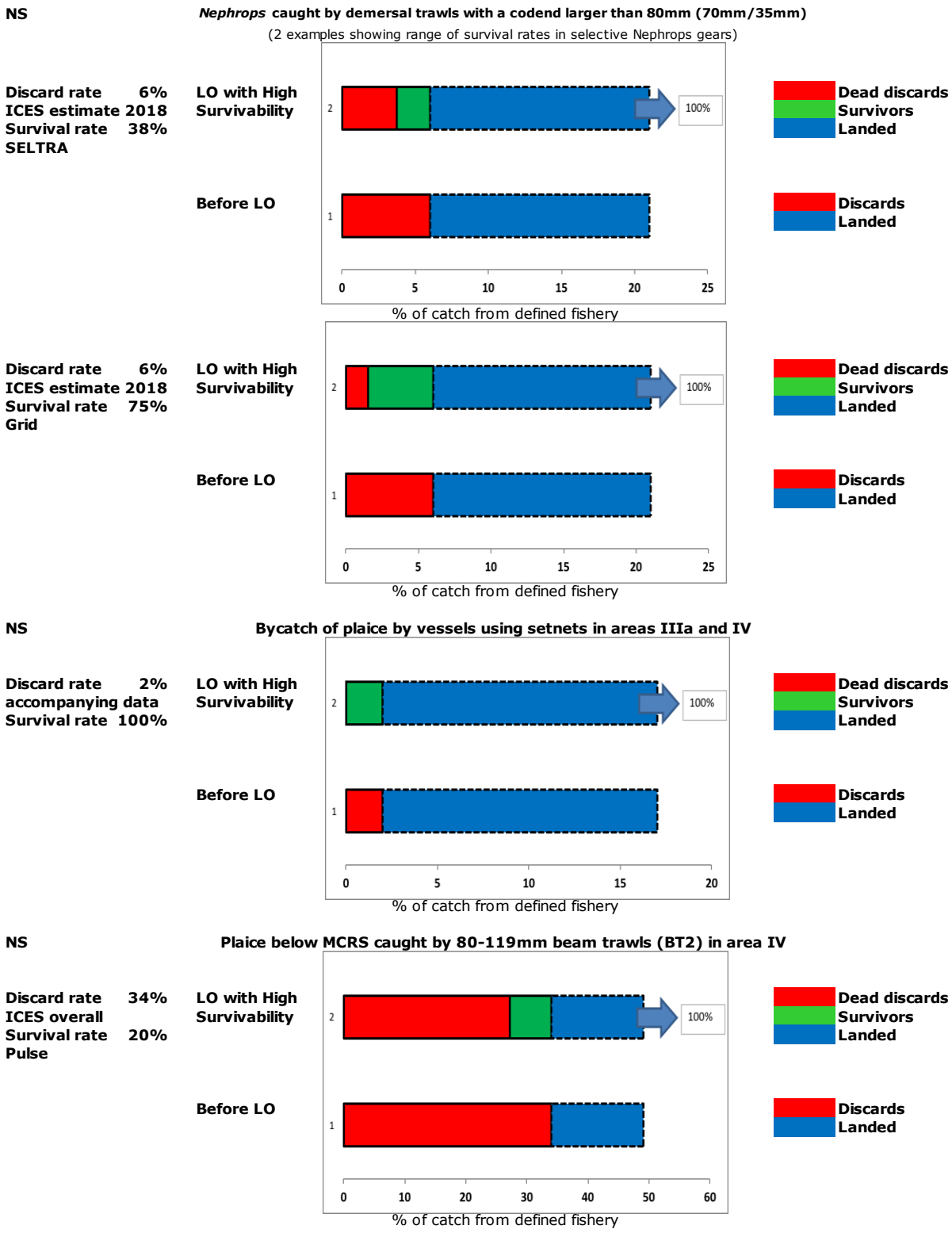


Figure 4.3.2. Plots of survivability estimates in the context of prevailing discard estimates for North Sea (NS) and North Western Waters (NWW) associated with proposed exemptions.

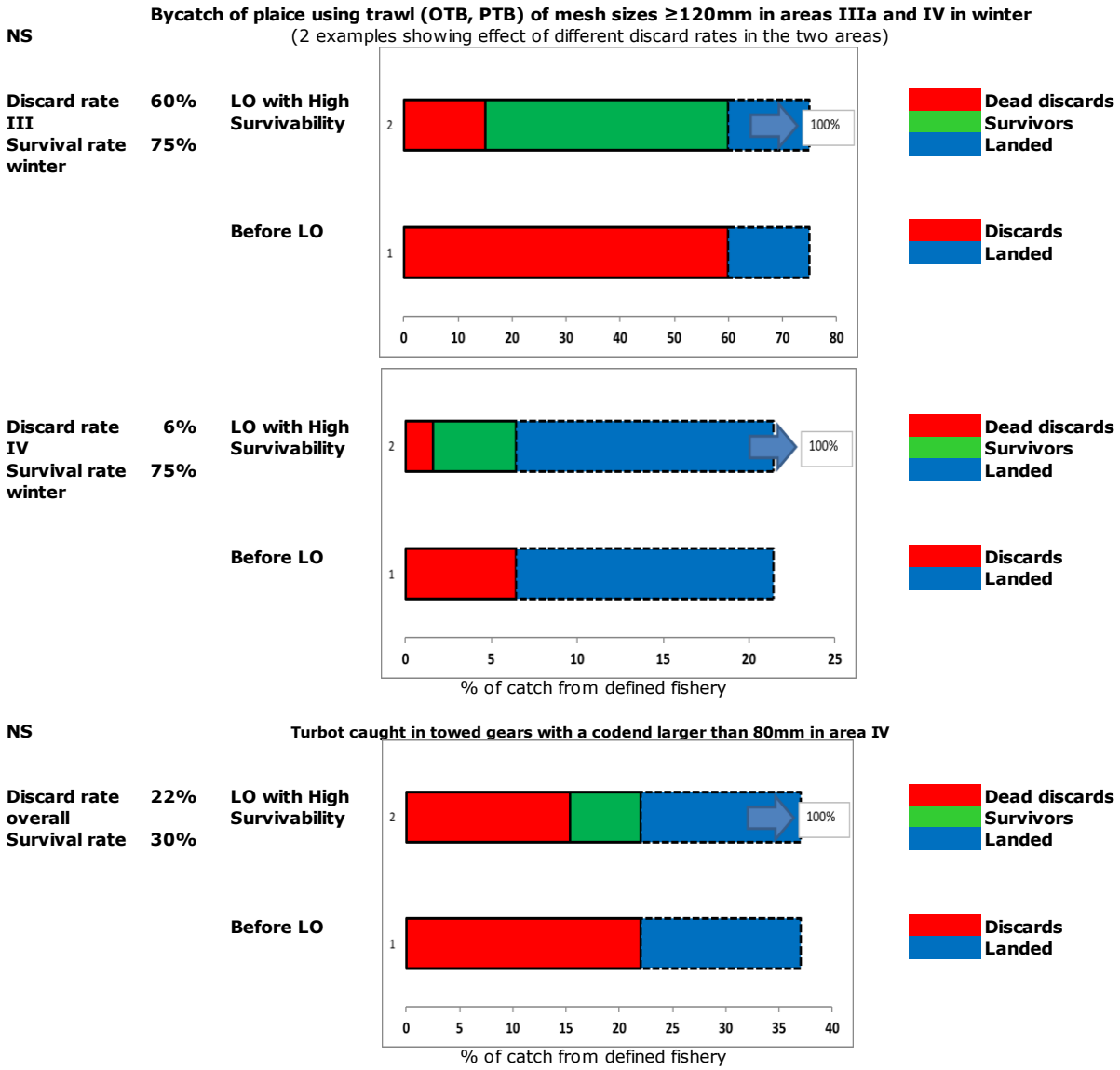
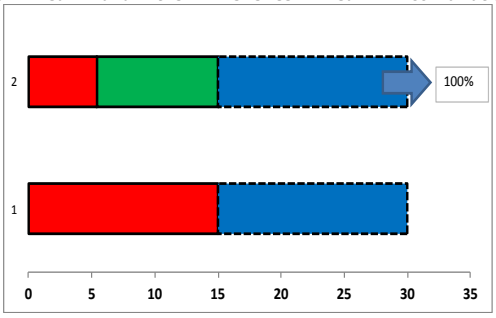


Figure 4.3.2 cont'd.

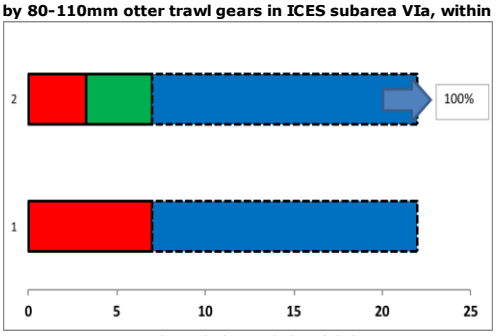
NWW Nephrops in the TRI fisheries in Area VII and in the TR2 fisheries in Area VII in combination with highly selective gears

Discard rate 15%
Survival rate 64%



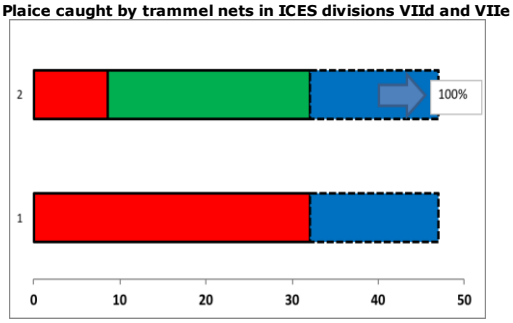
NWW Nephrops caught by 80-110mm otter trawl gears in ICES subarea VIa, within 12 miles of coasts

Discard rate 7%
Survival rate 53%



NWW Plaice caught by trammel nets in ICES divisions VIId and VIIe

Discard rate 32%
Survival rate 73%



NWW Plaice caught by trammel nets in VIIf and VIIg

Discard rate 73%
Survival rate 49%

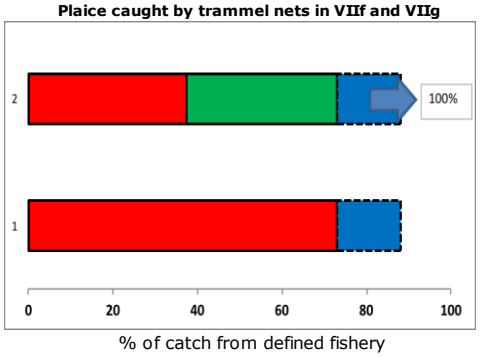


Figure 4.3.2 cont'd.

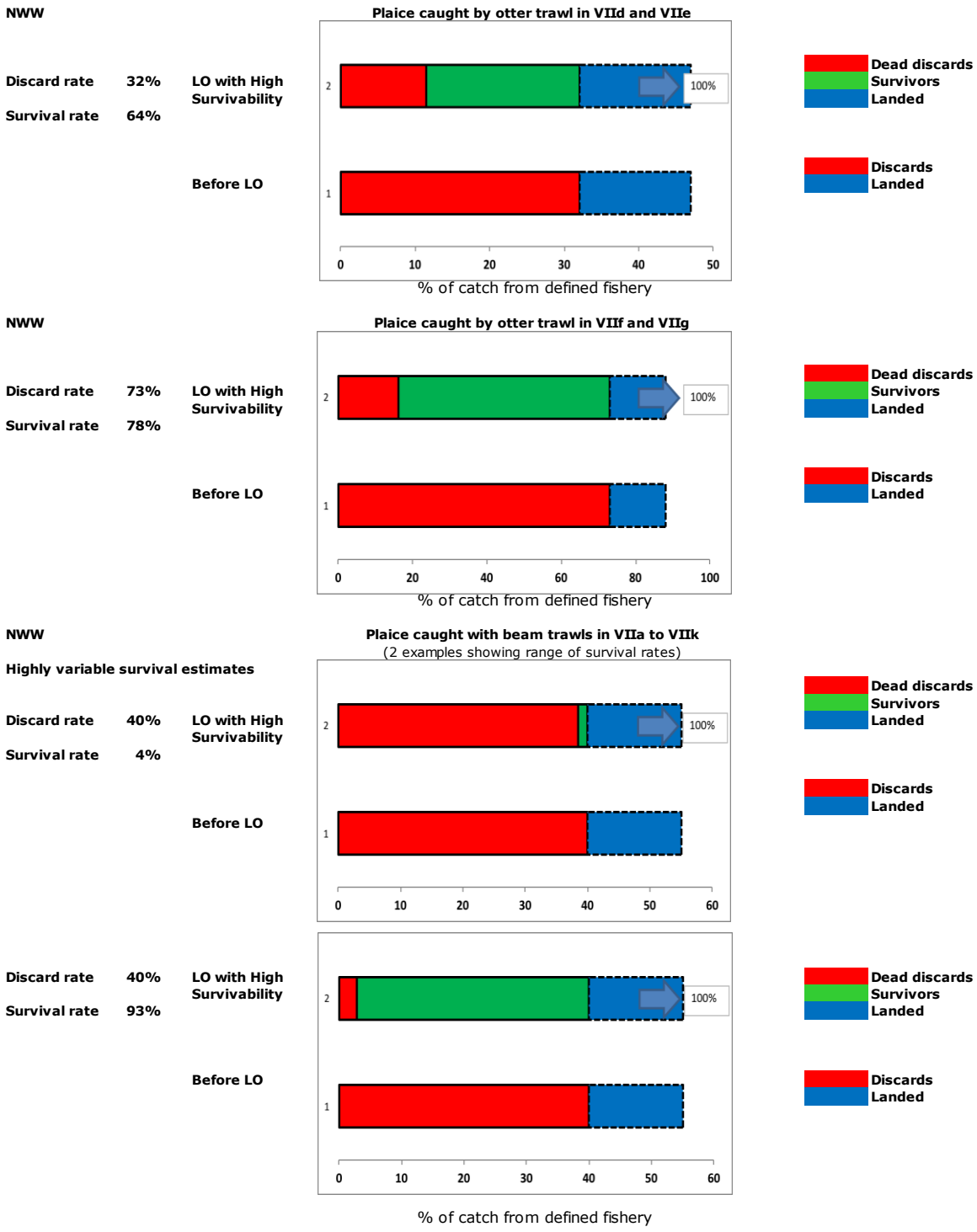


Figure 4.3.2 cont'd.

De minimis		EWG before additional requests		STECF after additional requests	
	Clear Request	**Supporting information**	**Fishery data**	**Supporting information**	**Fishery data**
Whiting and cod caught using bottom trawls (OTB, < 100mm (TR2)					
Fish bycatch in Northern prawn trawl fishery with a sorting grid, with unblocked fish outlet in area IIIa					
Fish bycatch in *Nephrops* targeted trawl fishery					
Bycatches in the brown shrimp fishery in the North Sea					
Pelagic species under landing obligation for demersal vessels using bottom trawls (OTB,OTT, PTB, TBB) of mesh size 70-99mm (TR2, BT2) in the North Sea (area IV)					
Ling (*Molva molva*) for vessels using bottom trawls (OTB, OTT and PTB) > 100mm in the North Sea (area IV)					
Bycatch of industrial species for demersal vessels using TR1, TR2 or BT2 in areas IIIa and IV)					
Whiting caught by beam trawls 80-119mm in the North Sea (area IV)					

High survivability		EWG before additional requests		STECF after additional requests	
	Clear Request	**Supporting information**	**Fishery data**	**Supporting information**	**Fishery data**
Common sole (undersized only) caught with trawl gears in area IVc		*		*	
Nephrops caught by demersal trawls with a codend larger than 80mm (70mm/35mm)					
Bycatch of plaice by vessels using nets in areas IIIa and IV					
Bycatch of plaice by vessels using Danish seine in areas IIIa and IV					
Plaice below MCRS caught by 80-119mm beam trawls (BT2) in area IV					
Bycatch of plaice using trawl (OTB, PTB) of mesh sizes ≥120mm in areas IIIa and IV in winter					
Skates and rays caught by all fishing gears in the North Sea (areas IIIa, IV and EU waters of IIa)					
Turbot caught in towed gears with a codend larger than 80mm in area IV					

***** existing exemption for which nursery ground information required

Figure 4.3.3 A summary of the quality of evidence for North Sea JRs given separately for *de minimis* and high survivability requests. Rows= exemptions requests; shaded columns = an indication of evidence quality for: the clarity of the exemption request, the supporting information to justify the request and the fishery information (catches, landings, discards etc). This information based on EWG 18-06 (first three columns and the STECF PLEN 18-02 following evaluation of additional information requested by Commission from Regional Groups. Colours: Dark blue – Full clarity/comprehensive and good quality supporting information or data; Light blue – not completely clear/ partial information or data supporting the request; White – incoherent request/no information or data to support the request.

NOTE: Dark blue shading should not be taken to imply that STECF supports the exemption. Rather that STECF considered that the supporting information and data supplied was of good quality and adequate to conduct an evaluation.

De minimis		EWG before additional requests		STECF after additional requests	
	Clear Request	Supporting information	Fishery data	Supporting information	Fishery data
Whiting caught with bottom trawls and seines ≥100mm and pelagic trawls to catch whiting in the Celtic Sea and the Channel					
Gadoids (cod, haddock, whiting) caught using bottom trawls, seines and beam trawls of greater than or equal to 80mm mesh size in the Celtic Sea and the Channel (ICES VIIb-c, e-k)					
Undersized whiting in the TR2 Nephrops trawl fishery in ICES division VIIa					
Undersized by-catches of haddock in the TR1 demersal trawl fisheries in ICES area VIIa					
Bycatch of pelagic species (mackerel, horse mackerel, herring, boarfish, greater silver smelt) caught by vessels using bottom trawls and seines, and beam trawls in ICES subarea VI and VIIb-k					

High survivability		EWG before additional requests		STECF after additional requests	
	Clear Request	Supporting information	Fishery data	Supporting information	Fishery data
Common sole (Solea solea) <MCRS caught by otter trawl gears (OTT, OTB, TBS, TBN, TB, PTB, OT, PT, TX) with cod end mesh size of 80-99 mm in ICES division VIId within six nautical miles of the coast and outside identified nursery areas with defined fishing operations					
Nephrops in the TRI fisheries in Area VII and in the TR2 fisheries in Area VII in combination with highly selective gears					
Nephrops caught by 80-110mm otter trawl gears in ICES subarea VIa, within 12 miles of coasts					
Skates and ray species caught by any gear in the North Western Waters (areas VI and VII)					
Plaice caught by trammel nets in ICES divisions VIId and VIIe					
Plaice caught by trammel nets in ICES divisions VIIf and VIIg					
Plaice caught by Otter Trawls in ICES divisions VIId and VIIe					
Plaice caught by otter trawl gears in ICES subarea VIIf and VIIg					
Plaice caught with beam trawls in ICES subareas VIIa to VIIk					
Fish caught in pots, traps and creels in North Western Waters					

Figure 4.3.4. A summary of the quality of evidence for North Western Waters JRs given separately for *de minimis* and high survivability requests. Rows= exemptions requests; shaded columns = an indication of evidence quality for: the clarity of the exemption request, the supporting information to justify the request and the fishery information (catches, landings, discards etc). This information based on EWG 18-06 (first three columns and the STECF PLEN 18-02 following evaluation of additional information requested by Commission from Regional Groups. Colours: Dark blue – Full clarity/comprehensive and good quality supporting information or data; Light blue – not completely clear/ partial information or data supporting the request; White – incoherent request/no information or data to support the request.

NOTE: Dark blue shading should not be taken to imply that STECF supports the exemption. Rather that STECF considered that the supporting information and data supplied was of good quality and adequate to conduct an evaluation.

De minimis		EWG before additional		STECF after additional	
	Clear Request	Supporting information	Fishery data	Supporting information	Fishery data
Hake caught with trawls in directed fisheries in ICES subareas VIII and IX					
pelagic species: horse mackerel (Trachurus spp.), mackerel (Scomber scombrus), anchovy (Engraulis encrasicolus) andboarfish (Caproidae),caught by trawlers (OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB,TBB, SDN, SX, SV) in ICES divisions VIII and IX.					
anglerfish (Lophiidae), sole (Solea spp.), turbot (Psetta maxima), red seabream (Pagellus bogaraveo), great forkbeard (Phycis blennoides) caught by trawlers (OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB, SDN, SX, SV) in the Gulf of Cadiz (part of ICES subarea IXa).					
megrim (Lepidorhombus spp.), anglerfish (Lophiidae), plaice (Pleuronectes platessa), whiting (Merlangius merlangus) and pollack (Pollachius pollachius), caught by trawlers (OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB,TBB, SDN, SX, SV) in divisions VIII and IX.					
megrim (Lepidorhombus spp.), anglerfish (Lophiidae), plaice (Pleuronectes platessa), whiting (Merlangius merlangus) and pollack (Pollachius pollachius) caught by gillnetters (GNS, GND, GNC, GTR, GTN) in divisions VIII and IX.					
pelagic species: horse mackerel (Trachurus spp.), mackerel (Scomber scombrus), anchovy (Engraulis encrasicolus) and boarfish (Caproidae), caught by gillnetters (GNS, GND, GNC, GTR, GTN) in ICES divisions VIII and IX, X and CECAF areas 34.1.1, 34.1.2, 34.2.0.					
pelagic species: horse mackerel (Trachurus spp.), mackerel (Scomber scombrus), anchovy (Engraulis encrasicolus) and boarfish (Caproidae), caught by longliners (codes: LHP, LHM, LLS, LLD) in ICES divisions VIII and IX, X and CECAF areas 34.1.1, 34.1.2, 34.2.0.					
For by-catches of all species regulated with TAC and quota, caught by the artisanal fleet in ICES divisions VIII, IX, X and CECAF areas 34.1.1, 34.1.2, 34.2.0.					
For by-catches of alfonsinos (*Beryx spp*.) caught by hooks and lines (LHP, LHM, LLS, LLD) in division X.					
great forkbeard (*Phycis blennoides*) caught by hooks and lines (LHP, LHM, LLS, LLD) in division X.					

High survivability		EWG before additional		STECF after additional	
	Clear Request	Supporting information	Fishery data	Supporting information	Fishery data
Skates and rays (*Rajiformes*) caught with all gears in ICES subareas VIII and IX.					
Red seabream (*Pagellus bogaraveo*) caught with artisanal gear called "voracera" used in the south of Spain in ICES subareas IXa.					
Red seabream (*Pagellus bogaraveo*) caught in ICES subareas X with hooks and lines.					

Figure 4.3.5. A summary of the quality of evidence for South Western Waters JRs given separately for *de minimis* and high survivability requests. Rows= exemptions requests; shaded columns = an indication of evidence quality for: the clarity of the exemption request, the supporting information to justify the request and the fishery information (catches, landings, discards etc.). This information based on EWG 18-06 (first three columns and the STECF PLEN 18-02 following evaluation of additional information requested by Commission from Regional Groups. Colours: Dark blue – Full clarity/comprehensive and good quality supporting information or data; Light blue – not completely clear/ partial information or data supporting the request; White – incoherent request/no information or data to support the request.

NOTE: Dark blue shading should not be taken to imply that STECF supports the exemption. Rather that STECF considered that the supporting information and data supplied was of good quality and adequate to conduct an evaluation.

De minimis	Clear Request	EWG before additional: Supporting information	EWG before additional: Fishery data	STECF after additional: Supporting information	STECF after additional: Fishery data
6% in 2019 and 2020, 5% in 2021 of total annual catches of Hake and Mullets caught by trammel and gill nets					
6% in 2019 and 2020, 5% in 2021 of total annual catches of Hake and Mullets caught by rapido					
6% in 2019 and 2020, 5% in 2021 of total annual catches of Common Sole caught by trawl nets					
In July, August and September, 6% in 2019 and 2020, 5% in 2021 of total catches of Norway lobster caught by bottom trawls during these months					
7% in 2019 and 2020, 6% in 2021 of total annual catches of demersal finfishes under landing obligation for under MCRS specimens - **Hake, Mullets and pelagic species excepted** - caught by bottom trawls					
7% in 2019 and 2020, 6% in 2021 of total annual catches of demersal finfishes under landing obligation for under MCRS specimens - **Hake, Mullets and pelagic species excepted** - caught by trammel and gill nets					
7% in 2019 and 2020, 6% in 2021 of total annual catches of demersal finfishes under landing obligation for under MCRS specimens - **Hake, Mullets and pelagic species excepted** - caught by hooks and lines					
7% in 2019 and 2020, 6% in 2021 of total annual by-catches of pelagic species (Anchovy, Sardine, Mackerel, Horse mackerel) under landing obligation					

High survivability	Clear Request	EWG before additional: Supporting information	EWG before additional: Fishery data	STECF after additional: Supporting information	STECF after additional: Fishery data
Scallop (*Pecten jacobeus*), Carpet clams (*Venerupis* spp.), Venus shells (*Venus* spp.) caught by mechanized dregdes (gear code: HMD)					
Norway lobster (*Nephrops norvegicus*) caught by bottom trawls (gear codes: OTB, OTT, PTB, TBN, TBS, TB, OT, PT and TX), excepted during the months of July, August and September					
Deep water rose shrimp (*Parapanaeus longirostris*) caught by bottom trawls (gear codes: OTB, OTT, PTB, TBN, TBS, TB, OT, PT and TX)					
Red sea bream (*Pagellus bogaraveo*) caught by hooks and lines (gear codes: LHP, LHM, LLS, LLD, LL, LTL, LX)					
Lobster (*Homarus gammarus*) and crawfish (Palinuridae) caught by nets (gear codes: GNS, GN, GND, GNC, GTN, GTR, GEN) and by pots and traps (gear codes: FPO, FIX)					
Norway lobster (*Nephrops norvegicus*) caught by pots and traps (gear codes: FPO, FIX)					

Figure 4.3.6. A summary of the quality of evidence for Mediterranean JRs given separately for *de minimis* and high survivability requests. Rows= exemptions requests; shaded columns = an indication of evidence quality for: the clarity of the exemption request, the supporting information to justify the request and the fishery information (catches, landings, discards etc). This information based on EWG 18-06 (first three columns and the STECF PLEN 18-02 following evaluation of additional information requested by Commission from Regional Groups. Colours: Dark blue – Full clarity/comprehensive and good quality supporting information or data; Light blue – not completely clear/ partial information or data supporting the request; White – incoherent request/no information or data to support the request.

NOTE: Dark blue shading should not be taken to imply that STECF supports the exemption. Rather that STECF considered that the supporting information and data supplied was of good quality and adequate to conduct an evaluation.

4.4 EWG 18-03/7 Annual Economic Report of the EU fleet 2018

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

The report was not completed by the time of the plenary; and STECF comments are based on a draft version made available on July 5th and further correspondence with the EWG chairs and JRC focal points.

STECF reviewed the 2018 Annual Economic Report on the EU Fishing fleet. STECF acknowledges the extensive work undertaken by all involved in the preparation of the 2018 AER by attendance at two EWGs (EWG18-03 and 18-07). The 2018 AER represents a comprehensive overview of the structure and economic performance of EU fishing fleets (at EU, regional and Member State level) and provides valuable statistics and analyses.

STECF observes that over time the AER has evolved in terms of structure and content. One part of the report, consisting of the National, Regional and EU wide statistical reports and analyses of trends and developments, has evolved into a standardised document. STECF observes that the report provides context to the trends and developments noted and hence provides a useful overview of developments of European fisheries.

STECF observes that the standard AER reporting on statistics of the economic performance of selected European fleets follows fixed structure and process, which is comprehensive. STECF observes that this process requires extensive input of expert time for both data processing and analysis.

STECF observes that for the 2018 issue of the AER the EWG 18-03 and 18-07 have been requested to, "by trimming down the AER, achieve a more balanced effort/product exercise, concentrating on the core tasks of the AER on the one hand while freeing up some time and resources on the other so that EWG experts can focus on more applied economic analyses". STECF observes that this request contains inherent contradictions as to what is the desired focus of the report. It would be helpful to have clear guidance on the desired output and to consider whether the analysis of specific topical issues should be included as a recurrent section of the AER, or would be more effective if considered as a separate action, perhaps part of a dedicated EWG or ad-hoc requests to STECF, producing a separate report.

STECF observes that the data provided in the AER relate to 2016, which ended 18 months ago. Transversal and economic data have thus a one or two-year time lag in relation to the publication date of the Annual Economic Report. This is a recurring issue, the data lag occurring because data are first produced by individual businesses, sometimes up to 10 months after the end of the year they relate to, then are collected, processed and quality checked in each MS before submission to the DCF. Data for a particular year, for example 2016, can only be collected at the end of the following year (e.g. 2017). STECF notes that the EWGs have addressed this time-lag issue by producing estimates of economic and transversal data for EU fleets for the current and previous years. These estimates can be useful but their accuracy needs to be assessed. This can be done by comparing projections made in previous AER reports with observed data the following year.

Concerning data issues, STECF observes that, as usual, some Member States did not provide data in time, or did not report for some of the years in the time series.

Regarding data consistency, STECF observes that in many cases, for a given fleet in a given year, the value given for "income from fishing" is quite different from the value given for "value of landing". Differences in the values between these two income items give an unclear picture to users of the report. STECF notes differences in values of these two income items are due to the values of these items being obtained from different data sources. However, STECF observes that the report would be clearer if Member States increase data consistency. The report would be clearer if any differences in values between these income items are explained as footnotes to the tables where they occur.

STECF conclusions

The 2018 Annual Economic Report (AER) on the European Union (EU) fishing fleet provides a comprehensive overview of the structure and economic performance of EU Member States' fishing fleets.

STECF concludes that it would be beneficial for the use and readability of the report to evaluate the process of producing the AER in terms of efficiency and effectiveness, including a discussion about the actual level of details needed in the text for each section.

Based on this evaluation it should be assessed whether additional applied economic analyses of framing and interpretating trends and developments in a wider context are to be part of the standard process of production of the AER or are best dealt with in a separate trajectory adjacent to this process. A further trimming of the standard AER analysis may well be considered in this process.

STECF considers also that there is scope for increased automatisation of the production of standard chapters (for example the possibility of using R markdown for some chapters could be explored); that would allow for quick update when data needs to be corrected.

STECF considers that the accuracy of the projection of economic and transversal estimates for the current and previous years needs to be assessed by comparing these projections with the actual observations in the following year.

4.5 EWG 18-09: Fishing effort regime for demersal fisheries in the western 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

STECF observations

The working group was held in Arona, Italy, from 18 to 22 June 2018. The meeting was attended by 19 experts in total, including 5 STECF members and 2 JRC experts with three observers. As the EWG report was not finalised before the STECF plenary, the STECF commented on a draft version of the report circulated on the 3rd of July and the presentations held at the plenary on the 3rd and 4th of July.

The objective of the EWG 18-09 was to carry out an assessment of the effects of effort management plans in the western Mediterranean Sea. Multi annual plan for the fisheries exploiting demersal stocks in the Western Mediterranean Sea

STECF comments

STECF considers that the EWG ToRs represented a comprehensive review of the effort regimes ranging from literature review on experiences with effort management to an assessment of possible effects of effort management for the fisheries concerned.

The group reviewed various effort management systems from inside and outside the EU:

1 The effort regime in the Faroe Islands, which is among the most well-known example of a pure effort regime applied on demersal mixed-fisheries, implemented over more than 20 years;

2 The Queensland case which represents a complex system of individual transferable effort rights

3 The combined effort-TAC regime implemented in the European Atlantic and North Sea demersal mixed-fisheries in the frame of several recovery and management plans

4 The effort regulation in the Baltic Sea

5 Finally, a detailed review of the current effort limitations in place in the Mediterranean Sea is provided

From these cases and other literature the following the EWG deducted general features and pitfalls which are linked to effort regimes:

- The assumption behind the idea of effort regimes that effort is easier to monitor and control than landings does not necessarily hold true and can be case-dependent.

- Finding the appropriate effort measure is more complicate than for catches and is limited by the availbility of data collected in logbooks. e.g. Hours, days, kWdays. Measures such as days are not necessarily appropriate for all types of gear used and the type of fisheries;
- Because of several reasons, the relationship between nominal fishing effort and fishing mortality is often obscured;
- Moreover, effective fishing effort can be altered by targeting behaviour and skipper effect;
- If some fleet segments are restricted by effort management and not others, vessels will likely move to less regulated segments;
- The effective fishing effort can be influenced by input substitution, technological creep and hyperstability;
- In effort management idle overcapacity (inactive and partly active vessels) may remain in the fishery, and this may cause a problem when stocks start recovering following effort reduction, since this overcapacity can become active again and jeopardises the positive developments.

STECF observed that the topic of TAC vs. effort management has been widely discussed. Effort -based management creates incentives to maximize revenue and catch, and in the process expands input use and therefore costs.

Moreover, because of the issues mentioned above, the reductions in nominal effort might not result in reductions of the mortality of the fish stocks concerned, if fishermen maintain high catches in spite of effort reductions. Therefore, it is necessary to monitor whether catches are also decreasing in line with expectations, to assess whether the effort reductions are achieving their objective.

In order to carry out an analysis of the fisheries and establish an effort baseline the EWG had access to two sources of aggregated data during the meeting:

- DCF Mediterranean data call with effort data (2017)
- STECF data call for economic and transversal data (2017)

Based on an initial analysis the experts decided to retrieve the information from the economic and transversal dataset, for the period 2008-2016.

The available data sets had a number of data deficiencies and inconsistencies between landings and effort data. As a result, the EWG decided to only use the 2013-2015 data. STECF notes that the existence of these harmonised datasets on transversal and economic variables is a major improvement for the assessment of fisheries issues. However, data issues and inconsistencies between the data of various calls have been a recurring problem during the last years and the data analysis could be more meaningful if more high quality data would be available. STECF notes that the EWG suggests recomputing the effort baseline after the gaps and inconsistencies are addressed by Member States. STECF notes additionally that the 2018 FDI datacall is expected to provide a more robust dataset that may be used as an alternative for establishing the baseline.

The EWG analysed also the variation in the catch efficiency of individual vessels and trips, using two datasets with individual trip data from Italy and Catalonia. The EWG

analysed that there is considerable variation in efficiency. An analysis of the LPUE quantiles shows that the most efficient trips are much more efficient (two to five times more) than the average trips. STECF observes that this large difference in the efficiency is consistent with the economic theory in a fishery under effort management; Fishers stay in the fisheries as long as they can cover their fixed and opportunity costs and wait for an expected recovery of the stocks. Therefore, the overall economic efficiency of the fishery is decreased. Furthermore, the STECF also notes that this difference in fishing efficiency between the average and the more efficient vessels decreases with the vessel length. This is also consistent with the economic theory, because in general the bigger the vessel, the higher the fixed and opportunity costs, and thus the higher the idle costs of maintaining the vessels as partly active and inefficient. There are thus comparatively fewer large vessels that are inefficient.

The EWG analysed the factors that affect vessel performance, using a GAM- based analysis of these individual trip data. Independent factors included were technical characteristics, market prices, depth, season, year and degree of specialisation on selected target species. The results show that the landings per unit effort is affected by the factors above but that the effects vary among fleets and stocks and no general trends can be found. STECF observes that (gradual) changes in these factors can have large impacts on the fishing power of a fleet and can obscure the relationship between nominal effort and fishing mortality if they are not taken into account in the measurement of the nominal effort. STECF notes that the availability of detailed trip by trip data was crucial for this type of analysis.

The working group summarised the results of a research project (MyGears), analysing the technical characteristics of fishing gears used in the Mediterranean. This project gathered data using interviews, which provided detailed information about gear design and size and their relationships with vessel size and horsepower. The study shows that as some innovations have only been implemented in part of the fleet and countries, there is ample scope for further increase of fishing power in the fleets concerned without this being shown in general trends of nominal effort; i.e. vessels could tow bigger otter trawls without changing their fishing effort and horsepower.

STECF notes that technical creep is widely known to influence fishing power. A literature study in 2014 revealed an overall estimate of around 3% technical creep per year for EU fisheries (Eigaard et al, 2014). The values for individual fisheries varied considerably, ranging from negative values to over 10% per year. STECF notes that these values can vary significantly among the different fleet segments in Mediterranean fisheries.

In order to assess the relationship between fishing effort and fishing mortality, the EWG assessed the relationships for these parameters for a number of gear-stock combinations. The EWG noted that in most cases the current estimates of nominal effort and fishing mortality do not show any clear relationship. STECF observes that over the last years, both fishing mortality and nominal effort have been relatively high and stable. Because of the relative small changes in nominal effort and fishing mortality, the variability in both the assessment of mortality and the fishing effort obscures the relationship between the two parameters. Moreover, STECF notes that effort is estimated for the entire fleet segment, regardless of the actual targeting of the fleet. Some fleet segments have been shown to be targeting some species more than others, and a better estimate of fishing effort by metier may potentially improve the relationship between effort and mortality.

With the available models the EWG assessed the effects of the multiannual plans in a number of cases. Three cases were included:

- MEFISTO Mediterranean Fisheries Simulation Tool applied to demersal fisheries in GSA 6 - Northern Spain
- IAM model applied to the French fisheries in the Gulf of Lions (GSA 7)
- Bioeconomic from GSA 9 (not included in the draft report version reviewed by PLEN 18-02 but incorporated later in the final EWG report)

STECF notes that model runs performed during the EWG were only preliminary and exploratory, and that this ToR has thus not been fully addressed. In the application of the MEFISTO model, the economic part of the model was not used. The EWG report mentions that the IAM model was not developed for the specific questions raised in the EWG and therefore, the scenarios do not correspond exactly to the ones mentioned in the TOR. Scenarios with alternative assumptions on vessel performance were not investigated. Because of this the EWG stated that the model applications need to be developed further before conclusions can be drawn.

Despite the fact that the model outcomes need to be developed further, STECF notes that the current models runs assume that there is a constant catchability, and thus a linear relationship between fishing effort and fishing mortality. This implies that in the scenarios presented, effort reduction will lead to reductions in fishing mortality and in time fish stocks will recover. However, this assumption is overoptimistic, because of all the factors that may increase the fishing power of the vessels. The actual changes in F will be likely lower than changes in nominal effort, especially at the beginning of the reduction.

Moreover, STECF notes that any positive change in the fishing mortality will not be detected before at least 3 years because of random noise in the relationship between effort and F, and because of the time needed to observe the changes in the stock assessment.

In order to facilitate a more sophisticated approach to the reduction of effort, the EWG also looked into possible ways for alternative segmentation of the fleets in the management plan (0-15m, 15-26m, 26m>). Based on the landings per sea day no clear distinction can be made. The EWG concluded that the current segmentation is to be preferred over a cruder segmentation mainly with regards to data collection and monitoring. The current segmentation is consistent with the International Standard Statistical Classification of Vessels (ISSCFV), on which a number of legal reporting requirements are based including several data calls under the data collection framework DCF. As no VMS data is available for vessels <12m, these vessels might also better deal with separately. STECF underlines that any segmentation is arbitrary and the benefits of the alternative segmentation remain unclear. STECF notes that an alternative to fleet segmentation could be to use conversion factors, for example defining effort as kW*days instead of fishing days.

STECF conclusions

STECF concludes that in order to attain the MSY targets for the western Mediterranean fish stocks in 2020, swift action is needed and reductions in fishing mortality will need to be considerable for some species. In order to prepare for such actions, the results of the EWG provide a good starting point, but further elaboration on the analysis is needed. STECF stresses the need to have consistent data as a basis for this analysis and the update of the baseline in case data are adjusted. The database resulting from the new

FDI data call may provide a complete and consistent source for transversal data. Moreover, the model applications will need to be extended to show the effects of effort reduction scenarios.

STECF concludes that in order to attain MSY targets in a limited number of years for all stocks, considerable reductions in fishing mortality are necessary. Given the fact that there is ample scope for increases in the fishing power without any changes in the nominal fishing effort, STECF concludes that the reduction in fishing effort probably needs to be considerably higher than the needed reduction of fishing mortality. Moreover, increased knowledge on the technical creep in the fisheries concerned can be useful for the development for a sustainable effort management system.

STECF also notes that the current plan only limits the effort of trawl fisheries, whereas some of the species included in the MAP for demersal fisheries are also exploited by other types of fishery (e.g. longline fisheries for hake). STECF concludes that the opportunities for fishing vessels to shift to other fishing gears might be a risk to the success of the effort limitations for the trawl fleets.

STECF concludes that the proposed Management Plan indicates general reductions in effort and that the analysis of the EWG give no reasons for differentiation of the reductions for specific groups of vessels or fisheries. Anecdotal information shows that fishers may influence species composition on a day by day basis level. However, further analyses are necessary to analyse such fishing patterns,. It can also be debated whether such a detailed partitioning of effort is to be included in the EU plan or whether this should be left to the MS.

STECF comments were based on draft results provided to the committee and part of these comments have been taken into account in the final version of the report.

LReferences

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4.6 EWG 18-10 Evaluation of Annual Reports

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 notes that EWG 18-10 met in Brussels on 25-29 June 2018. Since the meeting took place the week before STECF PLEN 18-02, the EWG report was not yet available to PLEN 18-02. The following STECF opinion and recommendations are consequently based on the presentation of outcomes from the EWG 18-10 meeting made by the chairperson and subsequent discussion among members during the STECF plenary meeting 18-02.

STECF notes that EWG 18-10 addressed all Terms of Reference during the meeting despite the fact that many novel aspects (new evaluation template, new Annual Report (AR) template, updated guidance document, new IT-tool) had to be addressed, and there was a substantial increase in data transmission issues.

Evaluation of 2017 AR reports

STECF observes that EWG 18-10 participants used the new evaluation template, which included more than 200 questions. STECF notes that, as was the case in previous years, pre-screening played a key role for a more efficient evaluation during the EWG. This year, however, not all sections of the AR had been pre-screened due to a lack of sufficient pre-screeners for several specific topics, which increased the workload for the experts.

STECF notes that the EWG identified a variety of issues with the questions of the new evaluation template, mainly related to: repetition, unclear formulations, aspects not relevant for the evaluation, and generally the need to reduce the number of questions to focus on the most pertinent issues. STECF considers that there is further scope to improve the amended version of the evaluation template drafted by EWG 18-10, and suggests that EWG 18-18 in November 2018 reviews the updated draft.

STECF observes that the EWG used the term 'compliance class / levels' for the evaluation; STECF considers the term 'compliance' is not appropriate and should be replaced with 'evaluation class / levels' or similar. STECF further observes that EWG 18-10 suggests re-introducing the regional dimension in the evaluation template. STECF however considers that it is more appropriate for the regional dimension to be discussed by Regional Coordination Groups (RCGs).

Guidelines for evaluating ARs are already available, but EWG 18-10 felt additional guidelines are required to ensure a more consistent and less subjective approach to evaluating Annual Reports and data transmission issues. To this end the EWG 18-10 proposed a first set of rules/assessment criteria to guide the evaluators. STECF agrees that such an approach would increase objectivity and consistency in the responses from different evaluators and provide experts that are new to the process with valuable guidance. Hence, in addition to the existing guidelines for evaluators, preparation of a separate stand-alone document containing a comprehensive list of assessment criteria is highly desirable. STECF notes this work is still in progress.

IT Tool for automatic evaluation of AR

STECF notes that following recommendations from EWG 17-17 a Screening Support Tool (SST) was developed to serve as an automatic pre-screening tool. The tool is meant to facilitate structure and codification checks on the Work Plan (WP) or AR individually at the stage of submission at the MS. STECF observes however that the tool was not fully operational prior to and during the EWG 18-10 due to a variety of codification issues.

STECF notes that although EWG 18-10 considers that the developed tool has potential to support a more efficient evaluation process in the short term, the EWG once again considers that a regional database approach would be more useful for the overall management of the DCF in the long term. STECF considers that even if substantial resources are invested into the IT-tool for automatic pre-screening of AR reports in line with the recommendations made by the EWG, the final product will not match the flexibility and functionality an online tool coupled with regional databases would have. Moreover, the problems faced by the developers of the IT-tool in preparation of EWG 18-10 were primarily due to codification issues. Consistent reference lists are thus a prerequisite to render the IT-tool operational, and such references should be stored in a central database. STECF reiterates that ultimately regional databases and an online reporting tool are required for the more efficient compilation of ARs by Member States. Such an approach would also facilitate more effective monitoring of ARs and data quality.

Data transmission issues

The online tool, https://datacollection.jrc.ec.europa.eu/web/dcf/compliance, introduced as a pilot in 2015 by the JRC to assist with reporting and evaluation of data transmission (DT) issues was used interactively by Member States, pre-screeners and the EWG 18-10. The EWG was requested to review the Member States' responses to the issues raised by end-users in relation to data transmission issues arising from 2017 data calls and assess whether the responses inserted by Member States satisfactorily explain why the issue had arisen. The EWG was requested to provide its comments directly online in the form of a draft STECF response and assessment for review and if appropriate, amendment by the STECF.

The process proved to be more efficient than in previous years, with all parties involved (pre-screeners, Member States and the EWG 18-10) being more actively engaged. DG MARE had requested Member States to respond to the issues raised online, and despite a few minor issues associated with the migration of the online tool to a new software environment, the comments from all Member States were successfully incorporated online. Similarly, comments and assessments from pre-screeners and the EWG participants were successfully incorporated online.

In reviewing the issues raised in response to 2017 data calls by EWG18-10, STECF PLEN 18-02 notes that in total, 292 issues raised by end users in relation to data calls issued in 2017 were entered on the on-line tool (Table 4.6.1).

Table 4.6.1. Data transmission issues - Overview at the start of EWG 18-10

End User	Data Call	DT issues in 2017
GFCM	GFCM	1
ICES	AFWG	3
	HAWG	2
	WGBFAS	1
	WGNSSK	1
	WGSFD	1
	WGWIDE	1
IOTC	IOTC	21
RCG NORTH ATLANTIC	RCM NA	1
RCG NORTH SEA & EASTERN ARCTIC	RCM NS & EA	3
RCM BALTIC	RCM BALTIC	2
RCM North Atlantic	RCM NA	2
STECF	FDI	2
	Fleet economics	21
	Med and BS	128
	Processing	102
Sum		**292**

STECF notes that a higher number of data transmission issues were flagged in 2018 compared to 2017 due to the call for data on fish processing industry, which takes place every other year and was thus not evaluated in 2017. STECF observes that the Terms of Reference of EWG 18-01 on fish processing industry did not request the EWG to assess data issues. The data quality chapter in the EWG 18-01 report instead was based on automatic identification of missing variables in the JRC database, without expert judgement. STECF considers that simply reporting the list of variables that were requested under a data call, but not reported, is not appropriate, as it cannot be assessed how large an impact data issues have had on the ability to undertake the work.

All issues were commented on by the relevant Member States and such comments were evaluated by pre-screeners, and their responses were also reviewed and if necessary amended by the EWG 18-10. The assessments given in Table 4.6.2 indicate the outcome of assessments undertaken by the EWG 18-10 and reflect what is documented online on the current compliance platform.

Table 4.6.2. Summary of EWG 18-10 assessments of Member States' responses to data transmission issues raised by end-users relating to data calls issued in 2017.

	EWG 18-10 assessment of MS' responses			
End-user	**Satisfactory**	**Unsatisfactory**	**Unknown**	**Total issues**
ICES	0	9	0	9
STECF	131	51	71	253
IOTC	16	1	4	21
RCG* BALTIC	0	0	2	2
RCG* NS & EA	1	1	1	3

GFCM	1	0	0	1
RCG* N Atlantic	1	2	0	3
Total	150	64	78	292

* Records listed with RCM as end user have been combined with those listed as RCG

A total of 64 'unsatisfactory' data transmission issues remained at the end of EWG 18-10. These issues were raised by ICES (9) STECF (51), RCG North Atlantic (2), RCG North Sea and East Atlantic (1), and IOTC (1) as end users. The unsatisfactory issues from STECF data calls were mainly related to the Mediterranean and Black Sea (25), Processing (21) and Fleet Economic (5) data calls. Issues marked as unknown are cases where the EWG did not feel that there was sufficient information either in the issue description or the MS' responses to make a judgement.

STECF observes that a high number of data issues were once again flagged for the Mediterranean and Black Sea data call. The majority of these issues were assessed by EWG 18-10 as "satisfactory", meaning that MSs' replies on each individual issue have been considered appropriate and the data issues do not refer to actual data collection failures. STECF considers that future stock assessment EWGs should be asked to primarily report issues that truly impacted the stock assessment process.

Generally, issues raised by end-users were diverse and in some cases unclear, which means that Member States were unable to directly address the issue and provide an explicit explanation as to why the issue had arisen. In many cases, even if an issue is clearly explained by end-users, the comments from Member States do not directly address the issue or are unclear. In such cases, it was extremely difficult for the EWG 18-10 and the STECF PLEN 18-02 to review and assess whether the issues have been adequately addressed by the Member States.

Moreover, because of the subjective nature of such assessments, some of the assessments may appear counter-intuitive and it remained unclear to STECF whether those would need to be followed up by Member States and DG MARE. For example there are instances where an end-user has reported an issue that certain data (variables) requested under a data call were not transmitted by a Member State. In response, the Member State has commented that the missing data will be provided when responding to the next data call, which presumably means that the MS is committed in its WP to collect this data. And yet the assessment is given as 'satisfactory', despite the fact that the Member State failed to provide data to end users.

A second type of counter-intuitive assessment relates to issues such as the end-user has pointed out that data for one or more years were not provided. The Member State commented to the effect that sufficient samples were not collected at the time and that their National workplan/programme was subsequently modified in an attempt to redress the shortfall, yet the assessment outcome is 'unsatisfactory'.

STECF notes that in general the assessment of data transmission issues is at present still too subjective, and numerous questionable issues remain. In view of these observations, in reviewing the report of EWG 18-10 and the associated comments on the online platform, the STECF PLEN 18-02 took the view that to attempt to review each issue in turn and if necessary amend the EWG 18-10 comments and assessments would not necessarily prove useful since they would be equally subjective. Therefore, the comments and assessments that remain on the DT on-line tool in the columns headed 'STECF comments' and 'STECF assessment' are exactly as drafted by the EWG 18-10.

Ways forward

Data transmission issues

STECF considers that the most important element in evaluating a MS's performance in collecting data is whether or not the data collected are transmitted to the relevant end users in response to a data call. It is only then that the results of data collection can be properly evaluated for coverage and quality. STECF thus considers that the reporting of DT issues by end-users is of paramount importance, and more important than the AR evaluation. If data are not transmitted to, or cannot be used by end-users it is irrelevant what data the MSs' report to have collected in their ARs. Consequently the main focus of the current process should shift from comparing ARs with NWPs, to assessing MSs' data transmission and data quality issues raised by end users. In parallel the data submitted should be compared with the data as reported in the ARs and the intentions as laid out in the NWPs. STECF notes also that the accurate reporting of DT issues must thus be systematically included in the priority terms of reference of all EWGs making uses of data collected through a data call.

STECF notes that the current online tool used in the evaluation of data transmission issues has not been developed to its full potential. A suggested way forward to further develop and improve the online tool is included in the EWG 18-10 report, including proposals to change both the content of the online tool and the access rights. STECF endorses these suggestions. STECF further agrees with EWG 18-10 that it is important to change the name from 'Compliance Tool' and the suggested alternative name 'DTMT (Data Transmission Monitoring Tool)'

STECF recalls the step by step procedure to identify and to assess DT failures suggested by PLEN 17-02 to ensure consistency among end-users and to guarantee a systematic consultation among end users and MSs, which is shown in Figure 4.6.1. STECF considers that the 'Consultation end users-MS' step before reporting to the DT failure is currently not fully efficient for all data calls, as seen from the high number of DT issues reported in some of those. Increased consultation between Member States and end users after the completion of the working group and before the reporting of data failures should help decrease the high number of issues considered 'unsatisfactory' which are then flagged to DG MARE. Ways to achieve this in the case of the Mediterranean and Black Sea data call could be discussed in a short scoping meeting. The aim of the meeting would be to improve common understandings and expectations for when a data gap shall be considered a transmission failure or not. Moreover, possibilities to improve the current process of assessing transmission failures could be discussed, including means of assessing transmission failures faster. The meeting would bring together key end-users from the relevant working groups and people involved in the DT assessment process. Key experts from STECF plenary, GFCM, RCG representatives, and Member States shall attend as well.

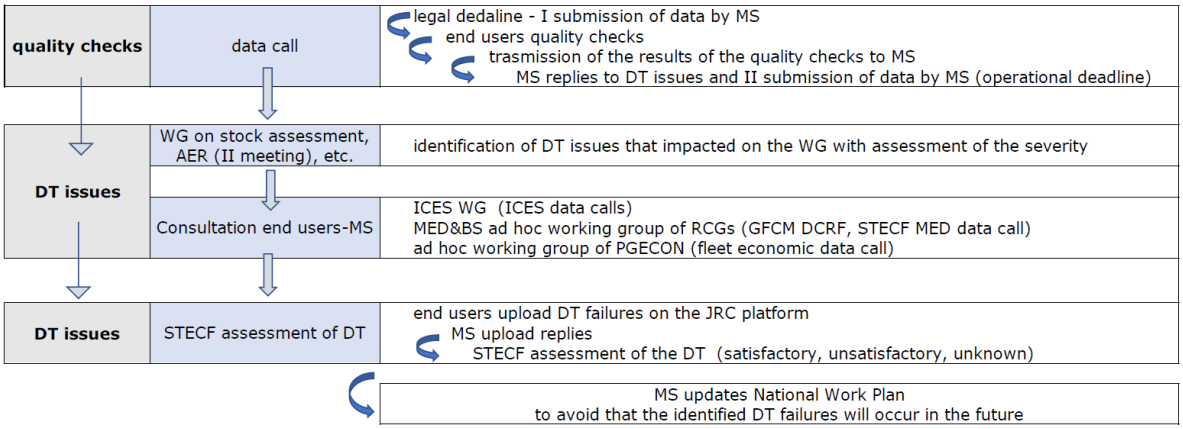

Figure 4.6.1. Process for identification and assessment of DT failures suggested by STECF PLEN 17-02.

Regional databases

STECF reiterates that regional databases coupled with an online reporting tool will greatly help monitor effectively the execution of ARs, DCF data quality and assess data issues raised by end-users.

STECF notes that detailed biological sampling data from three Regional Coordination Groups (North Atlantic, North Sea & Eastern Artic and the Baltic), is already stored in a common format in the regional database. STECF further notes that for the Mediterranean and Black Sea region, the implementation of the regional database is still under discussion. There is however currently no regional database for the RCG for large pelagics.

STECF considers that the economic data collated within the data calls for Fishery Independent Data (FDI), fleet economics (Annual Economic Report), aquaculture and processing industry could be utilised for filling the Annual Report tables for the corresponding modules.

STECF further notes that metadata (e.g. on the number of samples from which the variables have been derived) and quality indicators could be reported with the raw data during data calls and stored in the respective databases.

STECF conclusions

STECF endorses the outcomes of the EWG 18-10 presented during the STECF PLEN 18-02; The final EWG report was not yet available at the time of writing.

STECF concludes that the current evaluation process, which has evolved and grown over time, is at present tedious, overly detailed and in many instances subjective. In addition much of the process still focusses on reporting aspects, rather than execution and quality aspects of the ARs and the quality of the data collected by the Member States. As a result pertinent aspects of the collection, reporting and transmission of DCF data are not always evaluated adequately at present.

STECF concludes that more emphasis should be placed on assessing MSs' data transmission and data quality issues raised by end users, and in a timelier manner (starting with EWG 18-18 this year). In parallel the data submitted should be compared with the data as reported in the ARs and the intentions as laid out in the NWPs.

STECF notes that the bulk of 'unsatisfactory' issues which need to be followed up by DG MARE are related to the fish processing and the Mediterranean and Black Sea data calls.

Regarding the fish processing call, STECF recalls the need to include the assessment of data transmission issues in the TORs of all EWGs making use of the data, so that expert judgement can be used to decrease the number of issues flagged. STECF notes this is already the case for some EWG (e.g. Annual Economic Report EWGs), but not for all. Inclusion of data transmission issues on the TOR of the processing EWG would have reduced the number of data transmission issues raised for this data call.

Regarding the Mediterranean and Black Sea data call, STECF suggests that the introduction of an additional feedback loop to increase communication between MSs and end users after completion of the EWG and before the reporting of DT failures. STECF suggests that a short discussion meeting could be organised by DG Mare to address this specifically.

STECF notes also that there is scope for further improving the online tool.

As in previous advice (STECF PLEN 14-02, 14-03, 15-02, 16-02, 17-02, 17-03), STECF concludes that regional databases together with a web-based application would be the most efficient means to achieve this. STECF considers that regional databases together with a web-based application to support the preparation, management and assessment of the AR is the optimum solution to ensure efficiency and transparency in the overall DCF AR and data transmission evaluation process.

Regional databases would allow for direct comparisons between the Work Plans (WPs) and the Annual Report (AR), and allow for consistency and quality checks to be carried out on the data. Additionally, regional databases would facilitate some internal peer-review, where data collected by one MS can be more easily used, and thus cross-checked, by other users. STECF thus urges the Commission to investigate ways to establish database procedures and online reporting tools in order to achieve these objectives.

STECF notes that there is a need to adopt a more consistent and less subjective approach to evaluating Annual Reports and data transmission issues and suggests that in addition to the existing guidelines for evaluators, a separate stand-alone document containing a comprehensive list of assessment criteria for both ARs and DT issues should be prepared ahead of the 2019 Review of Member States ARs. Such a document is intended to be a tool to enhance efficiency and objectivity and not to have any legal status. For data transmission issues clear definitions of the various comment categories (satisfactory, unsatisfactory, unknown, not assessed) should be drawn up. STECF suggests that this might best be prepared at the STECF EWG 18-18 scheduled for the week beginning 5 November 2018.

In addition, STECF concludes that it in order to provide DG MARE with helpful advice it is paramount that sufficient time for checking consistency and clarity of EWG comments is given in forthcoming EWGs on evaluation of ARs.

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

5.1 Derogation from the Mediterranean Regulation for shore seines operating in certain territorial waters of France

Background provided by the Commission

In accordance with Article 13(1) of Regulation (EC) No 1967/2006[2] (henceforth the Med Reg), the use of towed gears is prohibited within 3 nautical miles of the coast or within the 50 m isobath where that depth is reached at a shorter distance from the coast. At a request of a Member State, derogation from Article 13 (1) may be granted, provided that the conditions set in Article 13(5) and (9) are fulfilled.

A general condition for all derogations is that the fishing activities concerned are regulated by a management plan in accordance with Article 19 of the Med Reg. According to paragraph 5 of Article 19, the measures to be included in the management plan shall be proportionate to the objectives, the targets and the expected time frame and shall consider:

a) the conservation status of the stock or stocks;

b) the biological characteristics of the stock or stocks;

c) the characteristics of the fisheries in which the stocks are caught;

d) the economic impact of the measures on the fisheries concerned.

In 2013, the Common Fisheries Policy (CFP) introduced new elements for conservation such as the target of maximum sustainable yield exploitation rate (MSY) for all the stocks by 2020 at the latest, the landing obligation as of 1 January 2019 for all stocks in the Mediterranean subject to a MCRS and the regionalisation approach.

The shore seines are regulated through a French management plan adopted in 2014 but not aligned with the requirements of the reformed CFP *per se*. However, the CFP also stipulates that where targets relating to the MSY cannot be determined, owing to insufficient data, the plans shall provide for measures based on the precautionary approach, ensuring at least a comparable degree of conservation of the relevant stocks.

To limit fishing mortality and the environmental impact of fishing activities, the plan also applies a number of the measures such as limiting catches, fixing the number and type of fishing vessels authorized to fish, limiting fishing effort, adopting technical measures (structure of fishing gears, fishing practices, areas/period of fishing restriction, minimum size, reduction of impact of fishing activities on marine ecosystems and non-target species), establishing incentives to promote more selective fisheries, conducting pilot projects on alternative types of fishing management techniques, etc.

The EU granted derogation for the shore seines fishing in certain territorial waters of France (Languedoc-Roussillon[3] and Provence-Alpes-Côte d'Azur) from Article 13(1) of the

2 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32006R1967R%2801%29

3 Languedoc-Roussillon was renamed Occitanie in 2016

Med Reg concerning the minimum distance from the coast and depth. On 24 August 2015, Commission Implementing Regulation (EU) 2015/1421 extended this derogation until 25 August 2018.

On 23 May 2018 France submitted a request to prolong the derogation from the first subparagraph of Article 13(1) for 3 more years. The request is supported by 14 documents in French (all provided to the STECF). The 7 most relevant documents were machine-translated into English; their file name is in the format *xxx_EN*. Please note that only the French versions are authentic.

List of supporting documents in English:

- Report drafted by the French authorities supporting the renewal of the derogation (*PROJET RAPPORT-VF_EN*)

- IFREMER report assessing the French management plans for the Mediterranean, shore seines on pages 18-23 (*Annexe 10 Rapport-saisine- DPMA-17-11231_final-4_EN*)

- IFREMER report estimating the CPUEs for the fishing activities regulated under a Mediterranean management plan, specific information on shore seines on pages 9-10 (*Annexe 8 Rapport IFREMER CPUE 2016_EN*)

- French act setting out the French management plans for the Mediterranean, shore seines on annex III, pages 30-44 (*Annexe 1 - Arrêté du 13 mai 2014 - plan gestion_EN*)

- French act setting out common and particular provisions concerning the provisions of fishing authorisations for the fishing activities regulated under a Mediterranean management plan (*Annexe 5 arr├¬t├® du 8 septembre 2014_EN*)

- French act implementing implementing a decrease in the number of fishing authorisations for shore seines (*Annexe 11 arr├¬t├® du 15 mai 2015_EN*)

- French act setting out the effort allocation for the fishing activities regulated under a Mediterranean management plan, specific provisions for shore seines on page 7 (*Arrêté_du_9_juin_2017_version_consolidee_au_20180524_*EN)

Background information is provided on: https://stecf.jrc.ec.europa.eu/plen1802

Preliminary findings

a. The fishery comprises two métiers:

- 'poutine' targeting sardine juveniles (2 mm mesh): total catches ~ 500 kg per year for 10 seines, average 2007-2016; according to scientific advice, biomass increased in recent years and the stock is thought to be not overexploited

- 'non-poutine' targeting adult fish including sardine (14 mm mesh); out of the 10 species most caught, 5 are subject to a MCRS; 23 seines are authorised

b. The combined annual catches of the two métiers for the 10 species most landed are less than 8 tonnes, average 2007-2016 (species in rank 10: 40 kg)

c. The gears are light (hauled by hand, no otters) and using them over protected habitats is forbidden

d. The effort expanded is minimal (total effort authorised: 1386 days; uptake 15% *i.e.* less than 7 days per gear)

e. The fishing authorisations management system ('bouilleur de cru') will lead to the gradual extinction of this fishery as fishermen retire

f. The management plan led to a decrease of authorised vessels number (37 in 2014, 33 since 2015)

g. Management objectives were not defined for the species representing ~70 % of the catches for the 10 species most caught (sand smelt = *Atherina* spp.)

h. Management objectives were defined for 2015 and 2016 and implemented (effort reduction: 4 fishing authorisations were discontinued in 2015) but they were not re-evaluated in 2017 and 2018 (effort levels and number of authorisations were rolled over)

i. The days-at-sea ceiling is not limiting (uptake ~15% for both métiers)

j. The main provisions of the management plan may be summarised as follows:

Species	**Métier targeting this species**[4]	**Management objectives (French management plan for shore seines)**				**Average annual catches in kg (2007-2016)**
		Indicator	Harvest rules	Effort limitation		
				Number of vessels	Days at sea	
Sand smelt (*Atherina* spp.)	Non-poutine	No management objective defined for sand smelt				5640
Samela/goldline (*Sarpa salpa*)		CPUE ≥ 14.73 kg per fishing trip	If CPUE < 14.73 kg then reduce effort 10% in 2015 and/or 2016 (no objective set for 2017 and 2018)	2014: 26; since 2015: 23 (reduced in application of the plan)	-10% in 2016 *i.e.* 1386 days/yr for all 33 vessels combined (uptake 15 % so not limiting	29

4 According to the French management plan

Sardine	Poutine	Exploitation rate E ≤ 0.4	If exploitation rate E > 0.4 then reduce effort 10% in 2015 and/or 2016 (no objective set for 2017 and 2018)	2014: 11; since 2015: 10 (reduced in application of the plan)	effort)	568

Request to the STECF

The STECF is requested:

1. To review the French management plan for shore seines and to advise on whether the conservation and management measures foreseen or implemented in the plan meet the conservation and management requirements and objectives set out in the Med Reg (Council Regulation (EC) No 1967/2006) and in the CFP (Regulation (EU) No 1380/2013).

2. To review and comment on the report drafted by the French authorities supporting the renewal of the derogation for shore seines. The STECF is more specifically requested to advise on whether this report and the management plan contain adequate and up-to date scientific and technical justifications ensuring that the pre-requisites for the granting of a derogation are still fulfilled, as set out in Articles 13(5) and 13(9) of the Med Reg (see below).

Article 13(5) CFP

'At the request of a Member State, the Commission, in accordance with the procedure provided in Article 30(2) of Regulation (EC) No 2371/2002, shall allow a derogation from paragraphs 1, 2 and 3, on condition that such derogation is justified by particular geographical constraints, such as the limited size of coastal platforms along the entire coastline of a Member State or the limited extent of trawlable fishing grounds, where the fisheries have no significant impact on the marine environment and affect a limited number of vessels, and provided that those fisheries cannot be undertaken with another gear and are subject to a management plan as referred to in Articles 18 or 19. Member States shall provide up-to-date scientific and technical justifications for such derogation.'

Article 13(9) CFP

The derogation referred to in paragraph 5 shall apply only to fishing activities already authorised by Member States and to vessels with a track record in the fishery of more than five years and shall not involve any future increase in fishing effort provided. A list of authorised fishing vessels and their characteristics shall be communicated to the Commission by 30 April 2007 and a comparison with the characteristics of this fleet on 1 January 2000 shall be reported.

In addition these fishing activities shall:

(a) fulfil the requirements of Article 4, Article 8(1)(h), Article 9(3)(2) and Article 23;

(b) not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets;

(c) be regulated in order to ensure that catches of species mentioned in Annex III, with the exception of mollusc bivalves, are minimal;

(d) not target cephalopods.

Member States concerned shall establish a monitoring plan and report to the Commission every three years from the entry into force of this Regulation. The first report shall be communicated to the Commission before 31 July 2009. In the light of these reports the Commission may take actions in accordance with Article 18 or Article 19(9) of this Regulation.'

STECF response

The IFREMER report assessing the French management plans for the Mediterranean, shore seines (Annexe 10) is refered as IFREMER report 1 whereas the IFREMER report estimating the CPUEs for the fishing activities regulated under a Mediterranean management plan (Annexe 8) is referred as report 2

In addition to the documents provided by the Commission, the STECF also considered the following documents:

a) The previous evaluation made by STECF in 2013 (STECF PLEN 13-03) of the Management plan for commercial beach-seine fishing in the Mediterranean Sea by vessels flying the French flag (this document already took into account the revisions of the management plans submitted by the French Administration following reviews undertaken in STECF PLEN-07-03 2007 and the STECF-OPINION BY WRITTEN PROCEDURE -Evaluation of the "Management Plans for certain fisheries in the Mediterranean Sea", submitted by the French Authorities. (eds. Casey j. & Doerner H). 2008. Office for Official Publications of the European Communities, Luxembourg, EUR 23672 EN, JRC49369, 78 pp.).
b) A number of scientific publications and reports (listed in references):

STECF PLEN 13-03 concluded that given the lack of appropriate data STECF was unable to assess the likely impact of the beach seine fishery on the status of the stocks exploited and its long-term effects on future recruitment and spawning stock biomass of the target species. The potential economic impact of the requested derogations could neither be assessed.

STECF notes also that over the last two decades, despite the artisanal character of these fisheries, fishing with beach seines has become controversial. Among other things, critics of beach seines have highlighted negative environmental impacts of beach seines on vulnerable aquatic habitats, such as nursery and breeding grounds, and negative impacts on fish stocks through the catching of juveniles[5].

STECF response to request 1

Request:

To review the French management plan for shore seines and to advise on whether the conservation and management measures foreseen or implemented in the plan meet the conservation and management requirements and objectives set out in the Med Reg (Council Regulation (EC) No 1967/2006) and in the CFP (Regulation (EU) No 1380/2013).

5 FAO 2011 Fishing with Beach Seines. FAO Fisheries and Aquaculture Technical Paper 562

The table below summarizes the main findings whereas the details are given after the table.

	STECF comments
a) Description of the fisheries	
The plan provides a description of the fisheries including gear characteristics, seasonality, catches and CPUE.	Catch and CPUE data are not representative and reliable enough because of the low number of observations
b) Limit to the fishing effort	
The plan establishes spatio-temporal measures to limit fishing effort and a system of fishing permits granted to vessels.	STECF notes that the maximum number of vessels authorized is limited (30 vessels in 2018) and that the number of licenses has decreased as a consequence of the implementation of the MP
c) Biological characteristics	
The biological characteristics of the main target species are briefly presented in the management plan	The information provided is not sufficient to adequately describe the biological characteristics and the state of the exploited resources.
d) Management objectives	
The management plan provides management objectives for salema (*Sarpa salpa*) and sardine (*Sardina pilchardus*).	No management objectives exist for sand smelt (*Atherina* spp) and annex III species anchovy (*Engraulis encrasicholus*) and horse mackerel (*Trachurus* spp). The management objective for Salema is irrelevant since catches of this species are very low The management plan should clearly separate the two métiers (poutine and non-poutine seine)
e) Conservation status of the stocks exploited	
The conservation status of sardine in GSA9 is provided. No information for the other target species (horse mackerel, anchovy and sand smelt) is provided.	Whatever the area chosen (9 or 7), the status of the stocks targeted by poutine seine (sardine, anchovy and horse mackerel) appear to be in a poor or unknown status; The only

	exception is for sardine in area 9, for which recent preliminary assessments indicate the stock is not thought to be over exploited (STECF, 2017)
f) Impact on the environment	
The plan establishes the prohibition to use beach seines on sea grass (*Posidonia oceanica*) beds, other protected habitats, and the obligation to release undersize fish alive.	The data presented does not allow STECF to evaluate whether these prohibitions are fully respected
g) Economic impact of the measures on the fisheries concerned	
Some measures of economic impact are provided. The intention of the plan is that fishing authorizations management system will lead to the gradual extinction of this fishery as fishermen retire.	With the socio-economic data provided, STECF is unable neither to assess the economic impact of the measures proposed in the plan or the economic costs of not granting the derogation, nor to ensure that the extinction of the fishery will become effective.
h) Mechanisms of monitoring and surveillance of the fisheries	
The management plan includes mechanisms for monitoring that have been not been fully implemented to date.	No sizes or maturity status data have been reported. A full implementation of a geolocation programme for the boats is not fully implemented, to check for potential overlap with *Posidonia* beds Collection of the socio-economic data is scarce

The STECF response for each of the elements described in the table is further detailed below.

a) Description of the fisheries

The plan displayed in the French report provides a description of the fisheries including gear characteristics, catches and CPUE, supported by information given in the IFREMER 1 and IFREMER 2 reports. The beach seine is a small-scale fishery that takes place close to the shore line. It is a traditional activity exerted both from small boats as well as from the shore line with the help of an ancillary boat. The key data are presented in the table here below:

	Poutine	Non-Poutine	Total
Nr boats authorised 2015 Nr boats authorised 2018	10 10	23 20	33 30
Nr boats fishing 2015 (IFREMER report)	7	9	16
Fishing days authorised (year/boat)	77	150	
Fishing days observed (year/boat)	46	46	
Season authorised	1Feb-31May	1Apr-30Nov	
Main target species	**Sardine** (32% total catch). **Horse mackerel** (30% total catch) **Anchovy** (18% total catch)	**Sand smelt** (87% total catch)	
Catches (estimation) (IFREMER report)	**Sardine:** 2.4-22.1t (2012) **Sardine:** 0.5t (average 2007-2016) **Horse mackerel** : 0.5 t (average 2007-2016) **Anchovy** : 0.3t (average 2007-2016) **Other species** := <0.15 t (average 2007-2016)	**Sand smelt** : 5.6t (average 2007-2016) **Other species:** <0.3t (average 2007-2016)	
CPUE (kg/marée; estimation 2007-2016)	**Sardine:** 17	**Sand smelt:** 69.7	

There are two modalities of "métiers":

a) "poutine seine" or "whitebait" seine fishing ("senne à poutine" in French): This fishery is done from the shore line; a boat takes an end of the gear and deploys the net making a curve and returning to the shore. Then the net is hauled by hand from the beach. This operation is usually done onboard a boat, instead from shore, surrounding the shoal and hauling the gear to the boat. The fishing gear is technically defined as permitted only to vessels below 12 m, with a net length of a maximum of 200 m, with a minimum mesh size (opening) of 2 mm. The objective is to catch juveniles and post-larvae of small pelagic species. The fishing period permitted is from 1 February to 31 May, for a

maximum of 77 days per boat and season. This fishery takes place in the Alpes Maritimes department exclusively (close to the Italian border) and is performed by 10 authorized boats (2018).

b) "non-poutine seine" or "non-whitebait" boat seine fishing ("senne de plage" in French): This fishery is made by small vessels (<12 m) at shallow depths. The boat surrounds the shoal meanwhile the net is dropped, being circled. The fishing gear is technically defined with a net length of a maximum of 450 m, with a maximum net high of 10 m and a minimum mesh size (opening) of 14 mm. The main target species are demersal species, mainly *Atherina* spp. The fishing period is permitted between 1 April to 30 November, for a maximum of 150 days per vessel, that is, 19 days/month, with maximum activity between June and September. A prohibition to use the motorized vessel to tow the net and the obligation to release alive undersize fish is in force. The fishing area is located in the regions Languedoc-Roussillon and Provence –Alpes- Côte d'Azur, being developed by a fleet composed by 20 boats (2018).

Catch and CPUE data are derived from IFREMER questionnaires/declarations (SACROIS) and surveys (OBSDEB) given in IFREMER report 2.

For poutine seine, sardine *Sardina pilchardus* (32% of total catch, 2007-2016 OBSDEB) is the main target species followed by horse mackerel *Trachurus spp* (30% of total catch, 2007-2016 OBSDEB) and anchovy *Engraulis encrasicolus* (18% of the total catch, 2007-2016 OBSDEB)

For non-poutine seine, sand smelt *Atherina* spp (87% of the total catch, 2007-2016 OBSDEB) is the main target species. The rest of species, e.g. salema *Sarpa salpa*, are caught in very low numbers (this species appears in the catch only in few years and overall in the period 2007-2016 it should represent less than 1% of the total catch)

CPUE is also highly variable, with an estimated value of 17 kg/haul for sardine and 69.7 kg/haul for sand smelt (average 2007-2016).

STECF notes (in accordance with IFREMER report 1) that data obtained through questionnaires (SACROIS) are not reliable enough (the French report highlights the major risk of non-declaration of the catch, particularly in the poutine fishery). Furthermore, survey catch and CPUE data (OBSDEB) only covers a very low number of hauls and is very variable depending on the year/haul because the low number of observations. Overall, STECF notes that catch and CPUE data presented is not representative and reliable enough.

STECF notes that the high variability of data obtained with OBSDEB was already observed by Rouyer et al (2015), which provided annual estimates (as of 2012) of sardine caught with poutine seines, ranging between 2.4 and 22.1 tons, with a mean value of 6.9 tons. In the IFREMER report, sardine annual landings for poutine seines were set at 0.5t (average 2007-2016). Despite this limitation, the data from OBSDEB 2007-2016 regarding the species and their proportion in the catch reported by IFREMER is taken as preliminary data.

b) Limits to the fishing effort

The plan establishes spatio-temporal measures to limit fishing effort and a system of fishing permits granted to vessels.

STECF notes that the maximum number of vessels authorized is limited (30 vessels in 2018) and that the management plan has led to a decrease of authorized vessels number

in the last years, from a total of 37 licenses requested (poutine and not poutine together) in 2013 to 33 in 2015 and 30 in 2018. For poutine seines, the number of the authorizations decreased from 11 in 2013 to 10 in 2015 and 2018, and for non-poutine seines, from 26 in 2013 to 23 in 2015 and 20 in 2018. The total effort in terms of number of days observed in 2016 is 1386 days (ca 46 days per boat seine). The actual number of fishing days per seine type (46) does not reach the maximum number of days authorized (150 days for the beach seine and 77 days for the beach seine-poutine type).

STECF notes that the number of boats which practiced the two types of shore seines in the different years (table below) according to IFREMER report is lower than the number of boats authorized by the French Administration. IFREMER data confirms the decrease in the number of vessels actually fishing over the 2013-2016 period for both seine types

Nr of boats	Poutine	Non-Poutine
2007	7	7
2008	6	7
2009	5	8
2010	8	9
2011	7	14
2012	8	14
2013	20	12
2014	**14**	**10**
2015	**7**	**9**
2016	**2**	**7**

c) Biological characteristics and impact on the stocks concerned

The biological characteristics of the main target species are briefly presented in the management plan

STECF notes that the information provided by the French administration does not contain all information to adequately describe biological characteristics and the state of the exploited resources.

Information about the catch composition by seine type is presented from IFREMER monitoring of small-scale fisheries. However, the target species are not appropriately identified (some are identified at genus level only; many of them are only referring to the common names, and some are presented together as a group). Furthermore, information on stock status is only provided for sardine (*Sardina pilchardus*) but not for other target

species that are included in annex III of MedReg including anchovy (*Engraulis encrasicolus*) and horse mackerels (*Trachurus spp*).

In addition, the management plan did not provide size composition of catches or any other biological measure (e.g. maturity); These data are not presented in the IFREMER reports.

In the case of the "poutine seine", STECF notes that sardines caught are post-larvae. This statement is supported by reports such as those from Mickael et al (2008), Vincent-Cuaz and Pourtallier (1973) as well as evidences found in local newspapers (http://www.nicematin.com/vie-locale/la-saison-de-la-poutine-bat-son-plein-5-choses-a-savoir-sur-le-caviar-nicois-125431) and videos (https://youtu.be/chmuwZLiduk). That means that the poutine fishery depends on the strength of the recruitment.

STECF notes that it not fully clear whether these post-larvae sardines come from the stock in GSA9 or GSA7, although according to recent publications (STOCKMED, Poulain et al., 2012; Pinardi et al. 2015), STECF considers that these larvae most probably come from GSA9.

STECF notes that the extent to which these larvae contribute to the sardine stock in GSA 7 and GSA 9 is not assessed, but cannot a priori be considered to be negligible. The catch made by poutine represent ca 1 % of the total sardine catch in the GSA9 according to IFREMER report, the rest being caught by Italian fisheries. However, STECF notes that post larvae biomass are not comparable to adults' biomass. A recent study made by Carpi et al. (2017) showed that similar fisheries in the Adriatic Sea had a low, but not negligible, impact on sardine stock, with impacts estimated as a 0.1–2% increase in the numbers of sardine at age 1 in the absence of the postlarvae fishery. Also, Vincent-Cual and Pourtallier (1973) in the 70s, carried out in the French Department of the Alpes-Maritimes, tried to quantify the impact of fry fisheries on adult sardine population, and estimated that the 30 tons of fries (poutine) caught with poutine seines in 1970 corresponded to at least 300 million "potential" adults. This was almost equal to the number of adult sardines in the annual French sardine production at that time. Although in reality not all fry will likely reach the adult stage, these studies support that the impact of post larvae fisheries on adult stocks should be assessed.

New (2007-2016) data provided in the IFREMER report demonstrate that although sardine is the main species caught by poutine (32% total catch), two other annex III species are targeted: anchovy and horse mackerel, with 30% and 18% respectively of the total catch made by poutine seine. In the study conducted in the 70s by Vincent-Cuaz and Pourtallier (1973), the individuals of horse mackerel caught with poutine fishing measured between 50 and 85 mm. For anchovy, the available sources also point out that catches of anchovy made with poutine fisheries belong to the 0 age class group (but most probably juveniles instead of larvae). STECF notes that the management plan submitted by the French Administration does not seem to include a derogation request regarding the minimum mesh size and it is therefore unclear to STECF whether derogation from minimum size for annex III species shall apply.

Despite these basic gaps in knowledge, and although the actual catches remain uncertain, STECF acknowledges that the landings of annex III species from the shore seines in general and poutine seines in particular are likely to be small compared to the combined landings of others fleets (purse seiners, bottom trawl).

Accordingly, The STECF concludes that the impact on the stocks concerned is likely limited but cannot conclude that it is negligible.

d) Management objectives

Management objectives were defined for 2015 and 2016. The management plan provides management objectives for salema (*Sarpa salpa*) and sardine (*Sardina pilchardus*). Regarding salema, the objective of the management plan is to keep the annual CPUE below the CPUE of reference (14.73 kg/haul). Regarding sardine, the management plan sets up a maximum exploitation rate (E) of 0.4 and does not allow any increase in the fishing effort. This E value is based on the evaluation made by STECF in GSA 9 (STECF PLEN-12-03 and STECF-EWG 12-10) with data from 2011. STECF notes that the MP makes no reference to more recent available stock assessments (STECF 2017).

No management objectives exist for other target species such as sand smelt and annex III species anchovy and horse mackerel.

Regarding salema, STECF notes that it is unclear why this species was chosen to set up a management objective, because it is not a target species (it represents a very low percentage, probably less than 1% of the total catch made by non-poutine seine, according to IFREMER report, data 2012-2016). Therefore, STECF considers that the management objective for Salema is not really relevant for the management plan.

STECF notes also that it is unclear how the management plan will contribute to the objective of E=0.4 for the sardine stock in GSA9.

STECF is unable to advise whether the plan is expected to maintain or to revert fisheries productivity to higher levels in line with MSY or proxy and in which time frame.

STECF highlights that management objectives should be identified for anchovy, sand smelt and horse mackerels, which are target species of the seine fisheries too.

STECF also highlights that management plan should clearly separate the two métiers (poutine and non-poutine seine).

e) Conservation status of the stocks exploited

The conservation status of sardine in GSA9 is provided based on an assessment conducted in 2012 (STECF 2012). No other information on stock status is provided.

STECF has recompiled (table below) all available information regarding the status of the stocks of the main target species caught with shore seines and that are included in annex III (sardine, anchovy and horse mackerel). Because the origin of the species caught is uncertain (could be GSA9 or GSA7, see above), STECF presents here the available information on stock status of sardine, anchovy and horse mackerel in GSA 9 and GSA 7, compiled from different sources (see table below).

STECF notes that no assessment for sand smelt in the area is available.

Stock	GSA	Status	Period	Biomass /	Landings	Source

				SSB	**trend**	
Sardine	9-10-11	Uncertain, but indications from preliminary assessments the stock is not thought to be over exploited	2009-2016	Around 60000 t in 2016. Increasing last years	Around 2000 t in 2012-2016	STECF 2017[6] Biomass index
Sardine	7	Fishing mortality unknown	2002-2016	B around 60000 t 2009-2016	< 1000 t since 2010	STECF 2017 Biomass index
Anchovy	9-10-11	F(2016)= 0.34 Fmsy= 0.22 overexploited	2006-2016	Stable; increasing in 2013-2016	between 5000 and 12000 t	STECF 2017 XSA
Anchovy	7	Fishing mortality unknown	2002-2016	Stable	Decreasing < 5000 t since 2010	STECF 2017 Biomass index
Atlantic horse mackerel	9-10-11	overexploited	2009-2016	decreasing SSB(2016)= 970 t	Between 1000 and 7800 t	STECF 2017 XSA
Atlantic horse mackerel	1+5+6+7	Exploitation rate unknown			No info available from GSA 7	STECF 2017

Regarding sardine, the most recent assessment indicates that the stock in GSA9-10-11 is in an unknown status but indications from preliminary assessments suggest the stock is not thought to be over exploited. As for GSA7, fishing activity targeting sardine and anchovy is very low. Regarding sardine in GSA7, fishing mortality is unknown.

Regarding anchovy, in areas 9-10-11 it is overexploited and in area 7 fishing mortality is unknown.

6 STECF 2017. Scientific, Technical and Economic Committee for Fisheries (STECF) – Mediterranean Stock Assessments 2017 part I (STECF-17-15). Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-67487-7, doi:10.2760/897559, JRC109350

Regarding horse mackerels, in areas 9-10-11 the stock is overexploited and in area 7 its exploitation rate is unknown.

Overall, the stocks targeted by poutine seine appear to be in a poor or unknown status; only for sardine in area 9-10-11 preliminary assessments indicate the stock is not thought to be over exploited

Considering the available information about the status of the stocks targeted by shore seines, STECF agrees with IFREMER report that other indicators such as the mean sizes of individuals in the catch could bring additional information on the impact of these fishing gears on the stocks.

STEC highlights that knowing the status of the stock is particularly important for sardine because article 15(3) MedReg states that" *minimum size of fish shall not apply to fries of sardine landed for human consumption if caught by boat seines or shore seines and authorized in accordance with national provisions established in a management plan, provided that the stock of sardine concerned is within safe biological limits*". This exemption applies to sardine caught by poutine seine, provided that the stock of sardine concerned is within safe biological limits.

f) Impact on the marine environment

Regarding the impact of beach seines on marine environment (protected habitats and species), the plan establishes the prohibition to use beach seines on sea grass (*Posidonia oceanica*) beds, other protected habitats, and the obligation to release undersize fish alive.

STECF is unable to evaluate with the data presented whether these prohibitions are fully respected, particularly regarding the prohibition to fish on sea grass of *Posidonia* (see also STECF response to request 2 below)

g) Economic impact of the measures on the fisheries concerned

The French authorities provide some measures of economic impact. According to the French Administration report the fishing authorizations management system (so-called 'bouilleur de cru') will lead to the gradual extinction of this fishery as fishermen retire. This is explained by the high average age of fishers. Seven out of 14 active fishers (i.e. 50% of the authorized skippers) are above the age that allows them to request a retirement pension (according to Figure given for 2018 in section 5-1 of the French report, despite this reports states the value of 58%).

The socio-economic characteristics of the fishery are not fully described in the documents provided to the STECF. For example there are no information on prices, other sources of income fishermen may have apart from this fishery, the traditional cultural values these SSF represent at a local/regional level, etc.

STECF notes that catches made by these gears do not contribute to seafood security but are locally appreciated by local consumers and restaurants, as it is seen by the high price (ca 50€/kg) of the poutine (post-larvae of small pelagic species) in the port.

STECF is unable to assess the economic impact of the measures proposed in the plan or the economic costs of not granting the derogation. However, it seems that the qualification level of the fishermen will not allow an easy conversion of jobs in case the fishery is not allowed to continue.

STECF recognizes that poutine and non-poutine fisheries operating in some parts of the Mediterranean French coast can be fully considered small-scale, artisanal fisheries (SSF) that are part of the local social and ecological system, interwoven with economic, social, and cultural life in local communities. SSF fisheries represent cultural heritage, identity, and a lifestyle, as pointed out in FAO SSF Guidelines (Jentoft et al 2017). STECF notes that the disappearance of these fisheries would represent an irreversible loss of these cultural-historical capitals.

h) Mechanisms of monitoring and surveillance of the fisheries

The management plan included mechanisms for monitoring that have been not been fully implemented to date (e.g. only 6 hauls from 4 boats have been covered by the geolocalisation system RECOPESCA, according to the French report). Biological data has been collected by IFREMER

The management plan includes the surveillance of the activity regarding certain conditions (catch, commercialization and administrative organization). According to the French report, from 94 controls done during the 2015-2017 period, no infraction was detected, which confirms the compliance of the fishermen with the legislation.

STECF notes however this surveillance does not control where the fishermen operate with regards to *Posidonia* beds.

STECF notes that in order to fully assess the impact of the requested derogations, the following information would be useful to collect for each of the beach seine types:

(a) Estimates of monthly catch volumes separated into landings and discards by species (including non-target organisms), the corresponding size compositions from catches, and prices evolution as well, at least for the target species: sardine, anchovy and horse mackerels in poutine fisheries; sand smelt in non-poutine fisheries

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

(c) Impact of the seines on protected habitats, particularly *Posidonia* beds and coastal lagoons

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

STECF acknowledges however that collecting such data in SSF in the frame of the data collection framework can be challenging.

STECF response to request 2

Request:

To review and comment on the report drafted by the French authorities supporting the renewal of the derogation for shore seines. The STECF is more specifically requested to advise on whether this report and the management plan contain adequate and up-to date scientific and technical justifications ensuring that the pre-requisites for the granting of a derogation are still fulfilled, as set out in Articles 13(5) and 13(9) of the Med Reg.

STECF has evaluated the fulfillment of the two conditions necessary to prolong the derogation of Article 13(1) for 3 more years as requested by France on 23 May 2018 (Article 13(5) and 13(9). The outcomes are summarized in the table below and explained thereafter.

	Fulfilment	Comments
Article 13(5)		
Geographical constraints	Partly yes	Yes in the northern area, probably not in the southern area
Impact on the marine environment	Unknown	Impact on *Posidonia* beds not evaluated
Limited number of vessels	Yes	
Possibility that the fisheries can be undertaken with another gear	Yes	
Management Plan	Yes	Plan has several weak aspects (see answer to Request 1)
Article 13(9)		
Authorization by Member State to vessels with a track record in the fishery of more than five years. No increase in fishing effort. Communication to the Commission of the list of authorised fishing vessels and their characteristics	Yes	
a)Fulfilment of the requirements of Article 4	Unknown	No data on *Posidonia* impact
a)Fulfilment of the requirements of Article 8(1)(h)	Not applicable	Apply to bottom trawls only
a)Fulfilment of the requirements of Article 9(3)(2)	No	Mesh sizes 2mm/14mm
a)Fulfilment of the requirements of Article 23	Partly yes	Monitoring data still scarce
b) no interference with the activities of vessels using gears other than trawls, seines or similar towed nets	Yes	
c) regulated in order to ensure that catches of species mentioned in Annex III, with the exception of mollusk bivalves, are minimal;	Yes for non poutine seine No for poutine seine	Poutine seine targets Annex III species (sardine, anchovy and horse mackerel)
d)not target cephalopods.	Yes	

Article 13(5):

Note: This articles states that the derogation is justified by particular geographical constraints, such as the limited size of coastal shelfs along the entire coastline of a Member State or the limited extent of trawlable fishing grounds, where the fisheries have no significant impact on the marine environment and affect a limited number of vessels, and provided that those fisheries cannot be undertaken with another gear and are subject to a management plan as referred to in Articles 18 or 19. Member States shall provide up-to-date scientific and technical justifications for such derogation.

According to the French Administration Report, all these conditions are met. Regarding the potential impact on habitats, the Report states that these seines do not have otter boards, and so they do not penetrate the substrate at all. They are used on soft and relatively flat seabeds without rocks or other obstructions. The towlines, like the lower floatlines, are generally of lightweight design; their friction, which helps to drive fish towards the net bag, is scarcely abrasive, thanks to the relatively slow speed of traction resulting from the manual haulage of the seine net, and has little impact on the substrate and the attached fauna or flora. Very limited information 2012-2015 (only 6 fishing outings from 4 boats during the period 2012-2015) based on the geo-localization of the fishing activity is presented (RECOPESCA data).

STECF comments

STECF considers that geographical constraints such as the limited size of coastal shelf may exist in the areas around Nice, but this is not evident in the areas further south, along the southern coast of former Languedoc-Roussillon region (now re-called Occitaanie) where the continental shelf is wider.

STECF cannot evaluate from data provided whether there is any impact or not on the protected habitats. Data does not demonstrate that these seines are not being practiced over *Posidonia* beds or other marine phanerogams

STECF highlights that the occurrence in some years/hauls of a typical species linked to *Posidonia* meadows such as salema, as well as the prevalence of *Atherina* spp in the catch of non-poutine fishing, casts doubts about the hypothesis that fisheries do not develop on these meadows. *Atherina boyeri* is one of the main resident fish species in *Posidonia oceanica* meadows while salema is one of the most abundant transient fish on these meadows (Vizzini et al., 2002; Jadot et al., 2006; Personnic et al. 2014).

STECF notes that according to the report from Mickael et al (2008) shore seines can have little (but cannot say it is negligible) impact on on *Posidonia* meadows.

STECF considers that the information provided is still insufficient to determine whether the lead-line and/or the hauling ropes of boat seines do or do not touch the sea grass bed during the fishing operations. In principle, the "light" gear characteristics, the low speed of hand-hauling and the fact that fishermen in principle try to operate in "clear" bottoms should contribute to the idea that the impact on the marine environment of these fisheries may be considered small but not negligible. However, STECF lacks of the necessary information to quantify this impact.

Article 13(9)

Note: This article states that the derogation shall apply only to fishing activities already authorised by Member States and to vessels with a track record in the fishery of more than five years and shall not involve any future increase in fishing effort provided. A list

of authorised fishing vessels and their characteristics shall be communicated to the Commission by 30 April 2007 and a comparison with the characteristics of this fleet on 1 January 2000 shall be reported. In addition these fishing activities shall:

(a) fulfil the requirements of Article 4, Article 8(1)(h), Article 9(3)(2) and Article 23;

(b) not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets;

(c) be regulated in order to ensure that catches of species mentioned in Annex III, with the exception of mollusk bivalves, are minimal;

(d) not target cephalopods.

According to French Report provided by the French Administration, all these conditions are met

STECF comments

From data presented in the French report, it seems shore seines fulfil the requirement (b) and (d): they do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets, and do not target cephalopods (catches of cephalopods represent less than 1.5% of the total catch made by shore seines).

Regarding the condition (a), STECF cannot evaluate whether or not all requirements of Article 4, Article 8(1)(h), Article 9(3)(2) and Article 23 are met.

Regarding article (4), STECF is not able to evaluate if the fishery affects or not protected habitats such as *Posidonia* beds (see detailed explanation above).

Regarding article 8(1)h, STECF notes this article does not apply to beach seines (this article applies to bottom trawlers).

Regarding article 9(3)(2), although the French report states that 75% of the observations of panels of netting being equal or larger than 40mm mesh size, STECF realizes that the minimum mesh size set in the management plan is lower (14 mm for non-poutine and 2 mm for poutine), than the 40mm value (and there is not an exemption request for mesh size in the MP). STECF notes, however, that based on article 9(7) of the MedReg, a Member State may allow a derogation from such provision (40mm) for boat seines and shore seines which are affected by a management plan as referred to in Article 19 and provided that the fisheries concerned are highly selective, have a negligible effect on the marine environment and are not affected by provisions in Article 4(5).

Regarding Article 23, despite the monitoring by IFREMER has been improved in the last years, STECF notes that data is still very scarce and not representative enough, as also stated in the IFREMER report.

Regarding condition (c), data presented in the IFREMER report do not support the fulfilment of this condition for poutine seine, because data shows that three annex III species are targeted (sardine, horse mackerel and anchovy (with 32%, 30% and 18% of total catch of this gear respectively; data 2007-2016, OBSDEB data). For non-poutine seine, this condition is met because landings of annex III species represent less than 15% of the total landings made with this gear.

STECF conclusions

STECF is unable to conclude whether the conservation and management measures foreseen and implemented in the management plan of shore seines in the French

Mediterranean meet the conservation and management requirements and objectives set out in the MedReg and in the CFP.

The catch and CPUE data remain limited, and the status of most stocks targeted by the shore seines is unknown.

STECF concludes that the impact of French beach seines operating in the Mediterranean on the concerned stocks and habitats (particularly *Posidonia* meadows) may be limited, but cannot conclude that it is negligible.

STECF concludes that management objectives should be identified not only for sardine but also for horse mackerel, anchovy, sand smelt, which are target species of the French beach seines too. The management plan should clearly separate the two métiers (poutine and non-poutine seine)

STECF concludes that not all conditions set up in Articles 13(5) and 13(9) of the MedReg to grant derogation are fulfilled. Specifically, the requirement of Article 9(3)(2) is not met because of the minimum mesh sizes authorized (14 mm for non-poutine and 2 for poutine seine) and because of the fact that catches of species mentioned in Annex III (particularly sardine, horse mackerel and anchovy) made by poutine seines are not minimal. Furthermore, STECF is not able to evaluate the fulfilment of some conditions such as the impact on the marine environment, and more precisely on the *Posidonia* meadows.

STECF notes that the management plan submitted by the French Administration includes a derogation request regarding minimum distance from the shore and depth, but not regarding the minimum mesh size.

STECF acknowledges that these beach fisheries are artisanal, small-scale fisheries (SSF) that are part of the local social and ecological system, interwoven with economic, social, and cultural life in local communities in French regions where they operate. However, STECF cannot assess the potential economic impact of granting or not granting the requested derogations .

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5.2 Review of national management plan for boat seines in the Ligurian Sea (GSA 09)

Background provided by the Commission

In May 2018, the Italian Administration has expressed its intention to renew the derogation from Regulation (EC) No 1967/2006 article 9/13 in terms of distance and minimum depth from the coast in the Ligurian Sea (GSA 09). A management plan supports the request for derogation.

In the past STECF already evaluated a similar management plan. A derogation had been given by the EU and expired on 31 March 2018.

Request to the STECF

The STECF is requested to review the national management plan (National Management Plan for the management of transparent goby (*Aphia minuta*) in the Maritime Compartments of Tuscany and Liguria (GSA 09)) submitted by the Italian authorities in May 2018 , 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

Background

In order to exploit the target species of transparent goby (*Aphia minuta*), the boat seine fisheries concerned requires be granted both derogations to the minimum mesh size of 40 mm square or 50 mm diamond and to the minimum distance from the coast of 3 nautical miles or to the depth of 50 m isobath where that depth is reached at a shorter distance from the coast.
In order to be granted such derogations, as stipulated by Article 9(5) and Article 13(5) and (9) respectively of the Mediterranean Regulation, the fisheries concerned, in addition of being managed within an adequate management plan, shall be highly selective, in order to ensure that catches of species mentioned in Annex III are minimal, have a negligible effect on the marine environment and shall not be carried out above seagrass beds of *Posidonia oceanica* or other marine phanerogams. For the latter issue a derogation to operate in the water columns above seagrass beds is available (Article 4(1) second subparagraph) provided that the lead-line and/or the hauling ropes of boat seines do not touch the seagrass bed during the fishing operations.

In 2010 STECF evaluated an initial management plan during 33rd Plenary Meeting (PLEN-10-01), and then in PLEN 10-03 again. A derogation had been given by Commission Implementing Regulation (EU) No 988/2011 on 4th October 2011 by establishing a derogation from Council Regulation (EC) No 1967/2006 as regards the minimum distance from coast and the minimum sea depth for boat seines fishing for transparent goby (*Aphia minuta*) in certain territorial waters of Italy. That derogation expired on 31 March 2014. Afterwards, the derogation was granted again (Commission Implementing Regulation (EU) 2015/2407 of 18 December 2015) and expired on 31 March 2018.

The STECF responses are listed below under each of the elements of the request.

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

The transparent goby (*Alphia minuta*) is a small fish of the family Gobiidae and its maximum size can reach 6 cm, but specimens between 2.5 and 3.5 cm are commonly found in the catches. The life cycle is short, usually lasting only one year and ends shortly after the reproduction. During the juvenile phase, *A. minuta* is a gregarious species which tends to create large schools near the coast. Adults are present until 80 m depth usually over sandy and muddy bottoms. It represents an important fishing

resource during the winter months for small-scale fleets. This is a traditional fishing activity of the artisanal fleet, very popular in the Ligurian and Tyrrhenian sea as well as in other Mediterranean areas, such as around the Balearic Islands and along the Spanish Continental Coast.

Information on its biology and ecology (e.g. age and growth, reproduction period, the length-weight relationships, life cycle, size at first maturity, duration of the larval phase, geographical and bathymetric diffusion), are well presented.

There are time series of LPUE since 1991 for Tuscany. Large monthly fluctuations in abundance are linked to the reproductive peaks, which results in a very variable availability to the fishery. Several recruitment pulses occur. As a consequence, the monthly CPUE alone are considered not useful for management purposes and the catch rates reference values are calculated at annual scale. Recruitment success and the total catches registered each year do not seem dependent from the previous year's catches and the spawning stock biomass, but they could be linked to environmental factors' changes. No specific scientific evidence is provided to support this.

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

The transparent goby fishery is carried out between November and March, in coastal shallow waters (up to 40 m) with small-sized boats. The main gear used is the boat seine (sciabica), also called "sciabichella", "sciabichello" or "rossettara"; this kind of gear has specific construction characteristics which go back to past decades, and it is used only to catch the transparent goby. The Tuscany fleet for transparent goby fishing is composed by small-sized vessels ranging in power between 12 and 118 kW and a length between 4 and 14 m LOA (the average boat is 72 kW and 10m LOA). The Ligurian fleet for transparent goby fishing is distributed along four Marine Districts from West to East: Imperia, Savona, Genoa, La Spezia. The fleet is composed by small-sized vessels (4-10 m LOA) ranging from 1 to 5 GT (average value 1,6 GT) and between 0 and 95.6 kW (average value 31.3 kW).

The total number of authorized boats is 41 for Tuscany and 76 for Liguria. However, it is stipulated in the MP that in Liguria, the fishing is concentrated into a small number of boats (just six) that are responsible for 75% of fishing days and they perform 79% of the catches. The total number of fishing days for each fishing season of the last 3 years were: 650 (2015-16), 781 (2016-17), 875 (2017-18) in Tuscany; 204 (2015-16), 148 (2016-17), 145 (2017-18) in Liguria.

There are inconsistencies in the number of fishing days reported in different parts of the Plan. With regards to fishing days limitation which is fixed to 60 fishing days/season for each boat, MP states that the limit has not been exceeded. On the other hand, it has been observed that an average is 28 fishing/days/boat each month in Tuscany while in Liguria 12 fishing/days/boat. Considering 5 months season, the MP's statement that limit of fishing days has not been exceeded needs further clarification.

-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;

During the last three years fishing seasons (2015-18), the monitoring plan has consisted in the collection of catching data; biological investigations were based on sampling of specimens directly onboard or at landing. Catch statistics in Tuscany is mainly based on daily logbooks for each boat between 1991-2018. Thus, the Tuscany data regarding the three-years period 2015-18 show a CPUE average value of 23.1 kg/day/boat while the total catches have been nearly 53 tons with a minimum value of nearly 15 tons

(2015/2016) and a maximum amount of nearly 22 tons in 2017-18. In Liguria, the data analyzed concern the catches derived from logbooks between November 2015 and March 2018. The highest CPUE value has been registered during the 2017-18 fishing season with 9.9 kg / day / boat, while the lowest value has been registered (6.7 kg / day / boat) in 2015-16. Considering the entire period (2015-18) the CPUE was 7.9 kg / day / boat, while total catches were about 3.9 tons with a minimum value of about 1.1 tons (2016-17) and a maximum of about 1.4 tons (2017-18).

Table 5.2.1 - Total catch, average yield and percentiles estimation (q1/4, q1/2 e q3/4) for each fishing season in Tuscany.

		cpue			
stag	kg	media	mediana	25%	75%
1991_92	25.275	26,5	19,0	33,0	11,0
1992_93	28.665	25,6	20,0	32,0	11,0
1993_94	15.456	14,6	12,0	19,0	7,0
1994_95	8.999	9,9	8,0	11,0	5,0
1995_96	23.483	20,0	14,0	24,0	8,0
1996_97	21.409	15,4	10,0	18,0	6,0
1997_98	12.925	15,4	11,0	18,0	6,0
1998_99	20.183	21,7	14,0	25,0	9,0
1999_00	20.332	20,7	14,0	24,0	9,0
2000_01	20.310	19,0	14,0	24,0	9,0
2001_02	20.857	18,9	15,0	22,0	10,0
2002_03	17.928	17,2	13,0	20,0	9,3
2003_04	17.564	16,9	14,0	20,0	9,0
2004_05	34.748	24,6	19,0	28,0	13,0
2005_06	23.002	21,6	15,0	24,0	10,0
2006_07	10.920	14,1	11,3	16,0	8,0
2007_08	28.767	35,3	22,0	40,0	12,8
2008_09	15.916	29,2	18,7	40,5	10,0
2009_10	17.772	20,6	13,0	25,0	7,0
2010_11					
2011_12	7.798	14,5	10,0	18,0	6,0
2012_13	11.545	16,1	12,0	20,0	7,0
2013_14	9.625	14,5	10,5	18,5	6,0
2014_15	25.152	25,4	20,0	32,0	10,5
2015_16	15.131	23,3	14,5	28,0	8,7
2016_17	16.347	20,9	17	28,0	9,0
2017_18	21.807	24,9	18,9	31,0	10,0

The highest CPUE values in Tuscany have been registered in 2007-2008 with 35.3 kg/day/boat while the lowest values have been observed in 1995-95 with 9.9 kg/day/boat: the average (in the observed period) is 20.2 kg/day/boat.

As Limit Reference Point established by the MP is an annual average catch rate of 8.5 kg/day/boat in Tuscany and 3.65 kg/ day/boat in Liguria that means that annual CPUE values recorded during the last three-years period are well above LRP.

-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 presence of other species in the catches is occasional. The boat-seine for transparent goby can be considered as very selective gear, as the target species represents more than 99% in number and about 96% in weight of the whole catches. These data derive both from the analysis of the daily logbooks, and from observations made on board the fishing vessels during the fishing operations.

One of the main reasons for such gear selectivity is the experience of fishermen identifying transparent goby schools by use of the echo-sounder. The shape of the marks on the screen and their displacement along the water column are characteristic for a transparent goby, thus, when the echo-sounder detects the presence of other species in addition to transparent goby, the fisherman avoids fishing.

The identification of the different species, done according to the characteristic shapes, dimensions, density and distribution on the water column of the schools and the echo-sounding mark, is very important because it allows to avoid the catch of *Sardina pilchardus* juveniles, that recruit near the coast in the winter months, during the fishing season of the transparent goby.

Certain species from the Annex III (*Dentex dentex*, *Sparus aurata*, *Pagellus erythrinus* etc,) are present within the by-catch, however considering that the fraction of the by-catch in the total weight is only 3.58% in Tuscany region and 4% in Liguria, the impact of this boat seine on these species can be considered as low.

- 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 observations carried out on board during the fishing seasons have shown that the boat-seine operates effectively only on the clean seabed, made of sand or mud. The MP states that on some occasions it is possible to observe a weak presence of dead *P. oceanica* leaves, cumulated in the fishing area from the sea currents. The characteristics of the footrope, very light, and the modality of use of the gear, that is not towed, but hauled with the boat stationary, determine that the benthic community, as a whole, is not impacted during fishing operations. Hence, the presence in the by-catch of crustaceans or benthic echinoderms is rare.

Therefore, MP concluded that the winter fishery of *Aphia minuta* in Ligurian Sea (GSA 09) with boat seines has a minimum impact on the marine environment, and especially on the protected *Posidonia oceanica* beds.

However, STECF notes that there are no up-to-date data on spatial distribution of fishing operations in relation to the distribution of the seagrass habitats which would allow STECF to evaluate these statements.

-The social and economic impact of the measures proposed;

The vessels authorized to *Aphia minuta* fishing in the 2017 campaign represent 7% of all vessels in Tuscany and Liguria and 4% of the tonnage. With reference to the results of the survey carried out through the socio-economic questionnaire, the MP point out that the fishermen have an average age of 55 years; they have been fishing for 33 years and are engaged in fishing *Aphia minuta* for 27 years. The specific activity of *Aphia minuta* fishing presents a high variability - between 0% and 100% - in terms of the importance of this species on the total income from fishing (with an average value of 66%). The

average gross profit turnover per vessel is 26,622 euro, with an incidence of intermediate costs and maintenance costs of 15% and 5% respectively. The annual revenue per employee amounts to 11,093 euro and Added Value to 9,399 euro.

-The scientific monitoring of the management plan.

The scientific monitoring activities of the transparent goby fishery based on previous MP have been realized during three seasons (2015-2018) and described in Section 3.6 of the MP.

Continuation of the scientific and socio-economic monitoring on fishing activities is also proposed by a new MP and it is based on collection of species samples, activity of researchers on board and logbooks compilation. Such monitoring should ensure identification of the active boats; collection and processing of catch statistics and fishing effort data; collection and processing of length/frequency distributions for all the species captured; recording of gear characteristics; collection of the elements for the implementation of the pre-negotiated management measures if the LRP is exceeded and collection of environmental data useful for the development of a predictive model of the intensity of the recruitment.

If implemented as described, the proposed monitoring plan has the potential to provide useful data and information to adequately monitor the developments in the boat seine fishery for *Aphia minuta*.

-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 stated objectives proposed by MP are consistent with the objectives of Article 2 of Regulation (EU 1380/2013 and also appears to be consistent with the relevant provisions of Article 6.

-Quantifiable targets such as fishing mortality rates and/or spawning stock biomass;

Because of the very short life cycle of *Aphia minuta* it is not appropriate to consider exploitation in terms of MSY. CPUE reference points are proposed.

Limit Reference Point (LRP) has been defined, as the reference lower limit (8.5 kg / day / boat (annual average) in Tuscany; 3.6 kg / day / boat in Liguria), remaining above the which, the biological sustainability of the stock can be expected. This reference level is to be considered as a precautionary limit, since it is presumably compatible with the renewal capacity of the population and, at the same time, it allows satisfactory fishing yields. It is set at the lower quartile (1st) of the reference period 1991-2014 as LRP assuming that the biomass shows variations caused by not only the recruitment success, but also by interannual variations, for example regarding the possible temporal shift of the recruitment peak that may influence the average yields. Anyway, the value of the lower quartile is considered as a precautionary limit value (Limit Reference Point), below which the risk that the biomass of the individuals that will survive will not guarantee a consistent population replacement, especially in adverse environmental conditions. The value obtained in each fishing season (CPUE annual average) is compared with the LRP derived from the analysis of the biomass trend in the available historical data series, represented by the value equal to 25% percentile (lower quartile) of the daily catches per boat.

STECF notes that the LRP established in the previous MP for the Tuscany region (17 kg/day/vessel) was modified (8.5 kg/day/vessel) in 2012. The request for such correction, based on a wrong computation of the LRP value, was accepted by the EC ("Piano di Gestione GSA 9 del 30 settembre 2015", pages 41- 44,

https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/9567

-Clear time-frames to reach the quantifiable targets;

The MP is based on conservation limit that has to be maintained above Limit Reference Point (LRP). Thus, specific quantifiable targets are not proposed.

-Conservation reference points consistent with the objectives set out in Article 2 of Regulation (EU) No 1380/2013;

The reference levels proposed for the specified species are based on Limit Reference Point (LRP) and are 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;

Already implemented measures will continue in the next three-years period:

- fleet limitation: vessels using boat seine for the fishing of *Aphia minuta* shall not exceed the number of boats already authorized in the two areas (41 for Tuscany and 76 for Liguria);

- limitations to the use of the fishing gear: during the transparent goby fishing activity it is forbidden to maintain on board gears other than the one authorized for transparent goby fishery;

- limitation to fishing capacity: the vessels authorized to *Aphia minuta* fishery shall be exclusively boats not exceeding 15 GT and 120 kW;

- limitation to fishing season: transparent goby fishery can be carried out exclusively from 1 November to 31 March of each year for no more than 60 days per boat for fishing season;

- limitation to time at sea: fishing activity of authorized vessels is only allowed during daylight hours, from one hour after sunrise to sunset. Fishing at night and the use of light sources are forbidden;

- prohibition to catch Mediterranean sand eel and sardine juveniles ("bianchetto");

- limitation to the size of the fishing gear: the length of the net shall not exceed 300 m. It shall be neutrally buoyant, in order to avoid the impact on the sea floor;

- limitation to mesh size: the minimum mesh size shall be not less than 3 mm;

- limitation to fishing areas: vessels are allowed to fish within 3 miles from the coast in the Department of registration and adjoining Departments, but limited to those of the Maritime Direction of registration;

- protected habitats: the transparent goby fishing activity on protected habitat (seagrass meadows), in particular on *Posidonia oceanica*, is forbidden, except for the provisions of art.4 of Reg. EC 1967/2006;

- limitations on by-catch and accidental species.

-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;

The MP states that in the case monitoring results show that the objectives (catch rates belwo the LRP) are not being realized in the planned period, the following measures will be implemented:

-Early closure of the fishing season: In case the annual average CPUE drop below the LRPs, during the following fishing season the average CPUE shall be computed by the month of February in order to verify the limits and, if the CPUE was under LRPs, to consider the early closure of one month of the fishing season;

-Corrective measures: In case the annual average CPUE drop below the LRPs for two consecutive fishing seasons, corrective management measures shall be adopted before the beginning of the following season, such as the reduction of the duration of the following fishing season;

- Suspension of transparent goby fishing: In case the annual average CPUE remain below the LRPs for three consecutive years, the transparent goby fishing shall be suspended for an entire fishing season.

-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;

This is a very selective gear and the impact on the ecosystem is considered to be limited. Discards must be released alive.

-Quantifiable indicators for periodic monitoring and assessment of progress in achieving the targets of the management plan.

A CPUE of 8.5 kg/day/boat in Tuscany and 3.65 kg/ day/boat in Liguria is proposed as limit reference point (LRP) which will be used to trigger management intervention in circumstances when the observed CPUE falls below LRP.

STECF notes that the CPUE trigger has not been evaluated in terms of its appropriateness in accomplishing sustainable exploitation of the target stock. Alternative reference points might be considered. Assuming that the average (or median) value of a historical CPUE time series is a reasonable target for a high long term yield, setting the trigger point at e.g. 75% of the average CPUE is thus akin to Btrigger in the MSY approach – i.e. the lower bound of CPUEs associated with high long term yield. In cases that there have been no signs of impaired recruitment at the lowest observed historical CPUEs, it would be reasonable to set the limit reference point at these values (mean or median) plus a precautionary buffer.

STECF recalls also that there are a number of problems associated with using commercial CPUEs as indices of abundance. STECF noted on its Plenary 17-01 report that, in the case of species with schooling behavior, as transparent goby, fishing effort is not randomly distributed, but rather concentrated on good fishing grounds. This pattern is common for

fisheries targeting schooling fish in which searching is highly efficient and can lead to hyperstability (when abundance declines faster than CPUE decline).

For the present fishing activity it would thus be useful to have clear information about the time used for school searching and the actual fishing operations (net hauling, etc.).

Consideration should also be given to the potential changes in catchability associated with technical creep, through the use of more modern technologies as echo-sounders. Such increases in catchability could produce a biased estimate of CPUE and lead to overexploitation of the stock.

STECF conclusions

STECF concludes that the MP contains a lot of elements for the monitoring and management of activities of the transparent goby fishery using boat seines, demonstrating positive achievements in the implementation.

The characteristics of the gear used suggest a relatively low impact on the ground as the boat seine is relatively light and has limited contact with the bottom during the fishing operations. However, STECF notes that there are no experimental studies on the impact of the gear on the sea floor as well as data on spatial distribution of fishing operations in relation to the distribution of the seagrass habitats, that will allow a proper evaluation of gear impact on habitats.

STECF also notes that the management plan provides gradual actions for the reduction and suspension of the fishery if the annual average CPUE falls below the LRP during one, two or three consecutive years. STECF cannot fully evaluate the appropriateness of this management strategy and the risks associated to it.

STECF notes that the MP includes requests for derogation to mesh size and distance from the coast (EC Reg. 1967/2006, art. 9 and 13) regarding the use of boat seines for transparent goby (Aphia minuta) fishing in the GSA9. STECF has not been requested to evaluate the conditionalities of these derogations.

5.3 Evaluation of the fisheries using the collecting bags

Background provided by the Commission

Combination fishing (sometimes referred to as "collecting bags" or "double codend") involves two cod ends attached to the same trawl. It is mainly used for Northern prawn fishery. The lower cod-end is designed to collect *Pandalus borealis* and the upper one - the ground fish species.

Background information is provided on: https://stecf.jrc.ec.europa.eu/plen1802

Request to the STECF

The STECF is requested in general to define the fishery and to assess its scope from the EU perspective and from the perspective of the third counties (Norway, the Russian Federation, etc).

In doing that, STECF is requested specifically:

a) to establish the year when the fishery started in EU and non-EU waters and the fish species being caught and by-caught in this fishery,

b) to establish whether there is a seasonal pattern in caught and by-caught species,

c) to evaluate the amount of annual catches, by-catches, discards and catchability made by EU and no-EU vessels, and compare them with other traditional gears used to catch fish species as identified in point a,

d) to provide the maps of areas where the fishery was / is taking place and to identify the States' jurisdiction applicable in those areas,

e) to establish the number of vessels engaged in this type of fishery and their flag state,

f) to establish the landing places of such catches and by-catches and to evaluate the annual landed amounts in those landing places.

STECF response

Although the background introduction text states that the double upper & lower codend is mostly used for catching northern prawn, STECF notes that this type of gear with upper and lower nets is widely used in various sea areas to catch other target species. However, the responses from MS in this text relate only to fishing for northern prawn.

Summary of information available

DG MARE wrote to MS noting that, during the 2017 NEAFC annual meeting, Norway had submitted a proposal to prohibit the use of the collecting bags (upper and lower double codends) in the NEAFC Regulatory Area waters, and requesting MS to provide specific information relating to use of this type of gear and associated catches, to enable STECF to answer the ToR questions. Detailed responses received from Denmark, Estonia and Lithuania were provided to STECF. In addition to these detailed returns, nil returns (indicating no use of such gear to catch northern prawn) were received from Cyprus, Portugal, Malta, Latvia, Austria, Croatia and UK.

STECF was informed by the Commission that Sweden had replied indicating that there is no use of this type of gear by Swedish vessel operators to catch northern prawn in

NEAFC regulatory areas, but the response did not mention fishing in other sea areas. Personal knowledge among STECF members indicates that Swedish vessel operators are using the same type of gear as Danish operators to catch northern prawn and whitefish in the Skagerrak. The report submitted by Denmark contains some figures and data from ICES that include the activity and landings of Swedish vessels. There are no other EU MS which have not replied to the request that are believed to be using this gear to catch northern prawn.

In addition, STECF contacted scientists involved in relevant ICES working groups and received some comments relating to vessels from Iceland. While no relevant information was available at this time, STECF understands that some relevant information may be available in the coming months.

The following is a summary of responses by MS in answer to the questions posed by the Commission.

a) to establish the year when the fishery started in EU and non-EU waters and the fish species being caught and by-caught in this fishery.

Fishing gear with upper and lower cod ends has been used to catch northern prawns in the lower net and whitefish species in the upper net, in northern waters, for many years. Responses from EU MS are summarised in Table 5.3.1 below.

Country	Start date
Denmark	2013
Estonia	2012
Lithuania	2017

Table 5.3.1 Years reported by EU MS when their vessels using double codend to catch northern prawn.

Icelandic scientists reported informally that this type of gear has been used by Icelandic vessel operators to catch northern prawn since 2008. From 1996 to 2008, the sorting grid was used in towed shrimp nets without an additional upper codend (collecting bag).

Estonia reports that this type of gear was first used in 2012 to catch shrimp and whitefish.

Lithuania reports that this type of gear is recorded as first being used to catch shrimps and whitefish in northern waters in 2017.

The report by **Denmark** states that the logbooks do not hold information of either a separator grid or a double codend (collecting bag) use, but information provided by the fishing industry indicates that "all shrimp fishermen" are using the double codend in the Skagerrak and the North Sea (3AN and 4A). The grid became mandatory in the Skagerrak (3AN) in 2013, so this is proposed as the likely start of people using the double codend.

Tables containing data on species caught and landed are

The key species caught using this gear are: Northern prawn as the target species and the following as key by-catch species: cod, saithe, monkfish, witch, haddock, ling, hake, skates and rays, plaice and halibut

b) to establish whether there is a seasonal pattern in caught and by-caught species,

To assist with geographical context, the following map[7] is included, highlighting ICES Areas and subareas and showing the outlines of NEAFC regulatory areas.

Fig. 1 shows the boundaries of the Atlantic, Northeast (Major Fishing Area 27) corresponding to the ICES fishing areas for statistical purposes.

Figure 5.3.1 Map taken from FAO website with black squares outlining FAO Major Fishing Area 27 and white lines outlining NEAFC regulatory areas and ICES areas. Numbers relate to ICES Areas and subareas, e.g. ICES Area 2.a.2.

Estonia reports that their vessels fished with this gear for northern prawn from January to October in recent years. They report no clear seasonal pattern in targeted or by-catch species landings. Fishing in ICES area 1a, in NEAFC regulatory area 3 (Loophole)[8] is

7 Downloaded from http://www.fao.org/fishery/area/Area27/en

8 The reports from Lithuania and Estonia mention fishing in NEAFC regulatory area 1a. STECF interprets this to mean NEAFC regulatory area 3, known as Loophole, which is located within ICES area 1a. STECF cannot find any official NEAFC reference to NEAFC area 1a, only to regulatory areas 1, 2 and 3.

highly dependent on quota availability at any specific time and on the number of fishing trips conducted to the area.

Lithuania reports that there is a seasonal pattern, that by-catch started in January. There is usually no activity in NEAFC regulatory area 3, which is in ICES area 1a, by their vessels in November and December, and therefore no catch or bycatch is observed.

Denmark reports no clear seasonal patterns though there is some indication that Skates and Rays are caught more frequently in the first quarters of each year.

c) to evaluate the amount of annual catches, by-catches, discards and catchability made by EU and non-EU vessels, and compare them with other traditional gears used to catch fish species as identified in point a

Estonia provided annual catches and by-catches and stated that there are no discards from collecting bags (upper codends) as the mesh size used in collecting bag is 135mm. Length-frequency data sets and catchability were also provided to the Commission. A comparison of the catches of northern prawn and some by-catch species caught by Estonian vessels using gears with a grid and double codend with the total catch of the stock by all countries' vessels is provided in Table 5.3.2. It shows that for several species, the Estonian catch represents less than 1% of the total catch of that species, in that ICES subarea.

For Greenland halibut however, the Estonian catch with double codends was equal to 12% of the total catch in ICES subarea 1 2016 and 16% in 2017. Estonian vessels fishing with a double codend caught 23% of the total catch of northern prawn in ICES subareas 1 and 2 (combined) in 2016.

Table 5.3.2. Estonian catches of northern prawn and some by-catch species, by vessels using double codends, in ICES Subareas 1 and 2, and Estonian proportion of total catch of the species in those subareas for 2016 and 2017.

Species	**Year**	**Catch (tonnes) by Estonian vessels using double codend gears**			**Estonian catch in the subarea as % of total catch (by all countries & all gears) in the subarea**		
		ICES Subarea 1	ICES Subarea 2	Total of ICES Subarea 1 and subarea 2	ICES Subarea 1	ICES Subarea 2	Total of ICES Subarea 1 and subarea 2
Atlantic cod	2016	416	0		0.1	0.0	
	2017	851	378		0.3	0.1	
Greenland halibut	2016	353	0		12.0	0.0	
	2017	519	4		15.8	0.0	
Northern prawn	2016	6,051	888	6,939			23.4
Haddock	2017	0	23		0.0	0.0	

Redfish species	2017	0	4		0.0	0.0	

Lithuania reports that in 2017, there was 2,326 tonnes of northern prawn catch, of which c.1,700 tonnes was caught in area NEAFC 1a9, plus 244 tonnes of whitefish. These fish were caught by one vessel. This information was provided by Lithuania in response to a question on catches, by-catches and discards. Since no information about discards was provided, it is not clear to STECF whether these catch figures are truly catch figures or are actually landings figures.

The Danish report highlights that, since 2015, the grid has also been mandatory for catching shrimp in the North Sea south of 62°N (4A). In other areas in the north Atlantic similar sorting grids were made mandatory before 2013, and in the Barents Sea this happened in 1992 (ICES 2017). In these other areas it is unlikely that Danish vessels use collecting bags, because of the lack of by-catch in these areas (see Denmark's Table b.1, presented as Table 5.3.3 below)

Comparing catches with double upper and lower codend gear to total catches, the Danish report presents ICES data on landings of northern prawn and by-catch species, based on combined logbook data for vessels from Denmark and Sweden and on Norwegian sales note data. These figures show that in 2016, 99% of northern prawn caught by Danish and Swedish vessels targeting northern prawn in ICES area 3a, Skagerrak, are caught using this type of double codend gear. In the same area, 99% of total landings of species that are by-catch in double codend gear (e.g. cod, haddock), were caught using other gears.

Overall, for Danish vessels, the total value of all bycatch was less than 5% of the value of the target species, northern prawn, in 2016 and 2017.

Table 5.3.3. Catches by Danish vessels fishing for northern prawn and top whitefish species, by ICES sub-areas and divisions, and NAFO10 divisions in 2017. (note: the Danish report presumes that, in sea areas where no by-catch is reported, this is because no upper net was used by vessel operators fishing in these areas.)

	ICES areas					**NAFO areas**				
2017 catch (**kg**) (by species, area)	14B2	1A	1B	3AN	4A	NA1A	NA1B	NA1C	NA1D	**Total**
Northern Shrimp (Pandalus borealis)	279,030	693,266	495,692	1,771,732	96,066	1,127,775	369,418	884,329	3,991	**5,721,299**

[9] STECF takes this to mean NEAFC regulatory area 3, which is in ICES area 1a.

[10] Northwest Atlantic Fisheries Organization

Cod				197,715	10,889					**208,604**
Saithe				183,109	11,418					**194,526**
Monkfish				41,099	2,958					**44,057**
Witch				28,383	177					**28,560**
Haddock				8,652	76					**8,728**
Ling (Molva molva)				5,625	1,999					**7,625**
Hake				5,204	1,078					**6,282**
Skates and rays				9,217	1,632					**10,849**
Plaice				4,116	4					**4,120**
Halibut				2,232	291					**2,523**

Denmark presents a time series of catches from 2013 to 2017 for northern prawn and the top ten bycatch (mostly whitefish) species, almost exclusively from ICES areas 3A and 4A. This time series shows that the top ten bycatch species have amounted to less than one percent of the northern prawn landings.

The Danish report also states that, for the Northern shrimp stock in the Skagerrak and Norwegian Deep (3AN and 4A), ICES provides information on a yearly basis of catches and by-catches as well as shrimp discards made by EU and non-EU member states. ICES by-catch data for 2016 is provided in an ICES table numbered "Table 5.2" which is reproduced in the report from Denmark. ICES shrimp landings, discards and catch data for 2013-2017 in Table 5.3.4 below. The original data can be retrieved from the 2017 NIPAG report (ICES 2017) and the 2018 ICES advice on this stock (ICES 2018). The same report contains references to by-catch and catch data from previous years.

As Danish logbooks do not hold information on either grid or collecting bag use, it is not possible to provide length-frequency data sets for the target and by-catch species in the upper- and lower-cod end, respectively.

Table 5.3.4. Shrimp in 3A and 4A east. ICES advice and official landings (tonnes).

Year	ICES advice	Predicted landings corresp. to advice	Predicted catch corresp. to advice	TAC Div. 3a	TAC Norwegian zone Subarea 4*	Discard estimates	ICES landings	ICES catch (discards and landings)
2013	Reduce landings by 36% and reduce	≤ 5800	6650	2850	909	8396	9305	

	discards							
2014	MSY considerations, reduce discards	≤ 5426	≤ 6000	6650	2850	2387	9952	12339
2015	MSY considerations, no increase in F, reduce discards	≤ 9777	≤ 10900	7630	3270	1005	11161	12166
2016	MSY approach	≤ 11869 ^^	≤ 13721	10987	4709	283	12397	12680
2017	MSY approach	≤ 10316	7221	3095	1854	10585	12439	

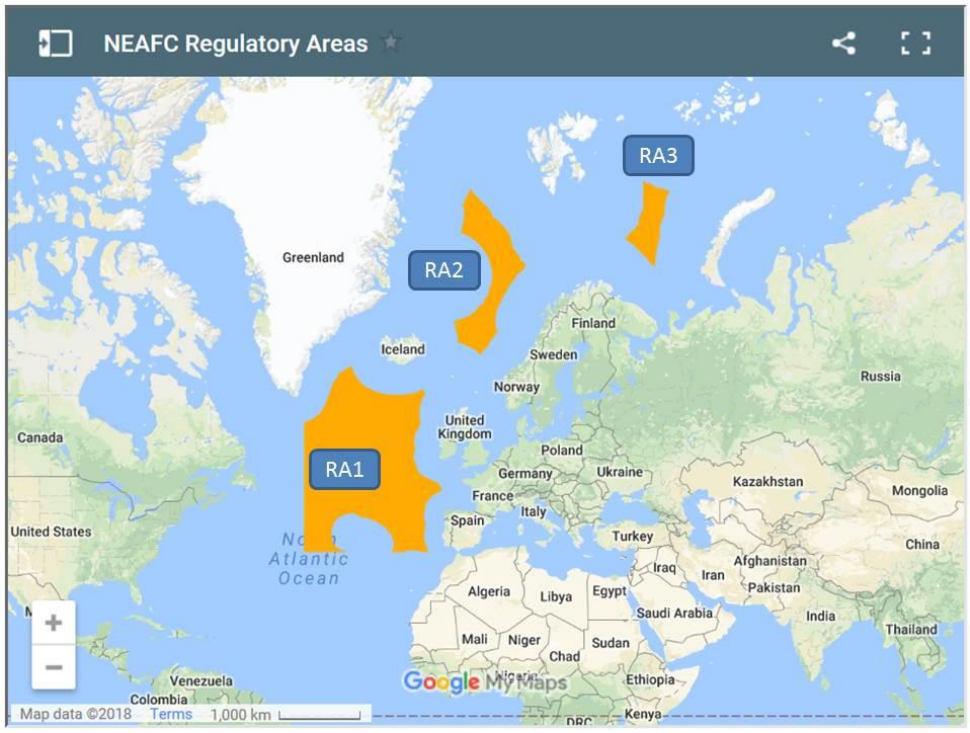
* TACs in the Norwegian zone of Subarea 4.
** EU zone only.
*** Catch at *status quo* F.

^ Single-stock boundaries and the exploitation of this stock should be conducted in the context of mixed fisheries, protecting stocks outside safe biological limits.

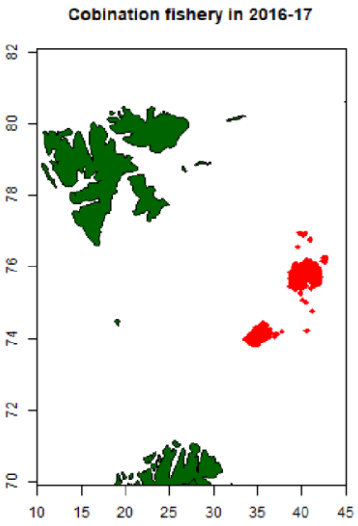
^^ Wanted catch.

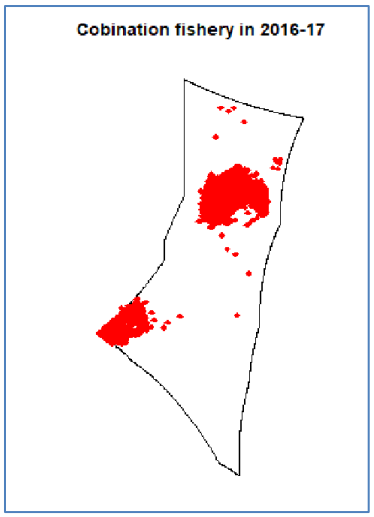
d) to provide maps of areas where the fishery was / is taking place and to identify the States'jurisdiction applicable in those areas,

To provide context for the maps provided by various countries, the map below (copied from the NEAFC website https://www.neafc.org/print/managing_fisheries/measures/ra_map) shows the three NEAFC regulatory areas, numbered RA1 (Reykjanes Ridge), RA2 (Banana Hole) and RA3 (Loophole) (Labels RA1 to RA3 added by STECF).

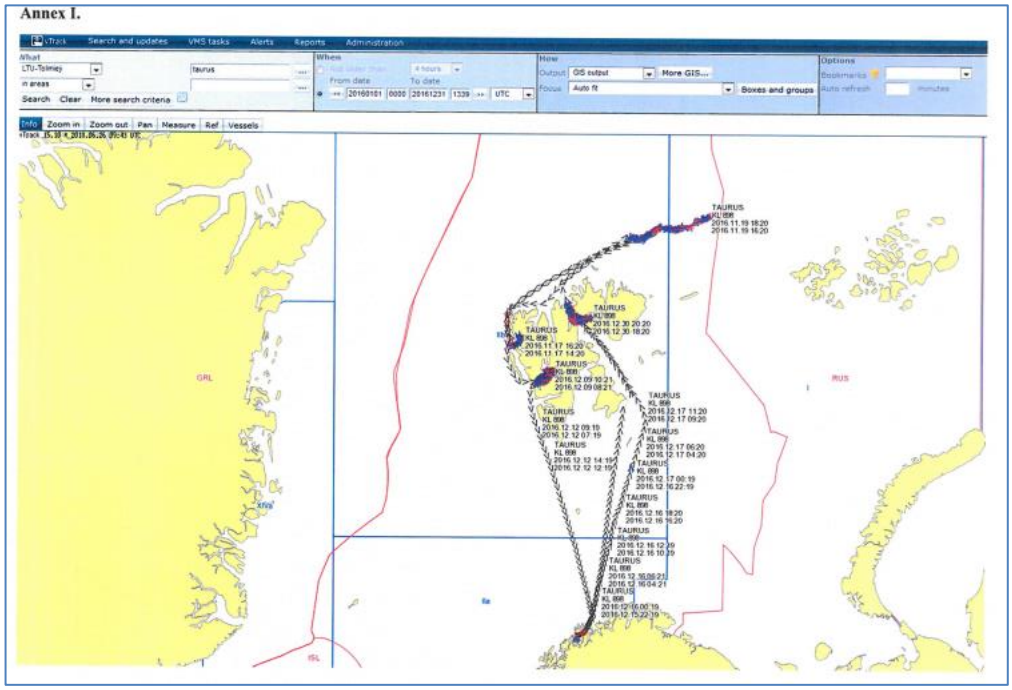


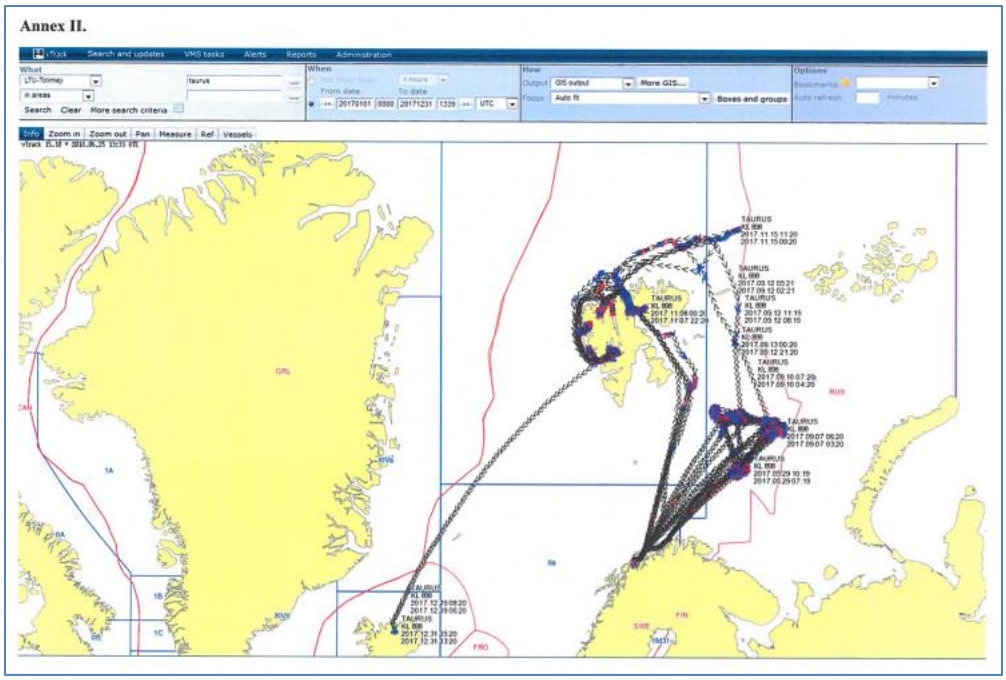
The following maps were provided by Estonia of Estonian vessels using collecting bags in 2016-2017 in NEAFC RA3 (Loophole):



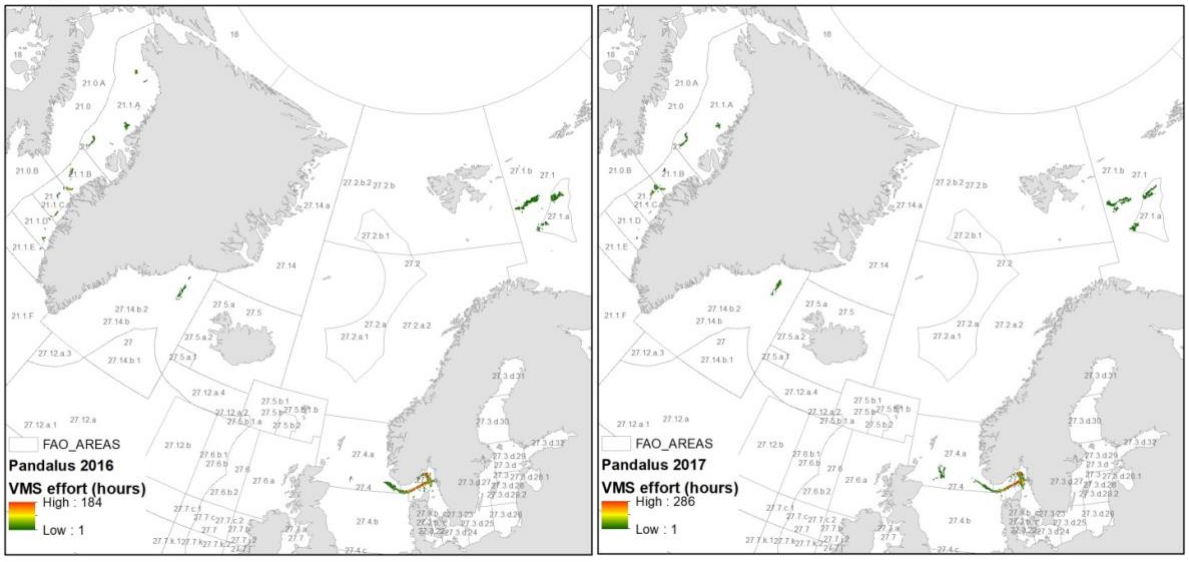


The following two maps were provided by Lithuania:





The distribution area of Danish vessels fishing for northern prawns in the North Atlantic in 2016 (left panel) and 2017 (right panel) is mapped below.



e) to establish the number of vessels engaged in this type of fishery and their flag state,

Estonia reports there are currently three vessels in the Estonian fleet register which are using upper and lower double codends (collecting bags) in the NEAFC Regulatory area.

Lithuania reports that currently two of their vessels are used for fishing with this type of gear to catch shrimps and whitefish in northern waters.

Danish shrimp trawlers using this gear decreased from 12 vessels in 2013 to 9 vessels in 2017. In 2017, eight vessels fished in 3AN, Skagerrak and the connected Norwegian

Deep in the eastern North Sea (4A), and the remaining vessel mainly catches shrimp outside the Skagerrak and the North Sea.

f) to establish the landing places of such catches and by-catches and to evaluate the annual landed amounts in those landing places.

Estonia reported that key landing places were as follows in 2016 and 2017:

2017	Hafnarfjordur (Iceland)	Tromsö Solstrand (Norway)		
2016	Akureyri (Iceland)	Hafnarfjordur (Iceland)	Tromsö Solstrand (Norway)	Honningsvag (Norway)

The Estonian report contains theoretical total values of fish products in all these landing places combined, for the period of 2016-2017, in the table below. Calculations are based on landed volumes and first sale prices gathered from EUMOFA.

	CAS (€)	**COD (€)**	**GHL (€)**	**PLA (€)**	**PRA (€)**	**SUM (€)**
2016	4 812	586 799	1 045 100	821 467	12 266 994	**14 725 173**
2017	18 158	1 301 281	1 386 046	776 788	18 103 977	**21 586 248**
						36 311 421

CAS = Cartilaginous fishes nei
GHL = Greenland halibut
PLA = American plaice
PRA = Pandalus borealis (northern prawn)

Lithuania reports that most of their vessels' fish by-catch is landed in Norway, usually at Tromso. Total value of landings in 2017 was c. €7.7 million for shrimp and c. €0.6 million for fish.

Denmark reports that there is a stable pattern in landings and landing places of the target species (Pandalus borealis) and the major by-catch species. Principle landings ports for Danish vessels are a mix of Danish, Swedish and Norwegian ports.

Additional information

In addition to answering the specific questions put to STECF, based on information provided by MS, STECF has the following comments and information that might be of interest to DG MARE.

There is an ongoing Scottish trial of gear using an upper and a lower codend for catching *nephrops* and whitefish, which was designed in response to the implementation of the landing obligation in order to reduce unwanted catch and discards. The trial gear, relative to the previous trawl with side-by-side codends, has resulted in better selectivity, less

unwanted catch of small *nephrops* and small whitefish, better quality and prices for both *nephrops* and whitefish. Details are available in a fact sheet, Inclined Netting Panel and Double Codends (MV Amity II), which can be downloaded from the website of the **Gear Innovation and Technology Advisory Group**. https://www.sff.co.uk/gitag/

Experience and knowledge of trials and gear development among STECF members[11] suggests the use of inclined separator grids together with an upper and lower net will be an important development to enable selective fishing under the landing obligation when trawling for *Nephrops* and prawns. Use of a grid only allows nearly all whitefish and other bycatch species to escape capture, which might not be desirable for fishing businesses that do have access to some whitefish quota and rely on that part of the catch for profitable operations. These businesses might not be able to remain profitable under the landing obligation if they had to let all of their bycatch go and rely only on targeted *nephrops* or prawn catches, therefore the upper net may be crucial to the success of the landing obligation for large parts of the fleets that target *Nephrops* with trawled gear.

Advice received from JRC suggests that it may be possible, after September 2018, to use the New-FDI database to answer some of the questions that the Commission has posed relating to the extent of catches of northern prawn and by-catch species made using this double codend gear. The new Fisheries Dependent Information (FDI) data call includes a field "SPECON_TECH", which exists to distinguish effort and landings from gear using selectivity devices from gear that do not. That field currently specifies devices cited in delegated regulations under the Landings Obligation, i.e. devices used to justify *de minimis* exemptions.

One of those devices is the SepNep trawl, defined in Delegated reg (EU) 2018/45 as:

- is constructed within the mesh size range of 80 to 99 +≥ 100 mm,
- is fitted with multiple cod-ends of mesh sizes ranging from at least 80 to 120 mm attached to a single extension piece, the uppermost cod-end being constructed with a mesh size of at least 120 mm and fitted with a separation panel with a maximum mesh size of 105 mm, and
- may also be fitted with an optional selection grid with a bar spacing of at least 17 mm provided it is constructed in such a way so as to allow the escape of small *Nephrops*.

Therefore, if the SepNep definition covers all double codend fishing AND data received split SepNep from other trawl fishing, some analysis could be possible.

STECF conclusions

Useful information was received from key Member States, providing a fairly detailed overview of fishing for northern prawn with double codend by their fleets. Some data

11 Including participation at sea in relevant ongoing trials and work presented earlier to STECF, including Trials of a Net Grid for the UK *Nephrops* trawl fisheries; Tom Catchpole, Frank Armstrong, Stuart Masson, Dave Price, Peter Clark, Steven Moss, Mark O'Brien, Kevin Duggan, Mike Manser, Ana Ribeiro Santos & John Hingley, Cefas Report; November 2012; North East Coast Net Grid Trials; Frank Armstrong & Tom Catchpole, Cefas Report December 2013

from Sweden was included in the report from Denmark. It seems likely that there is not much more relevant knowledge currently available in formal data sets than what was submitted to the Commission.

STECF concludes that the use of upper and lower double codends has, over the last ten years or so, become relatively common among fishing fleets of northern EU countries fishing for *Pandalus*. The number of vessels involved appears to be rather low. For some key fleets, e.g. Denmark and Sweden, most of their pandalus catch is made using this type of gear. The by-catch species caught and landed using this gear appear to be both a very low proportion of the total catches (prawns & fish) by this gear and also a very low proportion of the total catches (target plus bycatch) of those species by the MS involved.

STECF concludes that this type of gear with upper and lower codends shows some potential as a method to achieve selective fishing for *Nephrops* trawlers enabling these vessels to reduce the likelihood of some possible choke situations in the context of the landing obligation.

6. BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on: https://stecf.jrc.ec.europa.eu/plen1802

7. CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS

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