



JRC SCIENCE FOR POLICY REPORT

SCIENTIFIC, TECHNICAL AND
ECONOMIC COMMITTEE FOR
FISHERIES –
64th PLENARY REPORT
(PLEN-20-02)

Edited by Clara Ulrich & Hendrik Doerner

EUR 28359 EN

This publication is a Science for Policy report by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The scientific output expressed does not imply a policy position of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of this publication. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source. The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Contact information

Name: STECF secretariat

Address: Unit D.02 Water and Marine Resources, Via Enrico Fermi 2749, 21027 Ispra VA, Italy

E-mail: jrc-stecf-secretariat@ec.europa.eu

Tel.: +39 0332 789343

EU Science Hub

<https://ec.europa.eu/jrc>

JRCXXXXXX

EUR 28359 EN

PDF ISBN XXXXXX ISSN 1831-9424 doi:XXXXXX

STECF ISSN 2467-0715

Luxembourg: Publications Office of the European Union, 2020

© European Union, 2020



The reuse policy of the European Commission is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated. For any use or reproduction of photos or other material that is not owned by the EU, permission must be sought directly from the copyright holders.

All content © European Union, 2020

How to cite this report: Scientific, Technical and Economic Committee for Fisheries (STECF) – 64th Plenary Report (PLEN-20-02). Publications Office of the European Union, Luxembourg, 2020, ISBN XXXXXX, doi:XXXXXX, JRCXXXXX

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 64th plenary as virtual meeting from 6 to 10 July 2020.

TABLE OF CONTENTS

1.	INTRODUCTION.....	4
2.	LIST OF PARTICIPANTS	4
3.	INFORMATION TO THE PLENARY.....	4
4.	STECF INITIATIVES.....	4
5.	ASSESSMENT OF STECF EWG REPORTS.....	5
5.1	EWG-19-19 Outermost Regions	5
5.2	EWG 20-03 Annual Economic Report on the EU Fishing Fleet I	10
5.3	EWG-20-08 Evaluation of the Annual Reports for data collection and data transmission failures.....	12
6.	ADDITIONAL REQUESTS SUBMITTED TO THE STECF PLENARY BY THE COMMISSION.....	18
6.1.	Undulate ray	18
6.2	STECF evaluation of the Danish weighing proposals.....	23
6.3	Advice for the preparation of joint recommendations under the Technical Measures Regulation with respect to "directed fishing"	31
6.4	Joint Recommendation for Technical Measures in the North Western Waters.....	43
6.5	Gangui fishery	65
6.6	Derogation for 'Volantina' demersal otter trawls in the territorial waters of Slovenia	73
6.7	Italy request of scientific research on "SARDELLA" (<i>S. pilchardus</i>) in Liguria (GSA 9)	82
6.8	Joint recommendation on Norway Pout fishery	88
6.9	Selectivity trials in the Celtic Sea	99
7.	ITEMS/DISCUSSION POINTS FOR PREPARATION OF EWGS AND OTHER STECF WORK	103
7.1.	Preparation of EWG 20-02 on the review of the Technical Measures Regulation....	103
7.2	Preparation of EWG 20-06 on methods for defining sustainable fisheries and aquaculture.....	106
7.3	Preparation of the EWG 20-12 on EU Aquaculture sector. Economic report 2021 ...	111
7.4	Preparation of the EWG 20-10 Fisheries Dependent Information (FDI)	113
7.5	Revision of work plan and annual report templates as well as annual report guidance for data collection	120
8.	CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS	122

64th PLENARY REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-20-02)

Virtual Meeting

6-10 July 2020

1. INTRODUCTION

The STECF hold its summer plenary as virtual meeting on 6-10 July 2020 with STECF members addressing the ToRs from their home offices.

2. LIST OF PARTICIPANTS

The meeting was attended by 32 members of the STECF, and eight JRC personnel. 17 Directorate General Maritime Affairs and Fisheries (DG MARE) attended parts of the meeting. Section eight of this report provides a detailed participant list with contact details. The STECF member Thomas Catchpole was unable to attend the meeting.

3. INFORMATION TO THE PLENARY

The planning of the autumn 2020 STECF Expert Working Groups was discussed under the items listed in section 7 of this plenary report.

4. STECF INITIATIVES

No STECF initiatives were discussed during the meeting.

5. ASSESSMENT OF STECF EWG REPORTS

5.1 EWG-19-19 Outermost Regions

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 Brussels, Belgium, from 13 to 17 January 2020. The meeting was attended by 14 experts in total, including two STECF members and one JRC staff. Two DG MARE representatives also attended the meeting.

The objective of the EWG 19-19 was to identify and prioritise specific issues for each EU Outermost Region (OR) regarding data collection, stock assessment, ecosystem knowledge, and social and economic impacts, and to develop a roadmap for the subsequent meetings that will form the basis for the permanent network of research institutes.

STECF notes that EWG 19-19 constitutes the first dedicated EWG on OR. The report provides a thorough overview of data collection, stock assessment and social and economic impacts of the fisheries of eight of the nine outermost regions of the European Union: Guadeloupe, French Guiana, Martinique, Mayotte and Réunion (France), the Canary Islands (Spain) and the Azores and Madeira (Portugal).

Regarding the ninth region, Saint Martin, STECF observes that this island is the only one among the French overseas collectivities with the status of being an Outermost Region of the EU. In 2007, Saint Martin was broken away from the French overseas department of Guadeloupe to form a new overseas collectivity. Its European status was under discussion for a time, until Saint Martin was officially listed in the Lisbon Treaty as an Outermost Region. Nevertheless, STECF notes that because of its national status of being a collectivity and not a department, Saint Martin is not required to be included in the French Work Plan for data collection. STECF notes therefore that information on fisheries of that region is largely missing in the EWG 19-19 report.

STECF comments

STECF considers that the EWG addressed adequately all the ToRs.

STECF's specific comments on the work carried out for each of the four main challenges and the development of the roadmap are detailed below:

Data Collection

The EWG carried out the evaluation of the Member States (MS) sampling plans and achievements at the OR level, analysing the 2017-2019 Work Plans (WPs) for France, Portugal and Spain, corresponding Annual Reports (ARs), and the evaluation of their implementation through the corresponding dedicated STECF EWGs.

STECF notes that the EWG, as a first step, verified for each OR the entity responsible of the national DCF coordination and identified the organisations participating in biological,

social and economic data collection. The list of entities and their contacts can be found in the EWG report.

On specific request from DG-MARE, the available biological information for large pelagics and their specific reporting needs for Regional Fisheries Management Organisations were evaluated. In the Indian Ocean, catches of *Tetrapturus audax*, *Istiompax indica*, *Makaira nigricans* and *Istiophorus platypterus* should be included in the annual data collection and annually reported to the IOTC Scientific Committee. The France and Spain WPs will need to be revised with these new requirements. In the Atlantic Ocean, due to the new catch limits for *Kajikia albida*, *Makaira nigricans* and *Tetrapturus georgii*, following ICCAT recommendation, data on these three species should be collected from 2020. STECF notes also that in the EU-MAP list of species the white and black marlin are reported under their old scientific names (*Tetrapturus albidus* and *Makaira indica*, respectively). That should be changed to the current accepted names of *Kajikia albida* and *Istiompax indica* (WoRMS, 2020). STECF notes that the issue of data collection for large pelagics fisheries is also specifically investigated and discussed in STECF 20-08 report (ToR 5.3 of this plenary report).

STECF notes that a number of issues and gaps in data collection have been reported by EWG 19-19.

Regarding biological data, the French WP only addresses separately French Guiana. Guadeloupe and Martinique are considered a single area and the same is true for Mayotte and Réunion. Except for length sampling, there is very limited biological sampling. The minimum criteria to select a species to be sampled (catch threshold= 200 t) is not always correctly applied and the justifications for the selection of species to be sampled are not clear. In Madeira and Azores, it was detected that sampling levels are usually low, explained by different difficulties in obtaining samples. The Canary Islands' small scale fisheries targeting demersal and pelagic species are sampled by a programme that combines sampling at-sea with observers on-board with port length sampling. However, biological sampling is limited to small pelagic species (*Scomber colias*, *Sardinella aurita*, *Trachurus* spp. and *Sardina pilchardus*).

STECF considers that the MS-WPs and ARs should be adapted to address the particularities of ORs leading to improvement of the Data Collection. Biological data, fishery-dependent information and economic data should be reported at OR level. The sampling programs for large pelagic fish must be updated according to the new needs of Regional Fisheries Management Organisations and the recreational fisheries could be better addressed in the national WPs.

Regarding economic data, the methodology used for the sampling program to collect information varies across regions. In Reunion logbooks are used for vessels above 12 m. For vessels less than 12 m, in Guadeloupe and French Guiana, the economic indicators are calculated based on an annual socio-economic survey. The economic survey will be updated in 2020 based on a stratified sampling methodology in Guadeloupe and French Guiana. In the Portuguese ORs, economic and social variables are collected through questionnaires addressed to fishing enterprises. For economic variables different sources of data are used: official data, logbooks, sales notes and surveys. In Canary Islands, a stratified random sampling is applied through a representative sample of the total population. Despite their importance, the small scale fisheries are however less represented in the sampling.

STECF considers that these different methodologies and approaches used to obtain economic data could make the results not comparable between ORs. STECF notes that issues and plans for future improvements with OR identification in WPs has also been discussed in STECF EWGs on WPs (EWG 19-18).

Economic Indicators

Data submitted to the STECF-AER 2019 were used to estimate the economic indicators and to evaluate the quality of the data provided by OR. STECF observes that for Martinique, Mayotte and Saint Martin no economic data was provided to DCF, making impossible the economic analysis of these outermost regions.

STECF notes that for some ORs, the estimates for some economic parameters were detected by EWG 19-19 to be away from normally expected values that may require some further analyses. STECF notes however that some of the issues detected for 2017 economic data have already been solved in the STECF-EWG 20-03.

Social indicators

The EWG performed the social analysis by OR following the approach of the EWG 19-03.

STECF considers that an extensive social analysis was carried out, providing a first view of the social context of fisheries in the EU ORs. However, the social analysis is not complete for French ORs, and the information on several social variables required by DCF is missing. In particular for Mayotte, data are almost inexistent. Also, the representativeness of the social data for the Canary Islands is low, where the majority of the fleets and employments are in small scale fisheries, and the surveys cover mostly large scale fisheries.

With the exception of Madeira, there is a predominance of fishers involved in small scale fisheries over large scale fisheries. The registered participation of females in fishing activities is low (< 4%) and in the case of large scale fisheries is practically null. The ageing of fishers is noticeable in most of the regions, with more than 60% of the workers being over 40 years. Except for Canary Island, almost all crews are national workers. The overall level of education is low, finding the worst scenario for large scale fisheries with only 5% of those involved with medium/higher level of education.

STECF considers that these results could be included in the next STECF-EWG on Social data (EWG 20-14).

Stock Assessment

The EWG reviewed the current situation of the species landed per OR based on the total landings in 2017 (per values and volumes) from the AER STECF EWG 19-06 table, and the last available stock assessments. The analysis was carried out on the first 50 species by OR ranked by landing value declared for 2017. The variables analysed for the overview included among others: landings in value and weight, indicators on whether the species is included in AR and EU-MAP, stock assessment method and stock status.

In French Guiana only 2 stocks of the 41 landed are assessed. For Guadeloupe and Martinique, 5 stocks covered by ICCAT are assessed. IOTC assesses 4 stocks landed in Mayotte and 10 species landed in Réunion. Also 6 deep-sea demersal species are assessed at local level of Réunion. Madeira and Azores collect data to report to ICES, CECAF and ICCAT. Six species are assessed by ICCAT in Canary Islands.

STECF notes that most of the assessed stocks in ORs correspond to large pelagic species cover by ICCAT and IOTC. Some local assessments are carried for demersal stocks in Réunion. STECF observes that in French Guiana, Guadeloupe, Mayotte and Martinique, the percentage of landings corresponding to species with assessment is less than 50%. STECF

notes that there is a deficiency of appropriate forums/expert groups for the stock assessment in ORs.

Ecosystem Knowledge

Based on the review of literature and on expert knowledge performed by the participants, the EWG identified the IUU Fishing, bycatch (sharks), recreational fishery, and the selective extraction of species as being the main issues affecting stocks and fisheries in all ORs. Specifically, the EWG considered that better knowledge on the amounts of both IUU Fishing and recreational fisheries is a priority to be addressed in future studies.

STECF highlights that in addition to these, the context of global change, considering the projected impact of climate change and pollution on the productivity of fisheries in the inter-tropical zone, should also be taken into account. However, STECF notes the general lack of knowledge on these complex ecosystem issues.

Acknowledging thus that similar knowledge gaps on relevant ecosystem issues are commonly encountered in all the ORs, STECF supports the need to create an EU-wide OR research-net and/or to develop joint research projects.

Roadmap

The EWG developed a roadmap for possible future collaborative actions. As results of discussions and analysis performed during the EWG, scientific studies and activities that the group considered necessary were compiled. An overall high priority is to review the EU-MAP and AR with an OR perspective. Also, priorities identified may be the basis to propose future scientific research for ORs.

STECF considers that this EWG has provided an opportunity to share experiences and knowledge among experts from EU-outermost regions. STECF notes that two main outputs of the meeting are the methodologies and data used in each topic. Also, the meeting has allowed planning future scientific research and activities.

STECF observes that of the topics that have been discussed, stock assessment and ecosystem knowledge are the least developed and would require more research.

STECF conclusions

STECF concludes that the EWG addressed all the ToRs appropriately.

In order to address the issues relating to data collection, social and economic indicators, it is concluded that further cooperation between different working groups (EWG 19-19, AER I and II, Balance EWG 20-11, FDI EWG 20-10 and Social EWG 20-14) is needed.

STECF concludes that from the topics that have been discussed, stock assessment and ecosystem knowledge are the subjects that would require more research. Specifically, the EWG considered that better knowledge on the amounts of both IUU Fishing and recreational fisheries is a priority to be addressed in future studies.

Based on the progress made by the EWG and on the opportunity offered by the meeting to share knowledge and experiences, STECF concludes there would be some scope for future outermost EWGs to be held at regular intervals.

References

WoRMS. 2020. World Register of Marine Species. Checklist dataset <https://doi.org/10.14284/170> accessed on 2020-07-10).

5.2 EWG 20-03 Annual Economic Report on the EU Fishing Fleet I

Request to STECF

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

Background

The EWG 20-03 (AER I) took place virtually from the 22 to the 26 of June 2020. This is a working group in a series of two: EWG 20-03 (AER I) with the objective to obtain and validate the national and regional data and EWG 20-06 (AER II) with the objective to produce the final Annual Economic Report on the EU Fishing Fleet.

The EWG was composed of 30 independent experts and two from the European Commission's Joint Research Centre (JRC). This EWG was formed by at least one national expert from each of the 23 coastal EU MS in 2018 (Including the UK), except for Germany, Cyprus, Latvia and Lithuania. During the following week, 27 June to 3 July 2020, four additional experts from these countries thus received an ad hoc contract to validate the national and regional data and to produce the draft national chapters for the four countries. The information received from these four contracts has also been included in the EWG report.

STECF observations

STECF was provided with a provisional draft of the AER and a presentation of the EWG 20-03 chair. This version of the report is not available for publication. STECF notes that the main objective of EWG 20-03 was to validate national and regional data and produce national chapters.

STECF observes that the clear division between the two EWG working groups implemented in 2020 for the first time, with each having specific sets of Terms of Reference, is paying off. Also, COVID-19 reorganisation of meetings resulted in more time being available between the data call and the actual meeting of the WG, which allowed MS to have more time for a check on the data. EWG 20-03 has clearly delivered on the objectives of providing a validated set of data for the analysis for the AER. All the data at regional level can be endorsed prior to the AER II EWG. As a result there will be ample time for dedicated economic analyses in EWG 20-06 (AER II).

STECF observes that there are still some incomplete data submissions and the process of endorsement of the data is still consuming most of the time of the AER I EWG meeting. Although some data issues are still reverted to EWG AER II, this should in future no longer be the case.

STECF observes that the national data are of adequate quality and as such can be endorsed. However there are some reoccurring issues on the level of the regional data and the data for the outermost regions. For the EU Outermost Fishing Regions STECF observes that some data is missing from one MS. For the data on long distance water fleets operating in Other Fishing Regions the main issue is not availability of the data but how the economic data can be allocated as landings to areas/RFMOs (ICCAT, IOTC, NAFO, CECAF). Also, there are some confidentiality issues relating to the number of vessels operating in particular fleets.

STECF notes that the nowcast used up to now is designed to be used under stable market conditions, when TACs are mostly affecting supply. Due to COVID-19 and the 2020 global disruption of European and World markets the methodology will have to be adapted to allow for COVID-19 related calculations. Additional work and dedicated resources need to be allocated to create the nowcast in this situation. However, the applicability of a nowcast in November, when preliminary landings and effort data will be available for 2020 in a couple of months, is in itself debatable. STECF observes that due to the fast-changing conditions during the COVID-19 crisis the STECF bureau, DG MARE and the EWG chairs should discuss prior to the second EWG meeting whether adjustments to the two scenarios and the nowcast may be necessary.

In addition, for the analysis of the impact of the COVID-19 pandemic, using the nowcast, STECF observes that the proposal of the EWG to work with two COVID scenarios (Back to normal, continued COVID) and also to leave out subsidies of the analysis as they differ very much between countries and regions within countries (not only to the level of either being available or not but also whether being indeed paid out or not) is suitable.

STECF notes that for the European Commission requests information on impacts of the COVID-19 crises on fisheries and aquaculture for EWG 20-06 and EWG 20-12. For both reports similar methodologies should be applied as far as possible. There will be, however, differences between the two sectors as there will be more information available on the development of key variables in 2020 for fisheries than aquaculture, e.g. landings per month for fisheries vs. production data per month for aquaculture, which are not available.

STECF conclusions

STECF concludes that the current set of data has been validated and is fit for purpose. For the regional data and for the Outermost Regions some data issues are to be solved over the coming year.

As for the Other Fishing Regions economic data and information are available but the allocation of the data to the proper area/RFMO, using the proper approaches to allocate e.g. direct/indirect employment and income, also because the fleet moves between areas during the year, and companies are operating as integrated entities, is difficult. Noting that the distant water fleet is an important fleet and in addition that the main issue relates not so much to availability and quality of data but relates to the methodology used to allocate data to areas/RFMOs (ICCAT, IOTC, NAFO, CECAF), STECF concludes that for the methodology to allocation of data for the Other Fishing Regions, a separate contract is issued to structure the analysis and update the current methodology used.

In order to address the issues relating to the Outermost Regions it is concluded that further cooperation between different working groups (AER I and II, OMR EWG 19-19, Balance EWG 20-11, FDI EWG 20-10, Social EWG 20-14), and hence different data sources/calls, is called for. As for the communication and distribution of data between different working groups, especially related to issues of confidentiality of data and level of aggregation, STECF concludes that this issue to be featured on the PLEN 20-03 agenda, in order to develop a procedure to how data and level of aggregation are communicated between the different working groups.

5.3 EWG-20-08 Evaluation of the Annual Reports for data collection and data transmission failures

Background provided by the Commission

Article 11 of the Data Collection framework (DCF) Regulation (EU) 1004/2017 (recast) requires Member States to submit to the Commission an annual report (AR) on the implementation of their national work plans (WPs); and requires STECF to evaluate: (a) the execution of the WPs; and (b) the quality of the data collected by the Member States. These tasks have been conferred to EWG 20-08. In addition, EWG 20-08 was asked to review and approve guidance documents, originating from ad-hoc contracts run in March 2020 (task 2, 3, 4).

A pre-screening exercise has taken place to facilitate the work of the EWG. The EWG evaluation is actually run as a second level assessment, focusing on topics where the pre-screeners have raised an issue or where the pre-screeners assessment have not been conclusive. This type of assessment may be based on specific questions addressed to the EWG by the Commission, based on the outcomes of the pre-screening exercise.

The EWG should produce the following:

1. An overview of the assessment and overall evaluation of Annual Reports, including performance of Member States, major issues and recurring issues across many Member States.
2. A review and approval of AR evaluation grid and guidance, produced by March 2020 ad-hoc contracts, and used by the pre-screeners; a feedback on the documents used in the evaluation process by EWG 20-08, in view of the upcoming EWG 20-18 work on AR/WP templates. Per Member State: (i) an evaluation of the annual report in the grid provided by the Commission, pre-filled with the pre-screening exercise results (ii) Member State-specific issues relating to data collection. In particular, an evaluation of the observers coverage for highly migratory stocks fisheries and is compliance with current legal obligations.

In their feedback, the EWG should identify the comments that require a reaction by the MS (resubmission of the Annual Report or clarification to the Commission) and those that are 'for information' only.

3. An overview of the assessment and overall evaluation of data transmission issues, including performance of Member States, main issues per end-user and recurring issues across many Member States.
4. Per Member State: (i) an evaluation of the data transmission issues related to end-users, via the DTMT tool, (ii) Member State-specific issues relating to data transmission.

In their feedback, the EWG should identify the comments that require a reaction by the MS and those that are 'for information' only.

All produced files will be communicated to Member States in order to help them improve data collection, reporting and transmission for next year.

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.

In particular, STECF is requested to comment on:

- the evaluation of observers' coverage for highly migratory species fisheries and their compliance with legal obligations;
- the review and approval of AR evaluation grid and guidance, produced by March 2020 ad-hoc contracts and provided in an annex to the report. The grid has been streamlined and simplified, while a split per regions have been reintroduced. STECF should evaluate if the grid and guidance are coherent and complete for the purpose;

the Data Transmission Monitoring Tool guidance, provided in an annex to the report. During 2019 spring plenary a parallel workshop produced the DTMT guidance document, later used and amended by the EWG 19-09 This last version was used by EWG 19-18. STECF should evaluate if the final version of the DTMT guidance fits the purpose and propose modifications if necessary.

Summary of the information provided to the STECF

EWG 20-08 met virtually on 22-26 June 2020. Since there was just one week between the end of the EWG and the start of STECF PLEN 20-02, the final EWG report was not yet available to PLEN 20-02. The following STECF comments and suggestions are consequently based on discussions among STECF members based on: (1) a presentation of outcomes from the EWG 20-08 meeting made by one of the two chairpersons, (2) a preliminary draft of the EWG 20-08 report, (3) the AR evaluation grid and guidance document produced within *ad-hoc* contracts in March 2020, used by the EWG 20-08, (4) an Excel file with data transmission (DT) issues including the outcome of the evaluations of DT issues done by EWG 20-08.

STECF comments

Evaluation of 2019 Annual Reports

STECF observes that the evaluation of the 2019 ARs was based on the updated evaluation grid used by the pre-screeners prior to the meeting (Task 2-3 of March 2020 *ad-hoc* contracts), the Guidance for AR-WP evaluators with comments (Task 4 of March 2020 *ad-hoc* contracts), and the Guidance for the Submission and Evaluation of Annual Reports (as updated in 2018). In addition, experts used agreed assessment criteria from EWG 19-09 to ensure coherent assessment in sub-groups and comparable results. As was the case in previous years, pre-screening of ARs a few weeks prior to the beginning of the meeting was an important prerequisite for an efficient evaluation during the EWG. This year, a total of 13 experts pre-screened all sections of the ARs.

As in previous years, following the requests from the EWG experts the Commission contacted Member States for clarifications and/or asked for re-submission of AR files during the EWG. STECF notes that due to the time required to collate all EWG 20-08 sub-group comments into one single communication addressed to each MS and the time needed for MS to reply, MS responses arrived on the fourth day of the meeting. This left only the last day of the EWG for the experts to re-assess the new incoming information and compile the assessment by MS. STECF agrees with EWG 20-08 that it would in future be more efficient for any major issues to be resolved prior to the beginning of the EWG based on the outcome of the pre-screening exercise. STECF considers that in future it would be useful to ask one of the pre-screeners to take on a coordinating role to collate and review comments raised

during the pre-screening exercise together with the Commission. Following this filtering exercise the Commission could raise serious issues with AR submissions (such as gross inconsistencies, serious formatting issues, or missing tables) with MS at the end of the pre-screening exercise and before the EWG. When contacting MS, the Commission should clarify that comments are from pre-screeners and may not represent the final view of the EWG, and that the EWG might raise additional or follow-up questions during the meeting.

STECF observes that the evaluation of 2019 ARs showed that there was a general improvement in the overall performance level by MS compared to previous years. Only one (landlocked) MS was given an overall performance score of 'partly', compared to three following the evaluation of the 2018 ARs. The number of AR sections receiving a compliance level score of 10-50% ('partly') also decreased, from 17 in the 2018 ARs to 11 in the 2019 ARs. STECF considers it could be useful to summarise changes in achievement scores over time by showing how classifications for all AR sections have evolved for each MS over the last three years.

Evaluation of observer coverage

STECF notes that the EWG 20-08 attempted to evaluate observer coverage for fisheries exploiting highly migratory large pelagic stocks, and to assess whether the coverage is in line with the requirements of RFMOs and EU legislation transposing RFMO management measures (in particular Article 20 and Annex I of Regulation (EU) 2019/1154, transposing ICCAT Recommendation 16-05), as requested in the meeting TORs. In order to achieve this, the EWG 20-08 attempted to extract swordfish observer coverage information from Table 4A of the 2019 ARs, which outlines the sampling plan description for biological data. This exercise was not successful, mainly because (i) in most cases, the sampling strata include both on-board sampling and fish market sampling combined, and (ii) the sampling plans generally combine several species of large pelagics. STECF notes that further issues related to sampling of large pelagic stocks were identified by the STECF EWG 19-19 on Outermost Regions, including the fact that the sampling programmes of several MS are not split in sufficient detail to reliably extract information for Outermost Regions.

STECF agrees with the EWG 20-08 that the information available in ARs is only useful to identify which MS have longline fisheries targeting large pelagic fish, but not to produce any further detailed information. STECF considers that a request for more detailed information would need to be addressed to MS in order to gather data on observer coverage for specific fisheries targeting highly migratory species. The responses given by MS would then need to be compared to legal obligations under RFMO requirements and EU legislation.

AR evaluation grid and guidance

STECF notes that the AR evaluation grid and guidance produced by the March 2020 *ad-hoc* contracts improved the evaluation exercise by making it more concise and reducing the number of repetitive questions. STECF notes that the EWG 20-08 is suggesting further improvements to the grid and guidance document.

The updated grid and guidance document reintroduced the regional dimension, which was included in the AR evaluation template up until 2017 but was omitted in the later version. STECF considers that separating assessments by region is important for countries that have fisheries in several regions since the evaluation outcome can be different for each region. Moreover, the regional dimension can contribute to the planning of regional work programmes by identifying issues with data collection at regional level. STECF notes that the EWG 20-08 could only carry out a regional evaluation where MS submitted the required information. Where this was given, the EWG regarded the availability of regionally resolved information as improvement of the evaluation process.

Evaluation of DCF data transmission issues

In total, 106 data transmission related to seven data calls in 2019 and from three end-users were uploaded to the DTMT tool and evaluated by EWG 20-08. 43 data transmission issues were related to coverage, 43 to quality, and 20 to timeliness. STECF observes that this was an increase from the 85 issues evaluated by EWG 19-09 in the previous year. However, STECF notes that the DT issues evaluated resulted from different data calls / end users. Moreover, multiple issues are sometimes reported as one single issue in the DTMT. The total number of DT issues is therefore not directly comparable between years.

STECF notes that the number of DT issues raised by the STECF EWG on Mediterranean and Black Sea has decreased slightly from 2019 to 2020. The number of DT issues flagged by ICES WGs on the other hand increased, mainly due to DT issues raised by the Working Group for the Bay of Biscay and the Iberian Waters Ecoregion (WGBIE).

Data Transmission Monitoring Tool

STECF notes that the DTMT web platform was not operational during the EWG due to technical problems. The EWG was nevertheless able to assess DT issues based on the DTMT Guidance document (version 30 May 2019), using an Excel file provided by the Commission. STECF notes that although the DTMT guidance document worked well, EWG 20-08 suggested some further modifications, in particular the inclusion of changes proposed during EWG 19-09, more concrete examples, and making the guidance document more user friendly.

STECF recalls that PLEN 19-03 had concluded that a separate session at the next STECF spring plenary 20-01 should be dedicated to assessing and adopting changes proposed by EWGs 19-09 and 19-18, and to updating the DTMT web platform accordingly. Due to Covid-19-related restructuring of the spring plenary 20-01, this session could not be held. STECF considers such a separate STECF PLEN session is still required to finalise the DTMT guidance and web platform, and that this could be held during PLEN 20-03 in November. The session will require some preparation in order to ensure that (i) all the comments made by EWG 19-09, 19-18, and 20-08 are compiled, (ii) feedback from any other users of the tool is considered to the extent possible, and (iii) JRC experts responsible for maintaining the DTMT tool are consulted regarding changes that need to be made to the web portal. STECF considers that STECF EWGs should continue using the current version of the DTMT Guidance document (version 30 May 2019) until the DTMT tool and guidance document have been updated.

Reporting Tool

As in previous advice (STECF PLEN 14-02, 14-03, 15-02, 16-02, 17-02, 17-03, 18-02, 19-02), STECF reiterates that an online platform dedicated to WPs and ARs coupled with an online reporting and automatic checking tool would be a more efficient way to monitor data collection by MS, and to assess data transmission issues raised by end-users. Such a tool could build on the preliminary automatic Screening Support Tool (SST) developed in preparation of EWG 18-10. Linked to a regional database, such a reporting tool would also allow for a more effective assessment of DCF data quality, both at the MS and at the regional level. However, STECF understands that such a tool might not be developed before the regional databases under development are operational.

STECF conclusions

STECF endorses the outcomes of EWG 20-08 presented during the STECF PLEN 20-02; the final EWG report was not available to STECF PLEN 20-02.

With regard to the AR evaluation, STECF considers that the updated AR evaluation grid and updated guidance produced for AR-WP evaluators by the March 2020 *ad-hoc* contracts are a significant improvement and allowed for a more consistent and less subjective approach to the evaluation of ARs. STECF notes that additional recommendations for improving the grid and guidance document were made by the EWG 20-08. STECF considers that the compilation of this feedback and integration into the grid and guidance document could best be addressed through an *ad-hoc* contract prior to the EWG 20-16. EWG 20-16 could then be tasked with finalising the evaluation grid and guidance document, prior to endorsement by PLEN 20-03.

In order to streamline the process of contacting MS for clarifications, STECF concludes it would in future be more efficient for any major issues to be resolved prior to the beginning of the EWG based on the outcome of the pre-screening exercise. STECF considers that one of the pre-screeners could be appointed to filter issues flagged by the various experts during the pre-screening exercise together with the Commission so that serious issues with AR submissions can be communicated to MS by the Commission before the start of the EWG in a coherent and consistent manner.

STECF concludes that the information on observer coverage that can be extracted from the ARs in their current format is insufficiently detailed to allow for an evaluation of observer coverage for fisheries targeting highly migratory species and their compliance with legal obligations.

With regard to DT issues, STECF concludes that overall, the use of the DTMT and the DTMT guidance document worked well, facilitating a more consistent and objective evaluation of DT issues. STECF notes that due to challenges faced as a result of having to hold both PLEN 20-01 and EWG 20-08 as remote virtual meetings due to the Covid-19 pandemic, it was not yet possible to finalise the DTMT guidance and make technical changes to the DTMT web tool. STECF considers that STECF EWGs working with data should continue working with the current version of the DTMT and the DTMT guidance document for the time being. STECF PLEN 20-03 should be tasked with finalising the DTMT guidance document and providing details of the required technical changes to the DTMT web portal to the JRC.

STECF notes that despite improvements to the current evaluation procedures, a web-based reporting tool linked to regional databases would be a more efficient way to evaluate the execution of WPs by Member States and to assess DT issues. The use of regional databases could shift the focus from reporting and transmission aspects to the actual quality of the data collected by MS.

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

6.1. Undulate ray

Background provided by the Commission

The sub TAC of undulate ray in 8.a-b (RJU/8-C) is currently managed under the skates and rays Group TAC (SRX/89-C). The stock of undulate ray in 8.a-b is assessed by ICES under category 6 advice, which included new information on landings and discards provided by France in April 2018.

At the December Council 2019, a statement has been adopted which reads as follows: "On Undulate Ray in 8 (Commission): The Commission will request scientific advice from ICES on the opportunity to set an autonomous TAC for undulate ray in ICES subarea 8. The Commission will ask ICES to provide, if possible, this advice in time for it to be considered in the first amendment to the 2020 fishing opportunities. On the basis of the scientific advice, if appropriate, the Commission will consider proposing an amendment to the 2020 fishing opportunities."

- End January 2020, ICES replied to the Commission that the request "is more of a management question which put STECF in a better position to respond".
- Therefore the Commission is seizing STECF to carry out a scientific assessment of the impact of setting an autonomous TAC for the undulate ray stock in 8.a-b.
- The Commission asked STECF to take into account:
 - [Recoam project](#) on stock identity
 - Report of [WGEF ICES, 2018](#)
 - ICES WGEF, 2018: "Annex 8: Report in response to the French request for updated advice on Undulate ray (*Raja undulata*) in Divisions 7.d-e and 8.a-b for 2018"
 - STECF, 2015: "Possible by-catch provisions for undulate ray in ICES areas VIIde, VIIIab and IX (STECF-15-03)"
 - French catches estimates of undulate ray in 2016 and 2017 in ICES Divisions 27.7.d, 7.e, 8.a and 8.b
 - ICES advice, July 2018: "Undulate ray (*Raja undulata*) in divisions 8.a-b (northern and central Bay of Biscay)"

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

STECF is requested to undertake an assessment on the opportunity to set an autonomous TAC for undulate ray in ICES divisions 8.a-b. for conservation and management purposes.

STECF observations

STECF notes that since 2015, undulate ray has been managed under two sub-TACs for subareas 8 and 9 respectively, nested within the overall skates and rays group TAC (SRX/89-C) (Council Regulation (EU) 2020/123).

Clarifications on the reasons underlying the request were received from DG Mare during plenary. The request from France would (i) aim to align the TAC management area with the biological stock distribution area; and (ii) an autonomous TAC was claimed to allow for

better splitting of the national quotas for allocation to producers organizations and (iii) also allow a level playing field with fishers from the Channel, where an autonomous TAC in 7.d-e was created in 2018.

STECF understands therefore that the request relates to two main points:

- i) considerations on area definition since the existing sub-TAC in area 8 is defined for the entire area (Subareas 8.a, 8.b and 8.c combined), whereas the autonomous TAC would relate to Subareas 8.a-b only, and
- ii) considerations on whether an autonomous TAC for 8.a-b would make any difference for conservation and management purposes compared a sub-TAC for the same area.

These two points are discussed separately, and additional management considerations are also provided.

Stock definition and stock status of undulate ray in Subarea 8.a-b

Based on tagging studies (Stephan et al., 2015; ICES, 2018a), there appear to be distinct population units in the Bay of Biscay and Atlantic Iberian waters. ICES considers undulate rays in 8.c and 8.a-b to be separate stock units and provides advice separately.

STECF notes that the status of both stocks of undulate ray in ICES subarea 8 is unknown. In the Bay of Biscay (divisions 8.a-b) there is no index of biomass of undulate ray because the species distribution is mostly inshore, therefore not sampled by the FR-EVHOE survey (ICES, 2018a). Preliminary analyses of the proportion of hauls from commercial trammel net fisheries operating in French waters in 2007–2015, indicated that undulate ray have shown a steady increase in their frequency of occurrence (ICES, 2016), as well as an expansion in spatial distribution (ICES, 2018b). ICES provided quantitative catch advice for undulate ray in 8.a-b for the first time in 2018, giving advice for the period 2018 – 2020. ICES advice for undulate ray in 8.a-b, based on the ICES framework for category 6 stocks (which uses recent level of catches to guide the advice), is that catches should be no more than 202 tonnes in each of the years 2018, 2019, and 2020 of which no more than 13 tonnes should be landed. In this advice, ICES assumes high survival of discards (ICES, 2018b).

Currently there is insufficient information available to provide any estimate on trends in abundance or biomass for the stock in 8.c. Therefore, ICES cannot yet provide quantitative catch advice for this stock.

Regardless of this unknown stock status, undulate ray was nonetheless included in the prohibited species list in 2009 based on the data from the UK-BTS Q3 surveys that did not catch the species during three consecutive years (ICES, 2018a). Nowadays undulate ray is still in the prohibited species list only for ICES subareas 6 and 10 (Council Regulation (EU) 2020/123). Undulate ray was taken out of the prohibited species list in 2014 for areas 7 and 8 and in 2015 for area 9. TACs were established for stocks in the English Channel (ICES subareas 7.d-e) and Bay of Biscay (ICES subarea 8) in 2015 and for the stock in the Iberian ecoregion (ICES subarea 9) in 2016, even though ICES was not in a position to provide catch advice on these stocks at that time.

STECF considers that for all stocks, and even more for stocks requiring specific management because of their presumed vulnerability, as is the case for undulate ray, matching management areas with stock distribution areas will help limit catches by stock in line with individual stock development.

Incidentally, STECF notes also that if the stock of undulate ray in 8.a-b is split away from the TAC in Area 8, consideration should be given to the management of that species in subarea 8.c which otherwise will be managed under the group skates and rays TACs in 8/9.

Sub-TAC vs. autonomous TAC

In subareas 8 & 9, undulate ray has been managed under two sub-TACs for subareas 8 and 9 respectively since 2015, nested within the overall skates and rays Group TAC (SRX/89-C) (Council Regulation (EU) 2020/123). The 2020 sub-TAC for subarea 8 is 33 tonnes, and for subarea 9 is 50 tonnes, while the overall rays TAC is 4 759 tonnes; the species shall not be targeted in the areas covered by the TACs (Council Regulation (EU) 2020/123).

The general main issue for the management of skates and rays is their difficult identification at species level and the high risks of misreporting one species to another one when they are not targeted but by-caught. Therefore they are often landed and managed under group TACs covering several species, even though the various species may have widely different conservation status and stock trends. Various alternative options for the management of skates and rays were evaluated by STECF in 2017 (STECF EWG 17-21). In particular, the pros and cons of group TAC vs. autonomous TACs were discussed. EWG-17-21 concluded that a TAC by stock is the only way that permits the setting of limits on catches by stock in line with individual stock development and the catch levels recommended by ICES. All other options would retain, to varying degrees, the problem of the current group TACs (e.g. limiting fishing opportunity for stocks for which the abundance is increasing, and insufficient protection for decreasing stocks or stocks of unknown status).

On this basis, STECF considers that a sub-TAC at the stock level is expected to provide the conditions for limiting the catches and protect this vulnerable stock. Hence, it is unclear to STECF whether, under the same conditions of enforcement and of control of misidentification and misreporting and for the same amount of catch limit, an autonomous TAC in 8.a-b would make any difference for conservation purposes compared to a sub-TAC in 8.a-b.

However, STECF cannot judge whether the two types of TACs would make any legal or administrative differences for management purposes.

Additional management considerations

STECF notes that the ToR refers to the "conservation and management purposes" of a TAC for undulate ray in 8a-b. In this broad context, it is important to consider, alongside the stock unit, stock trend and form of TAC discussed above, the general implementation and the effectiveness of the management measures in application (TAC and Landing Obligation).

In this context, STECF notes that some estimates of French catch of undulate ray in 2016 and 2017 based on French self-sampling and observer programs were presented and analyzed by ICES (ICES 2018a—Annex 8), and were also provided to STECF as a supporting document. The analysis based on the self-sampling program showed landings of undulate ray in 8.a-b to be around 80 tonnes in both 2016 and 2017 while discards estimates were 427 and 485 tonnes in these years, respectively (about 85% discard rate). However, ICES considered that estimates from the French self-sampling program could not be incorporated at that time as it required further validation (ICES, 2018c). The French official landings in 8.a-b in these two years were 14 and 22 tonnes. The estimates of landings based on the observer program collected under the Data Collection Framework (DCF) (10

and 8 tonnes in 2016 and 2017, respectively) were very similar to official figures officially reported to ICES (2018c). Discards estimates from the DCF sampling were 211 and 314 tonnes in 2016 and 2017 (ICES, 2018b,c). These, plus the official landings reported to ICES, constitutes the catches used by ICES to provide its advice in 2018 (ICES, 2018b).

STECF emphasizes that these discrepancies between some estimation procedures and the officially reported landings reported by France need to be resolved, and their implications on stock assessment and advice and on compliance with TACs fully assessed.

STECF also notes that there is no information on the discard survival of undulate ray in the coastal French fisheries where the undulate ray stock in 8.a-b is caught, nor for undulate ray in any other fisheries. Nevertheless, STECF 15-03 and STECF 17-21 consider survival of discarded rays to be potentially high for many species of skates and rays and fisheries. Consequently, undulate ray is subject to a high-survival LO exemption, and thus individuals can continue to be discarded, and thus this stock cannot be considered a potential choke species.

STECF highlights that for conservation purposes, all catches of undulate ray should be correctly reported, and the issues linked to the survivability and status of the stock should be accounted for in management.

STECF conclusions

STECF agrees that the management area should be aligned with the distribution area of the stock (8.a-b).

In relation to achieving conservation objectives for undulate ray through restricting catches and exploitation rate using TACs, STECF can foresee no obvious advantage or disadvantage between choosing to adopt a sub-TAC or an autonomous TAC for undulate ray in Divisions 8.a-b.

References

- ICES. 2016. Report of the Working Group on Elasmobranch Fishes (WGEF), 15–24 June 2016, Lisbon, Portugal. ICES CM 2016/ACOM:20. 684 pp.
- ICES. 2016b. Undulate ray (*Raja undulata*) in divisions 8.a–b (northern and central Bay of Biscay). ICES Advice 2016, Book 7 (ICES Advice on fishing opportunities, catch, and effort)
- ICES. 2018a. Annex 8: Report in response to the French request for updated advice on Undulate ray (*Raja undulata*) in Divisions 7.d–e and 8.a–b for 2018. ICES WGEF Report: 1090-1252.
- ICES. 2018b. Undulate ray (*Raja undulata*) in divisions 8.a–b (northern and central Bay of Biscay). ICES Advice 2018.
- ICES 2018c. ICES Special Request Advice: French request for updated advice on undulate ray (*Raja undulata*) in divisions 7.d–e and 8.a–b for 2018. (Published 13 July 2018). ICES Advice 2018. <https://doi.org/10.17895/ices.pub.4500>
- STECF. 2015. Possible by-catch provisions for undulate ray in ICES areas VIIde, VIIIab and IX (STECF-15-03). Publications Office of the European Union, Luxembourg, EUR 27154 EN, JRC 95199, 17 pp.
- STECF. 2017. Long-term management of skates and rays (STECF-17-21). Publications Office of the European Union, Luxembourg. ISBN 978-92-79-67493-8, doi:10.2760/44133, JRC109366.

Stephan, E., Gadenne, H., Meheust, E., Jung, J.L. 2015. Projet RECOAM : étude de cinq espèces de raies présentes dans les eaux côtières d'Atlantique et de Manche. Rapport final. Association Pour l'Etude et la Conservation des Sélaciens et Laboratoire BioGeMME, Brest, France. 60 p.

6.2 STECF evaluation of the Danish weighing proposals

Background information provided by the Commission

Article 60 of Council Regulation (EC) No 1224/2009 (hereafter 'Control Regulation') requires that Member States shall ensure that all fishery products are weighed on systems approved by the competent authorities. Weighing must be done in a manner that accounts for each quantity of each species for the completion of catch registration documents. By default, all fishery products must be weighed at landing before transport, storage or sale. However subject to Commission approval, granted in the form of Commission Implementing Decisions, the following derogations from the requirement to weigh each quantity of each species before transport, storage or sale may apply:

1. The sample weighing of fishery products at landing according to a Commission approved sampling plan (Article 60(1) of the Control Regulation). This provides an exemption from the requirement to weigh all fishery products at landing and the methodology for this type of sampling plan is detailed in Annex XIX of Commission Implementing Regulation (EU) No 404/2011 (hereafter 'Implementing Regulation').
2. The sample weighing of fishery products at landing, which have been already weighed on board a fishing vessel, according to a Commission approved sampling plan (Article 60(3) of the Control Regulation). This provides another exemption from the requirement to weigh all fishery products at landing and the methodology for this type of sampling plan is detailed in Annex XX of the Implementing Regulation.
3. The weighing of fishery products after transport, to a destination within the Member State of landing, according to a Commission approved control plan (Article 61(1) of the Control Regulation). The methodology for this derogation is detailed in Annex XXI of the Implementing Regulation.
4. The weighing of fishery products after transport, to a destination within another Member State, according to a Commission approved common control programme (Article 61(2) of the Control Regulation). The methodology for this derogation is detailed in Annex XXII of the Implementing Regulation.

In the event that a Member State has adopted any of the Commission approved weighing provisions outlined above, the results of weighing according to these provisions shall be used to complete catch registration documents such as weighing records (Article 70 of the Implementing Regulation), landing declarations, sales notes, transport documents and take-over declarations (Art 60(5) of the Control Regulation).

As catch registration documents are necessary for Member States to monitor quota uptake and to report the quantities landed to the Commission, it is essential that the weighing provisions submitted to the Commission, for approval, ensure the accurate weighing of all catches. In cases where fishery products are to be sample weighed, it is important to ensure that the prescribed sample size is sufficient to be representative of the overall quantities of each species landed.

Denmark submitted, on 30 September 2019, to the Commission proposals for three sampling plans, three control plans and a common control programme for weighing fishery products, post transport, in Belgium (these were subsequently revised on 20 December 2019 and 21 January 2020). These proposals address respectively the weighing of unsorted

species not intended for human consumption (i.e. industrial species), unsorted species intended for human consumption (i.e. pelagic species) and demersal species.

An ad hoc contract was issued to evaluate the sampling plans and control plans submitted by Denmark for Commission approval. The proposed common control programme shall not be included in this evaluation. In particular, an evaluation of the plans shall assess whether the prescribed sample amounts are sufficient to ensure an accurate representation of each quantity of each species landed.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

STECF is requested to:

- 1) Evaluate the methodologies outlined in the proposed Danish sampling plan and control plan for unsorted fishery products not intended for human consumption i.e. industrial fishery products. The Danish sampling methodology is supported by the *Sampling plan model for sampling small meshed landings* (DTU – Technical University of Denmark). In particular, an assessment shall be made of the prescribed sample quantities, per fishery, detailed in Table 1 of the proposed plans with a view to determining whether the sample quantities ensure an accurate representation of each quantity of each species landed.
- 2) Evaluate the methodologies outlined in the proposed Danish sampling plan and control plan for unsorted fishery products intended for human consumption i.e. pelagic fishery products. In particular, an assessment shall be made of the prescribed sample quantities detailed in the table of the proposed plans with a view to determining whether the sample quantities ensure an accurate representation of each quantity of each species landed. Note: the sampling methodology of these plans is based on Article 7 of Commission Regulation (EEC) No 3703/85, which is intended to provide a sampling basis for grading species, of a given 'lot', into freshness and size categories.
- 3) Evaluate the methodologies outlined in the proposed Danish sampling plan and control plan for fishery products, including those that have already been weighed on board, i.e. demersal fishery products. In particular, an assessment shall be made of the sample quantities detailed in Table 1 of the proposed plans with a view to determining whether the sampling provisions ensure an accurate representation of each quantity of each species landed.

Summary of the information provided to the STECF

1. STECF was provided with proposals for three separate sampling plans and three control plans submitted to the Commission by Denmark:

1.1 Sampling plans:

- for the weighing of fisheries products landed in unsorted industrial catches;
- for the weighing of pelagic species intended for human consumption, including by-catches, that are retained and landed unsorted;
- for fisheries products sorted and weighed on board, prior to landing and first sale.

1.2 Control plans:

- for the weighing of fisheries products landed in unsorted industrial catches, after transport from the place of landing;
- for the weighing of pelagic species intended for human consumption, including by-catches, that are retained and landed unsorted;
- for the weighing of fisheries products after transport from the place of landing.

Each of these documents includes a description of the fishery products and species included in each plan, the assessed risk of non-compliance with the rules of the Common Fisheries Policy (CFP), a description of the weighing procedure, a sampling plan specifying the minimum number of samples and additional proposed measures to ensure compliance.

2. A sampling plan model for sampling small meshed landings (Technical University of Denmark). This document is annexed to the sampling and control plans for the weighing of fisheries products landed in unsorted industrial catches and sets the basis for the minimum number of samples required in the sampling plans. Based on historical by-catch data over the period 2008-2017, it evaluates the number of samples required from each individual industrial landing to determine the relative species composition with a given uncertainty. The minimum sampling levels are established for eight industrial fisheries (where each fishery is defined by a species fished in a given area with a certain mesh size). The required uncertainty is expressed in terms of the standard deviation and three different levels are considered (1%, 2.5% and 5%). In addition, three scenarios are considered: typical landing (based on median values) and two more pessimistic scenarios in which 75% and 95% of the landings are estimated with the largest uncertainties. The document also studies the sensitivity of the results to different landing sizes and concludes that the effect of sampling is minor and could be ignored for landings within the range of magnitudes tested (1 - 1 000 tonnes).

3. Evaluation report of weighing proposals Ares(2020)835039 FINAL.doc. Prepared under Ad-hoc contract in February 2020.

4. Correspondence between the Commission and the Danish Ministry on the submission and revision of the sampling and control plans.

STECF observations

STECF notes that article 60 of Council Regulation (EC) No 1224/2009 (hereafter the Control Regulation) provides four derogations from the general rule of weighing of all fishery products at landing. These are:

- sample weighing of fishery products at landing;
- sample weighing after the catch has been weighed on board the fishing vessel prior to landing;

- weighing of fishery products after transport to a destination within the Member State;
- weighing of fishery products after transport in another Member State.

These derogations are subject to the adoption of Commission approved sampling and control plans for the weighing of fishery products that must follow the risk-based methodology of the Commission Implementing Regulation (EC) No. 404/2011 (hereafter the Implementing Regulation) Annexes XIX, XX, XXI and XXII.

Initially, it was planned that STECF would evaluate the Danish weighing proposals during PLEN 20-01 in March 2020. However, due to the Covid-19 pandemic the evaluation was postponed to PLEN 20-02. Due to this delay, the STECF evaluation has been conducted after the adoption of the plans in Commission Implementing Decision (C(2020) 2944 final) on the 8th of May 2020. This means the plans have already been agreed. However, STECF notes that the Commission has the mandate to require additional information from the Member State or revoke the decision if it becomes apparent that implementation does not ensure accurate weighing of fishery products.

STECF notes that according to the Implementing Regulation, the sampling in the sampling plans shall be representative and at least as efficient as Simple Random Sampling. Furthermore, if catches are landed in standardised boxes the number of boxes to be sampled weighed shall be proportionate to the assessed risk levels.

STECF notes that according to the Implementing Regulation the size of the sample to be weighed should be established based on the risk of non-compliance with the rules of the Common Fisheries Policy (CFP). The risk is determined by the Member State based on pre-defined criteria such as levels of previously detected infringements, at the following levels: very low, low, medium, high and very high. The annexes do not specify what information should be included to demonstrate how each criterion has been assessed by the Member State. Additionally, there is no detail on whether the criteria are weighted differently. STECF notes that without additional information or data providing a better understanding of how the risk assessment was conducted by the Member State, it is not possible for STECF to properly evaluate the risk levels as presented in the plans.

STECF notes that the risks of non-compliance with the rules of the CFP for the port/location/region in the Member state where the landing(s) take place (stated in the sampling plans) is assessed equally to the risk of non-compliance with the rules of the CFP associated to the permitted weighing of fisheries products after transport (stated in the control plans). Therefore, the assessed risks that form the basis to determine the number of samples included in the sampling and control plans respectively are the same both at the port/location/region and after transport. The proposed sampling methodology is also the same at both steps in the process. Due to the lack of information and data on how the risk assessment

was carried out by the Member State, it is not possible for STECF to assess whether this is a reasonable assumption.

As the sampling methodology is the same in the proposed sampling and in the control plan for each fishery, STECF presents the following specific observations and conclusions by fishery:

1. Sampling plan and control plan for unsorted fishery products not intended for human consumption i.e. industrial fishery products.

STECF notes that Denmark has assessed the risk of non-compliance with the rules of the CFP in these plans as *high/moderate*. The sampling methodology as specified in the sampling and control plans consists of taking samples (of at least 10 kg each) at regular intervals from the beginning to the end of the off-loading. The minimum number of samples to be weighed is based on the *Sampling plan model for sampling small meshed landings* elaborated by DTU Aqua. The document analyses catch samples taken by the Danish control agency for the last 10 years (2008-2017) to determine the required number of bucket samples that must be obtained from each landing to estimate the relative species composition (in weight) with a given uncertainty.

STECF observes that the minimum number of samples specified in the sampling plan (Table 1) corresponds to a standard deviation of 2.5% being obtained in 95% of the landings estimated with the largest uncertainties (i.e., 95% of landings sampled in that way should result in the same or better precision). The table includes the minimum number of samples for landings of 25 tonnes and under, for landings between 25 and 200 tonnes and for landings over 200 tonnes. It is noted that the minimum number of samples for landings of 25 tonnes or under and between 25 and 200 tonnes could not be checked against the document provided by DTU Aqua. Additionally, the minimum number of samples for landings over 200 tonnes for the fisheries of sandeel in the North Sea and boarfish in all regions which are set at 6 (plus 1 per 250 tonnes of part thereof) in the plans do not match the values (equal to 2) given in Table 2 of the document provided by DTU Aqua.

STECF notes that the sampling plan indicates that the minimum number of samples will be evaluated every x years, but the frequency is not specified (i.e. the value of x is not given). STECF notes that the methodology applied for sampling should be re-assessed after a certain period to reassure that the method is resulting in the required precision level (i.e. the value of x should be defined).

2. Sampling plan and control plan for unsorted fishery products intended for human consumption i.e. pelagic fishery products.

STECF notes that the risk of non-compliance with the rules of the CFP is assessed as low in these sampling and control plans. Denmark considers that the species composition can be determined from the samples taken to verify size and freshness in accordance with Commission Regulation (EEC) No 3703/851¹. Table 1 (of the plans) specifies the minimum weight of the samples (in kg) depending on the quantity (in tonnes) offered for sale. If the landings are carried out by a vessel with tanks for storing fish, samples must be taken from each tank. In addition, the samples must be taken at regular intervals during the off-loading to ensure that the sample is representative of the whole quantity offered for sale. STECF notes that no analysis or background information on the minimum sampling size and the precision of the species composition needed are included in the plans.

STECF observes that Denmark states that it plans to regularly evaluate if the sampling size is appropriate and may increase the number of samples if the sample quantities to be weighed prove insufficient. However, STECF notes that the technical details on how and when this will take place are not specified.

3. Sampling plan and control plan for fishery products, including those that have already been weighed on board, i.e. demersal fishery products

STECF notes that Denmark has assessed the risk of non-compliance with the rules of the CFP by vessels authorised to weigh fishery products on board as *very low* or *low*.

STECF notes that the proposed sampling plan for fishery products landed by vessels authorised by the Danish Fisheries Agency to weigh and pack fish on board, consist of sampling some boxes for sample weighing based on the Danish Fisheries Agency's guidance notes for fish weighed and packed on board. The minimum number of boxes to be weighed depends on the number of boxes landed per species. According to the plans, the number of boxes to be weighed is planned to be the same regardless of the species and should cover, as far as possible, all fishing days. The total weight is calculated based on the average weight of the boxes selected.

¹ Commission Regulation (EEC) No 3703/851 (amended by Commission Regulation (EEC) No. 3506/89 and Commission Regulation (EC) No 1115/2006).

General conclusions

STECF concludes from the information provided in the proposed sampling and control plans, that the requirements for operators and for the authorities to verify compliance with the plans appear to be in line with the legal requirements specified in the relevant legislation. The verification of the weighing results and the compliance with the sampling plan follows a risk-based approach that use relevant data sources and appears to be well integrated with other parts of the Danish fisheries control system.

STECF concludes that the specified method provided in the Implementing Regulation for Member States to establish the risk of non-compliance with the rules of the CFP by a set of pre-defined criteria, allows for a subjective assessment of risk by the Member States. Consequently, a proper evaluation shall be made on a case-by-case basis and would require that the details of the risk assessment methodology (if the risk criteria are weighted differently etc.) are provided. In the three cases evaluated here, STECF concludes that due to lack of information and data on how the risk assessment was carried out, it is not possible to assess whether the risk of non-compliance with the rules of the CFP for the port/location/region is the same as after transport for the respective fisheries.

1. Sampling plan and control plan for unsorted fishery products not intended for human consumption i.e. industrial fishery products.

The sampling method to establish the minimum number of samples (provided by the Technical University of Denmark) does not follow a sampling technique approach, but it is established following a model-based approach that accounts for variations between landings for each fishery. STECF concludes that this seems to be a statistically sound method. However, not all values in Table 1 of the sampling plan could be verified with respect to the document elaborated by DTU Aqua. In addition, the frequency at which the number of samples will be revised to ensure that the risk assessment remains valid, needs to be specified. For these reasons, STECF cannot fully assess whether the sample quantities to be weighed ensure an accurate representation of each quantity of each species landed.

2. Sampling plan and control plan for unsorted fishery products intended for human consumption i.e. pelagic fishery products.

As no analysis or background information allowing the endorsement of the minimum sampling size and assessment of the precision of the species composition has been presented, STECF concludes that it cannot assess whether the sample quantities to be weighed ensure an accurate representation of each quantity of each species landed.

3. Sampling plan and control plan for fishery products, including those that have already been weighed on board, i.e. demersal fishery products

STECF concludes that as no additional or supporting information was provided for the sampling method, it was not possible to determine whether the provided numbers of boxes to be sampled weighed ensure an accurate representation of each quantity of each species landed.

STECF concludes that the minimum number of samples to be weighed in the sampling plan is not given for different risk levels in accordance with the Implementing Regulation. Therefore, the sampling plan does not provide information on how the number of sampled boxes changes would change if the assessed risk of non-compliance with the rules of the CFP changes (i.e. from low to medium).

6.3 Advice for the preparation of joint recommendations under the Technical Measures Regulation with respect to “directed fishing”

Background provided by the Commission

The entry into force of the new Technical Measures Regulation² resulted in the introduction of the process of regionalization in numerous fields as far as technical measures are concerned. Member States with interests in a given region should adapt various aspects of fisheries management to ensure that activities carried out are consistent with the objectives proposed by the aforementioned legal text. In this process, the regional groups should develop joint recommendations that would need to go through the STECF in order to assess to what extent the recommendation proposed goes in line with achieving the objectives set out in the Regulation.

Article 27.7 of that regulation provides for the definition of “directed fishing” to be fixed in a delegated act by the Commission following a joint recommendation from the relevant Member States concerning the relevant species in Part B of Annexes V to X and A of Annex XI.

The Commission is required to provide advice on appropriate criteria to identify whether a proposed definition is consistent with the objectives of the Common Fisheries Policy (Article 2 of Regulation 1380/2013), and in particular with respect to the objectives in the Technical Measures Regulation (Articles 3 and 4 of Regulation 2019/1241).

An ad-hoc contract has been commissioned in order to provide background for STECF advice.

Background documents are published on the meeting’s web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

Based on the report of the ad-hoc contract and any available additional information, STECF is requested to advise on criteria for establishing (or otherwise) the extent to which a proposed definition of “directed fishing” will further or hinder the achievement of the objectives of the Common Fisheries Policy and of the Technical Measures Regulations (1380/2013 and 2019/1241), particularly with respect to optimising exploitation patterns (Article 3(2(a)) of Regulation 2019/1241).

² Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005, OJ L 198, 25.07.2019, p. 105.

STECF response

Describing the problem

Article 6.3 of Technical Measure Regulation (EU) 2019/1241 (TMR) introduces the term “directed fishing”, which is defined as “fishing effort targeted at a specific species or group of species and may be further specified at regional level in delegated acts adopted pursuant to **Article 27(7)** of this Regulation”

Article 27.7 states “The Commission is empowered to adopt delegated acts pursuant to Article 15 and in accordance with **Article 29** to further define the term ‘directed fishing’ for relevant species in **Part B of Annexes V to X and Part A of Annex XI**. For this purpose, Member States having a direct management interest in the fisheries concerned shall submit any joint recommendations for the first time not later than 15 August 2020.” Parts B of Annexes V to X and part A of Annex XI of 2019/1241 contain specifications for permitted mesh sizes in different regions, specifying for each region a baseline mesh size for fixed and towed gears and permitted deviations from such baselines provided certain conditions are met.

Each permitted exception from the base line mesh size indicated in the table includes the term ‘Directed fishing’, which is not explicitly defined. However, pursuant to article 27.7 it may be further defined through joint recommendations by regional groups.

The problem therefore is to be able to define ‘Directed fishing’ for each exception from the baseline mesh sizes in each region to ensure that the conditions associated with each mesh size in use can be monitored and controlled. Without such a definition, permitted exception from the base line mesh sizes cannot be defined.

Summary of the information provided to STECF

STECF received the report from the ad hoc contract commissioned. This document provides an overview of the different approaches to defining directed fishing and assesses the implications with regards to other policies, mainly the compatibility with the landing obligation and other technical regulations.

Drawing on the work of several published scientific papers, the report equates directed fishing with métiers and summarises the approaches to identify métiers under two categories; input-based (building on how the trip was performed e.g. gear, area, season) and output-based (building on the outcomes of the trip i.e. what was caught).

Input-based approaches to identify métiers may rely on statements of intent to target species on a fishing trip before it commences. Such statements of intent could be based on interviews with skippers or statements in e.g. logbooks. The assumption is that the intended target species of the fishing trip using a particular fishing gear defines directed fishing for that trip.

The advantages of such an approach are that a priori:

- directed fishing for a species or group of species is defined and
- no post-trip data analysis is required to allocate that fishing trip to a métier.

The disadvantages are various and include the following:

- Declarations of intent recorded in logbooks are not mandatory in all member states and logbooks are not mandatory for all vessel classes.
- Interviews are time-consuming and difficult to perform.
- The intention to direct fishing to a species or group of species does not guarantee that the intended species will be caught. Hence there is a control issue and there is

a need for some method or criteria to be used by control authorities to check whether fishing is or has truly been directed to the intended species.

Output-based methods to identify métiers rely on catch data collected, ideally, at the level of the individual vessel trip (Data Collection Framework DCF levels 6 or 7). The methods can be broadly classified as three types and are based on catch profiles of species caught during a fishing trip (preferably) or trips.

- i) Minimum thresholds related to catch compositions (proportion of a species or group of species in a catch)
- ii) Multivariate analyses of catch composition
- iii) Classification algorithms

The advantage of such approaches is that they are useful in determining a posteriori to what species or group of species fishing was directed, provided that the data required to do so are made available, preferably at the trip level. To determine to which species the fishing had been directed requires some sort of judgement or consensus on the threshold(s) to be used.

The disadvantages include

- Catch profiles vary in space and time. For example, even if one trip using a particular gear is a posteriori classified as a directed fishery for species A, a subsequent trip with the same gear fishing in the same area might give a classification as a directed fishery for species B.
- Catch composition is only known after the trip has taken place. As such, thresholds cannot prevent bad outcomes to occur (such as high catches of juveniles or of untargeted species) but are only used afterwards to monitor whether such bad outcomes took place or not.
- The data required are detailed catch data (not only landed catches) and are not available for all vessel classifications and not always at the required level of aggregation (trip level) for monitoring and control purposes. The landing obligation (LO) has also led to a deterioration in the quality and reliability of reported catch data.
- Thresholds can create perverse incentives and under the LO lead to further deterioration of reporting of catches, e.g. to achieve a minimum threshold for species A, there may be an incentive to discard catches of species B, C etc. and under the LO such discards would be illegal and not recorded.

The report concludes that, as stated by Ulrich (2018), there is no unique simple set of criteria that can be universally used to define directed fishing. This is mainly due to the variability inherent to the fishing activity and the underlying resource. Catch compositions (in species and size) are the result of species distribution, catchability of the gear used and fine-scale tactical decisions. This results that two vessels with the same characteristics might have different catch profiles and ultimately two consecutive hauls from the same trip by the same vessel can yield very different outcomes.

Previous STECF evaluations

STECF has previously addressed the problem of defining fisheries (intended target species with a given gear*mesh size*area; i.e. directed fishing) in the context of the landing obligation (STECF 14/01). The pertinent conclusions from that report can be summarised as follows:

- Regardless of whether a fishery is defined *a priori* by its intention (intended target species with a given gear*mesh size*area) or by its actual catch composition after completion of the trip, both options are problematic because:
- The intended target is not recorded in logbooks and therefore not known. On the other hand, it may not be a desirable option to manage fisheries defined by their *post hoc* catch composition, as no regulation can be enforced on a fishing trip that has already taken place.
- In mixed fisheries, there is no unique and simple solution for defining fisheries. Individual fishing activities and fishing vessels can be grouped in many ways for defining fisheries and fleets, and therefore the question requires a political trade-off on the agreed level of aggregation (“zoom in”) and grouping criteria.
- Ultimately, management units [directed fisheries in the context of the current request] should be of tractable size and number, and their definition should be in accordance with the availability of information that will be used to monitor and control them.
- Defining fisheries based on their target species (“fishery for Norway lobster”) is intuitively meaningful, but in practice it is really difficult to define clear, robust and objective quantitative rules allowing individual fishing vessels and fishing trips to be allocated to such fisheries. To the contrary, management units based on gear specifications are easier to manage and monitor, but they may ignore large differences in individual fishing and targeting patterns.

STECF PLEN 20-02 notes that these conclusions raised are very similar to those raised in the ad-hoc contract.

STECF comments

STECF underlines that the request is complex and multi-dimensional. Member States would propose definitions of directed fisheries, the scientific robustness of which will be afterwards evaluated by STECF in a process essentially similar to the evaluation of the derogations to the landing obligation. Examples of this have already been investigated by STECF 20-01 (ToR 3.1.c), where the impact of various thresholds for defining the directed fisheries on haddock and monkfish were investigated in terms of number of vessels and trips included, and corresponding expected impact on protected species like cod. Also, STECF has evaluated the potential impact of various catch composition thresholds on the resulting exploitation pattern of the fishery on gadoids in the North Western Waters in the ToR 6.4 of this Plenary 20-02 report.

Based on the information presented in the ad-hoc contract and in related scientific studies, STECF acknowledges that there is no simple, unique and practical indicator or (sets of) metric(s) that can be used to unequivocally define a directed fishery. Reciprocally that means that several equally plausible definitions of directed fishing for the same fishery may be suggested, but they may have widely different implications in terms of catch outcomes. Establishing the extent to which a proposed definition of “directed fishing” will further or hinder the achievement of the objectives of the Common Fisheries Policy and of the Technical Measures Regulations (1380/2013) and 2019/1241), particularly with respect to optimising exploitation patterns (Article 3(2(a)) of Regulation 2019/1241) means thus that STECF will need to evaluate whether the derogation requested by MS would lead to an improvement or a deterioration of the exploitation patterns of the fishery involved compared to what could be expected if fishing with the baseline gear.

To be able to evaluate this, STECF will essentially require information from MS for the analysis of three key effects combined:

- 1) Will the permitted gears proposed for the directed fishery give similar or better selectivity compared to the baseline gear in the TMR (for species and sizes that need to be avoided)?
- 2) What are the conditions set for granting the derogation to use the proposed gear(s), and which proportion of the fleet will be entitled to use them depending on catch threshold?
- 3) Does the proposal help to achieve the CFP MSY objectives, minimize unwanted catches and avoid discarding, and reduce the fishing impact on the ecosystem (on seafloor habitats, vulnerable or protected species, etc.)?

These three effects are discussed below. Then in section 4) STECF provides some general comments that Member States may keep in mind when aiming for derogations and defining directed fishing.

As a general comment, STECF stresses that the suggestions below represent a rather simple approach allowing for a quick appraisal of the potential impact of the proposed definition based on standard data and information. Where available, it will always be preferable if Member States provide supporting studies involving advanced management strategies evaluation taking into account various sources of uncertainty and assessing impacts at various time scales (short, medium and long term) in a robust stochastic approach. On the other hand, STECF also notes that there will likely be some simpler cases for which the definition of directed fishing will be more straightforward to document and assess.

1) Relative selectivity of the gears

For the purposes of the evaluation, the terms '*more selective*', '*most selective*' and '*better selectivity*' or similar, are used qualitatively to mean that a lower unwanted catch (whether unwanted species or unwanted size range within a species) is likely to be caught and retained by a particular gear configuration, compared to a different gear configuration, everything else being equal. In other words better selectivity means that fishing mortality of unwanted catch (whether unwanted species or unwanted size range within a species) will be reduced in the hauls where the more selective gear is used compared to what it would be with the other gear.

The main objectives of comparing the selectivity of the proposed gears with the one from the baseline gear should be to document two elements: i) demonstrate that suitable catch rate for the targeted species cannot be reached with the baseline mesh size, and that a derogatory smaller mesh size is needed, and ii) assess the catch rates of what should be avoided (juveniles, declining or sensitive species etc).

Evaluating differences in selectivity between gears is possible as long as adequate information and data from trials at sea with experimental gears are available. Such supporting studies should document the relative selectivity of gears for several species in different areas.

In the absence of such supporting studies, it is only possible to evaluate the potential effects of implementing a new proposal if that proposal falls in the category of previously

known gears, in the same or similar area, as was for example done by STECF PLEN 20-01 (ToR 3.1.a).

STECF has evaluated the validity of numerous selectivity trials in the past, and there are elements required for such evaluations that have repeatedly been pointed out. Any supporting selectivity study should be representative of the relevant fishery in terms of e.g. vessel type and haul duration, season and area, and catch composition. Such elements of comparison should be explicitly described in the studies. In particular, a common confounding problem is that in the trials, catch rates for the stocks which require protection and which are the subject of the trials (stocks in decline, protected and/or sensitive species), are inevitably low. Consequently, it is difficult to precisely assess the selectivity properties of the trialed gear for the species of interest. A recent example of assessing representativeness is e.g. found in the analysis of the selective gear in the Norway Pout fishery (ToR 3.3 in PLEN 20-01 and ToR 6.8 of this plenary 20-02 report).

Secondly, the study should follow established standards using e.g. twin rigged catch comparison or covered codend. The design and specification of the trial should be fully described, including the technical specification of the gears. Selectivity parameters should be estimated using robust statistical analysis including confidence intervals, and the inter-haul variability should be analysed to investigate the sensitivity of the estimated outcomes to a particular haul. Individual haul data should be provided with the supporting study.

All these elements should provide a sufficient basis to assess whether a given gear is expected to have similar or better selectivity than the baseline gear specified in the TMR.

2) Conditions of granting the derogation and robustness of catch composition thresholds

As is also the case with e.g. the exemptions to the landing obligation, a key issue for Member States is to establish a definition of directed fisheries that is measurable and controllable. At any point in time, a MS should be able to identify which vessels and trips are operating in the derogated directed fishery, which gear (including selective devices, panels etc., at the level of description corresponding to the gear definitions in the regulations) they operate in each trip (in case of a vessel operating in different fisheries over time and switching gear between trips) and what, where and when are the resulting catches (landings and discards).

Also, Member States should explain how they practically enforce and control the derogation. There should be a clear incentive to comply with the mesh size rules. STECF suggests the easiest way to achieve this is to link the use of gears that derogate away from the baseline mesh size (i.e. a mesh size linked to "directed fishing" for a species or group of species) to a fishing authorisation prior to a vessel going to sea or as a licence condition. Currently this requirement is included in the technical measures Regulation (Article 26 paragraph 5), but it is not mandatory.

Ultimately, this suggests that any definition of directed fishing should not be more detailed in its formulation than the level of detail in the information that will be available to the Member States to define, monitor, control and enforce it. It should be possible to monitor and assess whether for every vessel and at the relevant stage in the fishing operation, the provisions for participation in the directed fishery are being met. For example, if directed

fishing using a particular gear is defined as a minimum proportion of one or more species in the catch, the data and information required to compute the catch composition at the vessel and trip level would be required. Such detail would also permit the average catch composition for all vessels participating in the directed fishery to be computed.

Similarly, these data at the same level of disaggregation would need to be provided to STECF when it is requested to evaluate the effects or the impact of the derogated directed fishery. STECF recalls that national disaggregated individual trip data such as logbooks and at sea-sampling data are usually not directly available to STECF (the databases like FDI being aggregated over several trips and vessels), and must be specifically provided to STECF as supporting information each time a Joint Recommendation is to be evaluated. This was for example done for STECF PLEN 20-01 (ToR 3.1.c).

On the basis of that information, the evaluation of the impact of the definition of the "directed fishing" will typically involve assessing the proportion and size of the fleet that would derogate from the baseline.

If the proposed definition would involve a catch composition threshold, it will be necessary to investigate the robustness of the criteria to clearly discriminate between directed and non-directed fishery based on historical catch patterns. A first element would be to compute simple historical catch compositions averaged over the more recent years of the groups of vessels and trips intended to be derogated and of the remaining vessels and trips in the fleet that adopt the baseline gear category. Second, it would be useful to plot various metrics as e.g. ranked accumulated sums of catch and of number of trips against different threshold values, which would visualise whether different catch composition patterns can be clearly identified. Some examples of such plots are given in PLEN 20-01 ToR 3.1.c, which demonstrated for example that for the fishery analysed, haddock and monkfish were caught by most trips and vessels in varying proportions from 0 to >50% (which would make it difficult to identify a robust threshold; the proportion of the fishery to be derogated would thus be sensitive to the choice of the threshold). Conversely the plots suggested that other species like hake or *Nephrops* would appear to be more specifically targeted by a minority of trips, thus making the identification of the directed fishery more robust to the choice of the threshold. The stability over time of these types of catch patterns would also need to be investigated, using time series of e.g. three to five years.

STECF also indicates that, as also described in the ad-hoc contract, a variety of statistical analyses of historical catch data have previously been undertaken to identify directed fisheries and characterise their average catch composition patterns and distribution in space and time. Such studies are available as published scientific articles for most EU fishing regions and, as a starting point, might help inform Member States on plausible ranges of thresholds. They may also be used by STECF to verify the justifications and hypotheses used by Member States.

More generally, STECF notes that the ongoing EASME-funded project PROBYFISH (2018-2021) builds further on this scientific experience and exactly intends to propose, among others, an objective, automatic and statistically robust method to define whether a given species would either be a target, a valuable bycatch or a collateral (non-valuable) bycatch of a given fishery, and to develop an interactive and web-based decision-making support tool to help identify suitable threshold values. The method is based on the observed variability in a number of pre-defined catch metrics calculated from standard logbooks and at sea sampling data including discards, and is intended to be easily applicable across all

species and regions (ICES, 2020). STECF considers that the outcomes of such an approach are promising and once completed and published, will potentially provide a useful standard reference method for assessing the robustness of proposed definitions for directed fisheries.

3) Expected impact of the derogation on the CFP and TMR objectives

As stated above, the overall benefits of a more-selective gear or, conversely, the negative effects of a derogation permitting the use of a gear that is less selective than the baseline gear, will ultimately depend on the characteristics of the proposed gear and on the number and activity of vessels that will use that gear. A perfectly selective and low-impact gear that is used by only a small proportion of the fishery will not yield major conservation benefits and will contribute little to furthering CFP objectives. Conversely, a low catch composition threshold for defining a directed fishery would mean that most vessels and trips may potentially be derogated and use a less selective gear than the baseline, which may hinder the achievement of the objectives.

Whether a proposed definition of directed fishing furthers or hinders achieving CFP and TMR objectives is thus a matter of trade-offs, and it is therefore necessary to combine the elements described in the sections 1) and 2) above, to i) scale the results in terms of potential total catches of all species in relation to achieving the CFP MSY objectives, ii) assess the impact on the ecosystem, for example, on sensitive species and habitats if the proposed gear has a different type of contact with the seafloor, and iii) assess whether the proposal may create negative incentives on discarding (see additional comments in section 4).

To quantify the impact of a proposed definition at the level of a fish stock, this information on gear selectivity and on the size and activity of the fishery to be derogated would be combined with biological data from the populations of the species concerned. For example, length-frequency distribution and abundance data from scientific surveys are used to map the distribution of juveniles in time and space. Combined with the length-based selectivity ogives computed from selectivity trials and with the catch potential of the vessels and trips to be derogated, it is possible to provide rough estimates of whether catches are likely to be above or below the ones expected from the baseline gears. An example of this is given in PLEN 20-01 (ToR 3.1b).

Similar methodological guidelines have also been provided by STECF for assessing the impacts of alternative proposals for closed areas (ToR 6.4 in PLEN 19-03 and 3.5 in PLEN 20-01), and STECF suggests that these are also referred to for the analysis of directed fishing (whether or not the proposed definition for directed fishing includes some spatial elements limiting the directed fishing to specific areas).

More generally, STECF refers to the wide body of knowledge regarding the assessment of the ecosystem impacts of fishing that exist in the scientific literature. This cannot be summarized here; rather, STECF refers to the upcoming EWG 20-02 on the review of technical measures to be held on 5-9 October 2020, which will provide a useful overview and suggest operational metrics and indicators to quantify the impact of various gears and fisheries on species and habitats and on the ecosystem in general. It is foreseen that this review will provide a comprehensive reference basis for assessing whether a given fishing gear has a greater or lesser ecosystem impact than an alternative gear. Put in the context of the directed fishing, such knowledge will help to assess whether a given derogated

directed fishery can be expected to help or hinder the achievement of CFP and TMR objectives.

4) *Additional comments regarding the definition of directed fishing*

In addition to the elements reported above, STECF raises awareness of Member States on a number of important issues to keep in mind when defining directed fisheries.

Choice of metrics, methods and thresholds

As explained above and in the ad-hoc contract, there are many methods that can be used to define directed fishing. None of them is without drawbacks, and they all involve specific choices to be made.

STECF notes that a challenge is to reflect the intention of the vessel to target the species included under the relevant derogation. In this regard, STECF notes that the simple original proposal (COM(2016) 134)³, which linked directed fishing to the species making up more than 50% of the economic value of the catch, had some merit, accepting there are difficulties associated with what constitutes economic value and when it is measured. Indeed, a number of the scientific studies cited in the ad-hoc contract that compared the use of catch metrics in volume or in value for the characterisation of catch profiles have advised on the preferred use of value, including a dedicated workshop of the Regional Coordination groups of the Data Collection Framework (PGECON, 2018).

Methods to define and monitor directed fishing should best use catch profiles (species composition of the total catch, i.e. landings + discards) at the level of the fishing operation. Landings profiles are not sufficient unless all catches are landed. It follows that the most reliable means to obtain catch data is from on-board observer programmes. Trip-based catch profiles may remain misleading due to unreported discarding or switching between different target species between different fishing operations within a single trip.

Using gear, mesh size and fishing grounds alone to define directed fishing might not be appropriate, as such an approach does not take into account fine-scale tactical decisions that might change catch composition and targeting behavior. For example, two vessels with the same characteristics and using the same gears in the same area can have different catch profiles. Moreover, ultimately two consecutive hauls from the same vessel can yield very different outcomes.

Furthermore, defining directed fishing based on species distribution and availability (implicitly included in the catch composition) is problematic as it is dependent on future distribution of the intended target species which varies in both the short- (seasonal) and long- (decadal) term. This is even more important considering the accelerating changes in species distribution and abundance due to climate change (Northern hake or bluefin tuna are good examples). Therefore, it would be necessary to inspect the seasonal effect of catch threshold rules, and to proceed with regular re-assessments of their validity to account for trends in species presence.

³ Proposal 2016/0074 (COD), https://eur-lex.europa.eu/resource.html?uri=cellar:41312a57-e771-11e5-8a50-01aa75ed71a1.0024.02/DOC_1&format=PDF

Finally, STECF notes that if Member States choose to allow fishers to use the derogations set out in the Annexes to the Technical Measures Regulation, the burden of proof that fishers using such derogated gears comply with the generic upper thresholds still applies, regardless of what metric is used to define directed fishing (e.g. for the North Sea and North Western Waters, maximum 20 % of cod, haddock and saithe (Annexes V and VI); In South Western Waters maximum 20% of hake (Annex VII), and in the Baltic maximum 10% of cod (Annex VIII)).

Catch composition rules and the landing obligation

STECF notes that catch composition rules contained in previous technical measures regulations obliged fishers to discard in some circumstances, which contradicts the obligation to land all catches unless an exemption based on high survivability or de minimis has been granted. Furthermore, the landing obligation requires all catches to be landed regardless of the mesh size used to catch them or the nature of the fishery in which they are caught. In principle with the LO, therefore, from the perspective of the overall rate of exploitation, it does not really matter how, where and when the fishery takes place, provided that total catches (landings + discards) from a stock do not exceed those intended for a given exploitation pattern⁴. That is the principle of the so-called "Results-based management". STECF notes the most obvious course of action would have been to delete the catch composition rules altogether and rather fully document and control all catches. While the use of different mesh sizes, often used in combination with other selective devices has nonetheless some merits as a potentially useful tool to adjust the exploitation pattern on the species caught in a fishery, STECF emphasises that Member States should avoid re-introducing the contradiction between obligation to land/obligation to discard by introducing multiple catch thresholds into the new technical measures regulation.

Perverse incentives and unintended consequences of catch composition thresholds

STECF notes a similar approach using catch composition thresholds was taken in Article 13(2) of Regulation (EU) 1342/2008, where derogations from effort reductions on the argument of the use of highly selective gear was linked to demonstrating a very low level of bycatch of cod (e.g. <1.5% cod). In this instance the cod bycatch was the defining factor rather than a catch of the target species and the burden of proof was on the Member States that demonstrate using this gear leads to a catch composition with very low levels of cod. However, STECF has repeatedly advised on the issues and perverse incentives linked with such bycatch thresholds.

The arguments against this, also repeated in ToR 6.4 of this PLEN 20-02 report, are summarised as follows: First, a declining stock is likely to have low bycatch percent in the catch. As such, the use of selective gears will mainly not be triggered, but due to depletion and not due to improved selectivity or avoidance. The standard gear will continue to be used and bycatches will not reduce, thus reducing the declining stock further. Second, a

⁴ Keeping in mind that the reference value F_{msy} is calculated for a given average exploitation pattern and average proportion of juvenile vs. adult catches. If this average proportion would vary following a different balance in the various gears used, the F_{msy} reference point shall be revised accordingly.

bycatch threshold will incentivize increasing the volume of total catches of any other species in a trip to reduce the relative proportion of the protected bycatch. Third, protected bycatches are likely to be discarded extensively in order to decrease their proportion in the total catches, but discard data are not collected for all trips. Fourth, a proportion of bycatch per trip does not limit the total amount of catches of the species. When operated by many trips and many vessels, a small bycatch percent can sum up to a high total volume of catches of the protected species.

STECF advises thus that if catch composition rules are to be established to define a directed fishing, these should only be applied to the targeted stocks, not to the protected ones, as long as at-sea monitoring levels continue to be low.

In addition, STECF notes that the catch composition rules implemented in the earlier cod plan Reg (EC) 423/2004 led to an inflation in the number of derogations and fisheries categories over time. STECF advises that the general principle should be to reduce the number of derogations and harmonise the mesh sizes and definitions of targeted fisheries as much as possible across regions if the relevant objectives of Article 3 and Article 4 of the CFP relating to reducing unwanted catches are to be met.

STECF conclusions

STECF concludes that the extent to which a proposed definition of “directed fishing” will further or hinder the achievement of the objectives of the Common Fisheries Policy and of the Technical Measures Regulations (1380/2013) and 2019/1241), particularly with respect to optimising exploitation patterns (Article 3(2(a)) of Regulation 2019/1241) depends on the combined effects of three elements : i) the selectivity of the gears proposed for the directed fishery compared to the baseline gear in the TMR, both for the targeted species and for the species to be avoided; ii) the conditions for granting the derogation to use the proposed gear(s), and the proportion of the fleet that will be entitled to use them depending on catch threshold, and iii) whether the combination of i) and ii) will help to achieve the CFP MSY objectives, minimize unwanted catches and avoid discarding, and reduce the fishing impact on the seafloor habitats and the ecosystem.

STECF concludes that Member States should provide the data and information to demonstrate that the three elements have been taken into account in the definition of directed fishing and that based on such data and information the definition can be justified. This also includes providing corresponding datasets of individual logbook and sea-sampling trip data that are needed to assess the robustness and the impact of the catch composition threshold.

STECF concludes thus that any definition of directed fishing should not be more detailed in its formulation than the level of detail in the information and data that will be available to the Member States to define, monitor, control, enforce and assess it.

STECF has suggested guidelines for a simple appraisal of the potential impact of the proposed definitions on CFP and TMR objectives, based on standard data. STECF stresses however that supporting studies including advanced management strategies evaluation, taking into account various known sources of uncertainty and assessing impacts at various time scales (short, medium and long term) in a robust stochastic approach would always be preferable.

Finally, STECF concludes that defining, and assessing, directed fishing is a complex, challenging and multi-dimensional task, and that there is no simple, unique and practical

indicator or (sets of) metric(s) that can be used to unequivocally define a directed fishery. STECF stresses that many pitfalls are known and expected, and these would need to be kept in mind when aiming to do so.

References

- ICES. 2020. ICES/Probyfish Workshop on identification of target and bycatch species (WKTARGET). ICES Scientific Reports. 2:21. 53 pp.
<http://doi.org/10.17895/ices.pub.5980>
- PGECON, 2018. DCF Métier Workshop: Sub-group of the RCGs - North Sea and Eastern Arctic and North Atlantic 128.
- Ulrich, C., 2018. Research for PECH Committee - Landing Obligation and Choke Species in Multispecies and Mixed Fisheries – The North Sea. 2018 67.

6.4 Joint Recommendation for Technical Measures in the North Western Waters

Background provided by the Commission

The Member States of the North Western Waters (NWW) Regional Group have provided a Joint Recommendation for continuation and addition of technical measures in the Celtic Sea, Irish Sea and West of Scotland to commence in January 2021. The proposed changes to selectivity for various fleets needs to be considered and compared to existing legislation. Whilst the current 2020 discard plans for the NWW contain similar technical measures, these have since been superseded by both the entry into force of the new technical measures regulation (2019/1241) and the remedial measures for rebuilding cod and whiting under Article 13 of the 2020 Fishing opportunities legislation. The entry into force of the new Technical Measures Regulation (Regulation (EU) 2019/1241) introduces the possibility to develop joint recommendations that can be used to amend certain regional baseline selectivity standards through a Commission empowerment to implement delegated Acts on the basis of the joint recommendations. This permits the tailoring of detailed and technical rules so as to take into account regional specificities. The alternative measures should as a minimum lead to such benefits for the conservation of marine biological resources that are at least equivalent to the ones provided by the baseline standards, in particular in terms of exploitation patterns and the level of protection provided for sensitive species and habitats. When developing Joint Recommendations in relation to size and species selective characteristics of gear alternative to the baseline mesh sizes, regional groups of Member States should ensure that such measures result in similar, as a minimum, or improved selectivity characteristics as the baseline gear. As such, the Joint Recommendation proposed changes to mesh size specifications and other associated devices such as grids and escape panels shall not lead to a deterioration of selectivity standards, in particular in terms of an increase in the catches of juveniles and also aim at achieving the objectives and targets set out in Articles 3 and 4 of Regulation (EU) 2019/1241. Furthermore, additional technical measures for the protection of Celtic Sea cod and whiting were introduced in article 13 of EC Regulation 2020/123.

Therefore the STECF is asked to analyse the selectivity benefits of the attached Joint Recommendation, paying special attention to consistency with the provisions Article 15(4) (5) and (6) of Regulation 2019/1241 and achieving the objectives and targets set out in Articles 3 and 4 of Regulation 1241/2019. Furthermore, STECF should consider whether the specific elements contained in the Joint Recommendation aimed at the protection of Celtic Sea cod and whiting offer similar benefits in terms of selectivity improvements to those specified in Article 13 of EC Regulation 2020/123. Here the STECF should make direct reference to their recent analysis of article 13 remedial measures (PLEN 20-01) as the basis of the Celtic Sea portion of this Joint Recommendation. There should be a specific comparison of key points such as gear / mesh size selectivity and the potential impact of the various thresholds for exemptions from such measures. Measures for the Irish Sea and West of Scotland and the proposed Minimum Conservation Reference Sizes for Recreational Fishing, should also be assessed for their improvements in selectivity, potential benefits to stock management and consistency with the aims and objectives of the Common Fisheries Policy.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

The STECF is requested to:

- 1) Assess compatibility of the proposed technical measures with the objectives and conditions set out in Articles 15(4) (5) and (6) of Regulation 2019/1241 and achieving the objectives and targets set out in Articles 3 and 4 of Regulation 1241/2019. In particular whether they are off similar or better selectivity characteristics than the baseline gears specified in part B of annex VI of Regulation (EC) 2019/1241;
- 2) Compare the selectivity characteristics of the proposed measures for the protection of Celtic Sea cod and whiting with those specified in art 13 Regulation (EC) 2020/123 and assess if the measures propose in the Joint Recommendation offer similar benefits in terms of size and species selectivity. There should be a specific comparison to the analysis reported in Plen 20-01 of key points such as gear / mesh size selectivity and the potential impact of the various thresholds for exemptions from such measures.

Summary of the information provided to STECF

STECF was provided with three documents to inform its review:

1. Joint Recommendation - for Technical Measures in the North-Western Waters (version 22 May 2020).

The document lists possible articles for technical measures specifications to implement permanent technical measures based on previous legislative acts.

For the Celtic Sea area, the JR suggests specific measures to reduce bycatch of cod and whiting in the Celtic sea and adjacent areas based on specifications that are in place in 2020 as remedial measures.

For the Irish Sea, the JR proposes to implement a combination of Celtic Sea remedial measures with a modified version of the 2020-2021 NWW discard plan to the Irish Sea.

Concerning the West of Scotland, the JR suggests deploying square mesh panels in the Norway lobster fisheries depending on the possibly already used mesh sizes.

2. Studies in support of a proposal to implement D100m-T90 gear in the Irish Sea. This document aims to justify the inclusion of a 100 mm T90 cod-end as a gear option in the Irish Sea, based on equivalent selectivity to a 120 mm cod-end.

The study claims that the disparity in the number of gear options available in the Irish and Celtic Seas frustrates fishermen that regularly operate in both areas.

The study claims that there is evidence for improved or equivalent selectivity for haddock of a 100 mm T90 codend compared with a 120 mm codend in the context of the Irish Sea. The trials showed a 41% reduction in catches of undersized haddock with the 100mm T90 codend.

3. A document with links to background legislation and to the last STECF plenary report STECF-PLN-20-01.

- EU 2019/1241 New technical measures Regulation (TMR) <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1592834507922&uri=CELEX:32019R1241>

Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005, OJ L 198, 25.07.2019, p. 105.

- EU 2020/123 2020 Fishing Opportunities <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1592834721287&uri=CELEX:02020R0123-20200130>

COUNCIL REGULATION (EU) 2020/123 of 27 January 2020 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters

STECF identifies that two additional regulations are also relevant for defining technical regulations in both areas, which create dependency links between the different regulations. The joint recommendation refers to elements of each of these two relevant regulations, which are:

- NWW Discard plan for the period 2020-2021: Commission Delegated Regulation (EU) 2019/2239 of 1 October 2019 specifying details of the landing obligation for certain demersal fisheries in North-Western waters for the period 2020-2021 C/2019/7048
- NWWMAP: REGULATION (EU) 2019/472 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 March 2019 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks, amending Regulations (EU) 2016/1139 and (EU) 2018/973, and repealing Council Regulations (EC) No 811/2004, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007 and (EC) No 1300/2008

STECF comments

STECF has previously qualitatively assessed two NWW JRs containing proposals for changes to technical measures in this region. Some of the measures included in the current JR (22 May 2020) have previously been assessed, and previous STECF opinion can be found in EWG 18-06 and EWG 19-08 reports (and PLEN 18-02 and PLEN 19-02). STECF notes also that many elements of this response to ToR 6.4 are also directly relevant for the response to ToR 6.3 of this Plenary PLEN 20-02 report, and are reported there as well where appropriate.

For the purposes of responding to the request, the terms '*more selective*', '*most selective*' and '*better selectivity*' or similar, are used qualitatively to mean that a smaller proportion of smaller individuals of a species are likely to be caught and retained by a particular gear configuration, compared to a different gear configuration, everything else being equal. In other words better selectivity means that fishing mortality on smaller individuals will be reduced in the hauls where the more selective gear is used compared to what it would be with the other gear.

STECF recalls however that at population level, the overall benefits of a more selective gear or, conversely, the negative effects of a derogation allowing to use a less selective gear than the baseline gear, will ultimately depend on the proportion of the fleet that will be using that gear. A perfectly selective and low-impact gear that is used by only a small proportion of the fishery will not yield major conservation benefits and will contribute little to furthering CFP objectives. Conversely, a low catch composition threshold for defining a directed fishery would mean that most vessels and trips may potentially be derogated and use a less selective gear than the baseline, which may hinder the achievement of the objectives. If imposed by legislation this proportion of the fleet will be highly dependent on the stringency of the conditions for granting the derogation (such as catch composition thresholds) defined, and thus on the number of trips and vessels that will fall within these. To fully differentiate between the selectivity effect at gear level and at fishery / population level, STECF uses the wording "*better exploitation pattern*" to describe that e.g. the overall catches of small gadoids have reduced as a result of many vessels using the selective gear.

Therefore the STECF evaluation below considers both the selectivity properties of the proposed gears and, where relevant, the conditionalities and restrictions imposed on their use. Nevertheless, the latter are here only qualitatively assessed. Since no quantitative information on catch composition per trip for the fisheries in question were provided to STECF, it has not been possible to perform quantitative evaluation of catch composition threshold as e.g. performed by STECF PLEN 20-01 in the Celtic Sea (ToR 3.1.c). A specific discussion on this topic is included in the STECF comments further below.

ToR 1: Assess the compatibility of the JR proposal to the current TM regulation

STECF is requested to assess the compatibility of the proposed technical measures with the objectives and conditions set out in Articles 15(4) (5) and (6) of Regulation (EU) 2019/1241 (TMR) and achieving the objectives and targets set out in Articles 3 and 4 of Regulation 2019/1241. In particular, whether they exhibit similar or better selectivity characteristics than the baseline gears specified in part B of Annex VI of Regulation (EU) 2019/1241.

Baseline mesh sizes are defined for the NWW region in the Technical Measures Regulation (TM Reg. Annex VI Part B Table), and are reported below in the corresponding tables for the individual evaluation of each area. STECF recalls that the baseline gear mesh size for towed gears in NWW is 120mm except subareas 7b to 7k where it is 100mm, unless the fishing operations can be classified into the directed fisheries categories specified in the TMR Annex VI PartB Table. The species codes included are: COD: cod, HAD: Haddock, POK: Saithe, NEP: *Nephrops*, HKE: Hake, MEG: Megrim, MON: anglerfish, WHG: whiting, MAC: Mackerel, SOL: sole, NQS: Non-quota species

Celtic Sea

The justification in the JR is that the proposed technical measures should help in protecting cod and whiting. The detailed comparison of the TMR with the JR is given in Table 6.4.1.

Table 6.4.1. The Joint Recommendation matched against the current baseline gears in the **Celtic Sea**. The gears in the TMR that are **less selective** for gadoids (cod, haddock and whiting) than the **least selective** in the JR are marked in bold. The **least selective** gears in the JR are also marked in bold.

Origin	Specifications
Regulation 2019/1241 Annex VI Part B (TMR)	<ul style="list-style-type: none"> • 100 mm 7b to 7k • >80mm if <ul style="list-style-type: none"> ○ COD+HAD+POK<20% catch that is landed per trip AND <ul style="list-style-type: none"> ▪ >80mm + Panel 120mm square meshes for OTB targeting HKE-MEG-MON in ICES subarea 7 ▪ >80mm + Panel 120mm square meshes for OTB targeting WHG-MAC and NQS in ICES subarea 7 ▪ >80mm + Panel 80mm square meshes for OTB targeting SOL in ICES subarea 7 ▪ >80mm for OTB targeting WHG-MAC and NQS in ICES subarea 7d and 7e ▪ >80mm + Panel >120mm or 35mm sorting grid or equivalent for OTB targeting NEP in NWW ▪ >160mm Panel for TBB targeting SOL in 7a,b,d,e,f,g,h,j ▪ >40mm Loliginidae, Ommastrephidae ▪ >16mm pelagic and shrimp ▪ >16mm sandeel
Joint Recommendation for the Celtic Sea ⁵ – version May 2020	<ul style="list-style-type: none"> • If (trawl OR seine) AND (7f or 7g or 7h north or 7j north-east)¹ <ul style="list-style-type: none"> ○ Choose from D110mm +120mm SMP, D100mm-T90, D120mm, 100mm+160mm SMP ○ if catch per trip >20% in haddock AND cod >1.5% then 1 m raised fishing line spacing OR any equivalent selective-to-cod device ○ Unless any equivalent proving <1% cod trip catch²

	<ul style="list-style-type: none"> • if((trawl OR seine) AND (7f or 7k or 7e west)) <ul style="list-style-type: none"> ○ Use >D100mm ○ if(cod<1.5% AND NOT(7f or 7g or, 7h_North, or 7j_NorthEast)) Use Baseline Gears TM NWW Annex VI ○ Unless <i>Nephrops</i>. If <i>Nephrops</i>>30% choose among³: <ul style="list-style-type: none"> ▪ 80mm-300mm SMP ▪ SELTRA Box codend ▪ 35mm sorting grid ▪ D100mm -100mm SMP ▪ dual cod-end with upper D90mm-T90-with 300mm SMP ○ Unless >55% whiting OR >55% MON, HKE, MEG, then use⁴: <ul style="list-style-type: none"> ▪ D100mm-100SMP ▪ D100mm -T90
--	---

¹originally defined in Art. 13(1); ²originally defined in Art. 13(4)

³originally from Celtic Sea protection Zone then Art.9(2) of discard plan; ⁴originally defined in the NWW Discard plan; ⁵The Celtic Sea is 7g, 7h, while the Celtic Sea protection zone means the waters inside ICES divisions 7f, 7g and the part of 7j that lies North of latitude 50° N and East of 11° W.

Relative selectivity of the gears

STECF has qualitatively assessed whether the JR will likely give similar or better selectivity than the baseline gears in the Celtic Sea, based on the previous analyses (PLEN 18-02, PLEN 19-02, PLEN 20-01).

STECF acknowledges that in subareas 7f, 7g, 7h north and 7j north-east, the least selective option of the JR (for haddock, whiting and cod) is the D100mm-T90. This least selective gear is anyway more selective than both the baseline 100mm diamond mesh and the derogated 80 mm gears among the list of directed fisheries.

In areas 7f, 7k and 7e west, (excluding *Nephrops* fishery, beam trawls and small meshes for pelagic and squid fisheries) the suggested JR options are 100mm or the baseline gears. For haddock, whiting and cod the 100mm is more selective than the 80 mm 120 SMP.

Hence, STECF concludes that gears set out in the JR can be considered to be more selective than those in TM Regulation (EU) 2019/1241. STECF notes however that this assumption refers to general gadoid selectivity and that, particularly for the T90, selectivity for flatfishes may be lower than the baseline diamond mesh (see e.g. estimates for plaice in PLEN 20-01), although evidence to assess this fully is scarce.

For the *Nephrops* directed fishery, in the JR, when *Nephrops* >30%, at least four of the proposed options are more selective or at least equivalent to gears specified in the derogations for directed fishery of regulation 2019/1241 (where we assume the seltra gear comprises a 300mm SMP, on the top of a four panel box section, fitted 3 – 6 m from the codline as described in EWG 19-08). With regards to the 'dual codend', STECF PLEN 20-02 did not receive background information on this gear but notes that EWG 19-08 had considered the underpinning study to be of good quality. However, the study used a standard diamond mesh codend of 80 mm for the comparison. Therefore, STECF is not in the position to assess whether this dual codend is more selective or at least equivalent to gears specified in the derogations for directed fishery of regulation 2019/1241. STECF also reiterates that it is important that the specifications (e.g. mesh size and twine thickness) of the dual codend arrangement are defined in the delegated act.

Effects of catch composition thresholds

STECF notes that a threshold of 30% has been defined to identify a *Nephrops*-directed fishery in the JR, whereas the NEP fisheries is not quantitatively defined in the TMR, but defined as 5% in the discard plan article IX for the Celtic Sea protection zone. A higher threshold means that fewer trips and vessels will fall into that category and will be required to use a more selective gear. As written above, STECF considers that the gears proposed in the JR for the *Nephrops* fisheries are no less selective than the TMR baseline, and could even provide an improvement in the overall exploitation pattern of gadoids if a large proportion of the fishery would fall into the category of >30% *Nephrops*.

However, in the absence of detailed catch composition data by trip, STECF cannot quantify how many trips and vessels would be potentially included in the category, and thus cannot assess fully the expected impact of this 30% threshold compared to the initial 5%. Nevertheless STECF notes that both a "*Nephrops* directed fishery" and "mixed demersal-*Nephrops* fishery" have been identified by Moore et al. (2019, Figure2), with *Nephrops* representing respectively around 75% and 25% of the retained catches over the 2011-2015 period. The latter fishery would thus not be included in the revised threshold, and would not be required to use the more selective gear but rather the 100mm. STECF considers though that this would be essentially unchanged selectivity from the TMR since this mixed fishery is also expected to catch more than 20% of COD+HAD+POK in average.

STECF notes that the JR introduces conditionalities based on cod bycatch thresholds (e.g. cod > 1.5 %). As is discussed and explained in detail further below, STECF advises against the use of such thresholds applying on the species to be protected and avoided. In a declining stock like cod in the Celtic Sea, occurrences of cod catches >1.5% will be scarce and the most selective gears such as the raised line will effectively not be used, thus not reducing the overall bycatch mortality. STECF considers that catch composition rules should only be applied on the targeted stocks but not on the stocks to be avoided.

When specifically comparing the JR with the TMR however, in this case STECF notes that even if the 1.5% cod bycatch rule is not exceeded by any trip then the alternative gears

specified in the JR would still be more selective than the baseline gears in the TMR, as assessed above.

Irish Sea

Table 6.4.2. The Joint Recommendation matched against the current baseline gears in the **Irish Sea** (7a). The gears in the TMR that are **less selective** for gadoids (cod, haddock and whiting) than the **least selective** in the JR are marked in bold. The **least selective** gear in the JR is also marked in bold.

Origin	Specifications
Regulation 2019/1241 Annex VI Part B	<ul style="list-style-type: none"> • 120 mm in 7a (after Aug 2021), 100 mm until then • >80mm if <ul style="list-style-type: none"> ○ COD+HAD+POK<20% catch-trip AND <ul style="list-style-type: none"> ▪ >80mm + 120mm SMP for OTB targeting HKE-MEG-MON in ICES subarea 7 ▪ >80mm + 120mm SMP for OTB targeting WHG-MAC and NQS in ICES subarea 7 ▪ >80mm + 80mm SMP for OTB targeting SOL in ICES subarea 7 ▪ >80mm + Panel >120mm or 35mm sorting grid or equivalent for OTB targeting NEP in NWW (70mm in 7a when targeting NEP according to footnote 2 in the Annex VI PartB Table) ▪ >160mm Headline Panel for TBB targeting sole in 7a,b,d,e,f,g,h,j
Joint Recommendation for the Irish Sea – version May 2020	<ul style="list-style-type: none"> • If (trawl OR seine) AND (7a) <ul style="list-style-type: none"> ○ 120mm ○ Unless <i>Nephrops</i>. If <i>Nephrops</i>>30%¹ and vessel >12m and mesh sizes between 70mm to 100mm, use additional devices among²: <ul style="list-style-type: none"> ▪ 300mm square mesh panel (200mm if vessel <12m) ▪ seltra, or 35mm sorting grid ▪ CEFAS Netgrid ▪ Flip-flap trawl

	<ul style="list-style-type: none"> ○ Unless >10 % of haddock, cod and skates and rays combined³ AND <i>Nephrops</i> <30%. If vessels >12m then choose gear among: <ul style="list-style-type: none"> ▪ 120 mm cod-end ▪ an eliminator trawl with 600 mm large mesh panels and a 100 mm cod-end. ○ Unless < 10 % of haddock, cod and skates and rays combined⁴ AND <i>Nephrops</i> <30%. If vessels >12m then <ul style="list-style-type: none"> ▪ a 100 mm cod-end with a 100 mm squared mesh panel ○ T90-100mm from the supportive study provided to STECF⁵
--	--

¹ Inspired by 2020-2021 NWW Discard Plan Art. 10(2) setting a threshold of 5%; ² This refers to the NWW Discard Plan Art. 10(2); ³ This refers to the NWW Discard Plan Art. 10(3); ⁴ This refers to the NWW Discard Plan Art. 10(4); ⁵ This proposal is triggered by the NWW Discard Plan Art. 10(5). Hence, a requirement for gear or device that shall comply with the requirements of Regulation (EU) 2019/1241 corresponds to making sure that "Those selectivity modifications shall result in the same or better selectivity characteristics for cod, haddock and saithe as that of 120 mm, or 100 mm in ICES sub-area 7b-7k, respectively." However, saithe is not mentioned in this JR entry which argues for better selectivity for cod, haddock and whiting.

Relative selectivity of the gears

In the Irish Sea (7a) the Joint Recommendation is submitted by referring to Art. 15(2) of the TM Regulation. Therefore, Art 15(4) applies, i.e. the proposal for gear modifications should align with Annex VI for NWW. Fishing vessels shall use a mesh size of at least 120 mm, which thus defines the baseline gear (to be phased-in over a two-year period from the date of entry into force of this Regulation, i.e. will be fully implemented in August 2021).

The JR proposes to extend to Irish Sea (7a) a modified version of what has been implemented as remedial measures Art 13 in the Celtic Sea (7f, 7g, 7h) and further combining with the existing Discard plan for the Irish Sea (Regulation (EU) 2019/2239). The JR proposal argues the gear options should be expected to be more selective than the current TMR baseline gear specifications since such remedial measures in the Celtic Sea were indeed intended to be restrictive.

Regarding the *Nephrops* fishery in the Irish Sea, the JR proposes that in the *Nephrops* fishery, vessels > 12m and using mesh sizes between 70mm to 100mm must also use either a 300mm square mesh panel, a seltra gear, a 35mm sorting grid, a CEFAS Netgrid, or a Flip-flap trawl. Although no technical specifications have been supplied for these gears, STECF assumes that they conform to the designs used in trials previously reported in published technical and scientific reports. Hence STECF concludes that all of these gears will likely reduce the capture of cod, haddock and whiting in comparison to the 80mm cod-end with a 120 mm SMP for trawls targeting NEP in NWW.

However for the other gears, STECF considers that the JR proposals do not necessarily demonstrate similar or more selectivity for gadoids, considering the following:

1. Eliminator trawl

Certain designs of so-called “eliminator trawls” including large mesh panel trawls such as the Orkney trawl have been shown (PLEN 19-02, 20-01) to be effective at reducing catches of cod. However, further details are required describing the exact specifications and positioning of the design of the eliminator trawl used in the Irish Sea, as differences in the design and the mesh sizes used can significantly affect the selectivity for cod and other species. It is unclear whether an eliminator trawl with a 100 mm cod-end will reduce the selectivity for whiting. Many of the large mesh trawls that have been developed to reduce cod catches have the large mesh panels positioned in the lower belly sections and are likely to be ineffective at releasing whiting. An eliminator trawl fitted with 100mm cod-end may even lead to a reduction of whiting selectivity in comparison to a standard trawl with a 120 mm cod-end. Hence, without the detail of the gear design, it is not possible to assess the effect of an eliminator trawl on cod and whiting selectivity.

Similarly, trials of eliminator trawls with large mesh panels have usually maintained catches of haddock. Hence using one with a 100mm cod-end is likely to lead to a reduction in haddock selectivity in comparison to a standard trawl with a 120 mm cod-end.

2. 100mm T90 cod-end

STECF PLEN 20-01 had concluded that the 100mm T90 codend was less selective for cod, haddock, whiting and plaice compared to the other cod end designs analysed by PLEN 20-01. However, STECF had advised that these comparisons be treated with caution as they were estimated from different models and data sets; that they were point estimates of L50 and SR and did not take into account the large between-trip variability that naturally occurs during fishing-gear trials.

To support the use of 100 mm T90 proposal, the NWW waters regional group provided a supporting study which claims that during recent trials improved selectivity was demonstrated for haddock while equivalent selectivity was shown for cod and whiting in a 100 mm T90 codend compared with a 120 mm codend. The study is based on 14 hauls (7 alternate hauls with each cod-end) and does not take into account between-haul variation.

STECF notes that the number of hauls is low and the study does not use the more robust twin-rig catch comparison method nor a covered codend to measure the absolute selectivity. Catches of cod and whiting were low in all hauls. Hence STECF acknowledges that it was not possible to demonstrate a difference of selectivity for these two species. For haddock, catches were representative, and a comparison of the proportion caught at length indicates that the 100mm T90 cod-end is more selective for haddock. However, there is little detail on the analysis and no information on the variation between hauls, and it is not possible to discern whether there is a disproportionate dependence on any particular haul.

Hence, STECF concludes that a more robust study and statistical analyses would be needed to fully demonstrate that the 100mm T90 cod-end is at least as selective as the 120mm

cod-end and to investigate further the differences in estimates with the STECF PLEN 20-01 assessment.

T90_100 is, in anycase, more selective than the 100mm gear that can be used until August 2021.

3. 100 mm cod-end with a 100 mm SMP

This gear is being proposed for vessels >12m whose combined catch of haddock, cod and skates and rays is < 10% of the catch.

STECF estimates that it will be less selective than the 120 mm cod-end but more selective than i) the 80mm cod-end with 120 mm SMP gears that are permitted for OTB vessels targeting HKE-MEG-MON , and WHG-MAC and NQS where the COD+HAD+POL<20% of the catch and than ii) the 80mm cod-end with 80 mm SMP gear that is permitted for OTB vessels targeting SOL where the COD+HAD+POL<20% of the catch.

Effects of catch composition thresholds

As evaluated for the Celtic Sea above, STECF notes that a threshold of 30% has been defined in the Irish Sea to identify a *Nephrops*-directed fishery in the JR. The NEP fisheries is not quantitatively defined in the TMR, but defined as 5% in the discard plan. A higher threshold means that fewer trips and vessels will fall into that category and will be required to use a more selective gear. As written above, STECF considers that the gears proposed in the JR for the *Nephrops* fisheries in the Irish Sea are no less selective than the TMR baseline, and could even provide an improvement in the overall exploitation pattern of gadoids if a large proportion of the fishery would fall into the category of >30% *Nephrops*.

However, in the absence of detailed catch composition data by trip, STECF cannot quantify how many trips and vessels would be potentially included in the category, and thus cannot assess fully the expected impact of this 30% threshold compared to the initial 5%.

West of Scotland

Table 6.4.3. The Joint Recommendation matched against the legislation in the **West of Scotland** (5b, 6a, 6b). The gears in the TMR that are **less selective** for gadoids (cod, haddock and whiting) than the **least selective** in the JR are marked in bold. The **least selective** gear in the JR is also marked in bold.

Origin	Specifications
Regulation 2019/1241 Annex VI Part B	<ul style="list-style-type: none"> • 120 mm (after Aug 2021), 100 mm until then • >80mm if <ul style="list-style-type: none"> ○ COD+HAD+POK<20% catch-trip AND <ul style="list-style-type: none"> ▪ >80mm + >120mm SMP or 35mm sorting grid or equivalent for OTB targeting NEP in NWW ○ New gear specs proved to be as selective as a mesh size of at least 120mm, or less if it is demonstrated that the catch on cod, haddock, and saithe not >20%
Joint Recommendation for the West of Scotland – version May 2020	<ul style="list-style-type: none"> • If (trawl OR seine) AND (6a and 5b) and <i>Nephrops</i> fishery <ul style="list-style-type: none"> ○ 120mm ○ Unless <100mm, then add a >300mm square mesh panel, or, if vessel <12 m or <200 kW, a >200mm 2-meters square mesh panel ○ Unless 100-119mm and with <i>Nephrops</i>>30%, then add a >160mm square mesh panel, or, if vessel <12 m or <200 kW, a >200mm 2-meters square mesh panel ○ Unless new gear specs proved to be the same or higher selectivity characteristics for cod, haddock and whiting

According to the TM Regulation, the baseline gear in West of Scotland is 120mm (Table in Annex VI). The only vessels authorized to fish with less than 100mm are those targeting *Nephrops* where the mandatory minimum mesh size is 80mm+120mm square mesh panel or a sorting grid of 35mm max.

As for the Irish and Celtic Seas, STECF considers that the proposed SMP will be more selective for cod, haddock and whiting than the 120 mm SMP.

Recreational fishing in NWW

According to the TMR Art. 13, the minimum conservation reference sizes of marine species specified in Part A of Annex VI for NWW to this Regulation shall apply for the purpose of ensuring the protection of juveniles of marine species pursuant to Article 15(11) and (12) of Regulation (EU) No 1380/2013.

The Joint Recommendation is aligned with TM Regulation Art.2(2) which allows JR to submit proposals for MCRS for regulating the recreational fishing: "Articles 7, 10, 11 and 12 shall also apply to recreational fishing. In cases where recreational fishing has a significant impact in a particular region, the Commission is empowered to adopt delegated acts pursuant to Article 15 and in accordance with Article 29 in order to amend this Regulation by providing that the relevant provisions of Article 13 or parts A or C of Annexes V to X also apply to recreational fishing."

The JR proposes to apply the same species-specific MCRS for recreational fishing in NWW as those defined in the TM Regulation Annex VI Part A.

The NWW Plan stipulates that "When mortality caused by recreational fishing has a significant impact on a stock managed on the basis of MSY, the Council should be able to set non-discriminatory limits for recreational fishermen. The Council should refer to transparent and objective criteria when setting such limits. Where appropriate, Member States should take the necessary and proportionate measures for the monitoring and collection of data for a reliable estimation of actual recreational catch levels." The JR appears to be "non-discriminatory" given it would apply the same MCRS as for commercial fishers. However, The JR does not provide any support to assess whether recreational fishing is actually having "a significant impact" on all covered stocks in NWW.

Table 6.4.4. Minimum conservation reference sizes in Northern Western Waters to apply to recreational fisheries (extracted from TMR ANNEX VI Part A of Art. 13)

Species	Whole area for recreational fisheries
Cod (<i>Gadus morhua</i>)	35 cm
Haddock (<i>Melanogrammus aeglefinus</i>)	30 cm

Saithe (<i>Pollachius virens</i>)	35 cm
Pollack (<i>Pollachius pollachius</i>)	30 cm
Hake (<i>Merluccius merluccius</i>)	27 cm
Megrim (<i>Lepidorhombus</i> spp.)	20 cm
Sole (<i>Solea</i> spp.)	24 cm
Plaice (<i>Pleuronectes platessa</i>)	27 cm
Whiting (<i>Merlangius merlangus</i>)	27 cm
Ling (<i>Molva molva</i>)	63 cm
Blue ling (<i>Molva dypterygia</i>)	70 cm
Mackerel (<i>Scomber</i> spp.)	20 cm (1)
Herring (<i>Clupea harengus</i>)	20 cm (1)
Horse mackerel (<i>Trachurus</i> spp.)	15 cm (1)
Anchovy (<i>Engraulis encrasicolus</i>)	12 cm or 90 individuals per kg (1)
Bass (<i>Dicentrarchus labrax</i>)	42 cm
Sardine (<i>Sardina pilchardus</i>)	11 cm (1)
Red sea-bream (<i>Pagellus bogaraveo</i>)	33 cm

(1) By way of derogation from Article 15 of Regulation (EU) No 1380/2013, the minimum conservation reference sizes of sardine, anchovy, herring, horse mackerel and mackerel shall not apply within a limit of 10 % by live weight of the total catches retained on board of each of those species. The percentage of sardine, anchovy, herring, horse mackerel or mackerel below the minimum conservation reference size shall be calculated as the proportion by live weight of all marine organisms on board after sorting or on landing. The limit of 10 % shall not be exceeded at any stage.

ToR 2: Compare the selectivity characteristics in the Celtic Sea cod and whiting against the 2020/123 remedial measures

STECF is requested to compare the selectivity characteristics of the proposed measures for the protection of Celtic Sea cod and whiting with those specified in Art. 13 Regulation (EC) 2020/123 and assess whether the measures proposed in the Joint Recommendation offer similar benefits in terms of size and species selectivity. There should be a specific comparison to the analysis reported in STECF-PLN-20-01 of key points such as gear/mesh

size selectivity and the potential impact of the various thresholds for exemptions from such measures.

Hereafter STECF provides a match of the described 2020 remedial measures to the JR content (see Table 6.4.5).

Table 6.4.5. The Joint Recommendation matched against the remedial measures in the Celtic Seas .The additions compared to Art 13 are underlined, and the deletions are stroked out.

Origin	Specifications
<p>Art.13 Reg. 2020/123 Remedial measures for cod and whiting in the Celtic Seas 7f, 7g, 7h north, 7j north-east)</p>	<ul style="list-style-type: none"> - If (trawl) AND (7f or 7g or 7h north or 7j north-east) (Art. 13(1)) <ul style="list-style-type: none"> - if catch per trip >20% in haddock then <ul style="list-style-type: none"> - Choose among D110mm +120mm SMP, D100mm-T90, D120mm, 100mm+160 SMP - 1 meter fishing line spacing OR any equivalent selective-to-cod device - Unless any equivalent selective gear proving <1% cod trip catch as assessed by STECF (Art. 13(4)) - If (seine) AND (7f or 7g or 7h north or 7j north-east) (Art. 13(1c)) - if trip-catch <20% in haddock then <ul style="list-style-type: none"> - Choose among D110mm +120mm SMP, D100mm-T90, D120mm without fishing line spacing - Else (Art. 13(2)) <ul style="list-style-type: none"> - if(trawl OR seine) AND trip-catch <20% in haddock in 7fghj OR (7f or 7k or 7e west)) <ul style="list-style-type: none"> - Use >D100mm - if(cod<1.5%) then Use Baseline Gears NWW TM Annex VI - Unless <i>Nephrops</i>. If <i>Nephrops</i>>5% AND Celtic Sea protection Zone then Art.9(2) of discard plan (80mm-300mmP or seltra or 35mm sorting grid or D100-P100 or dual cod-end with upper D90-T90-SP300mm)
<p>Joint Recommendation for the Celtic Sea</p>	<ul style="list-style-type: none"> - If (trawl OR seine) AND (7f or 7g or 7h north or 7j north-east) (Art. 13(1))

<p>- version May 2020</p>	<p>— if trip-catch >20% in haddock then</p> <ul style="list-style-type: none"> - Choose among D110mm +120mmP, D100-T90, D120mm, (100mm+160SMP) - <u>if trip-catch >20% in haddock AND cod >1.5% then</u> 1 m raised fishing line OR any equivalent selective-to-cod device - Unless any equivalent proving <1% cod trip catch (Art. 13(4)) <p>— Else (Art. 13(2))</p> <ul style="list-style-type: none"> - if((trawl OR seine) AND trip-catch <20% in haddock in 7fghj OR (7f or 7k or 7e west)) - Use >D100mm - if(cod<1.5% <u>AND NOT(7f or 7g or, 7h North, or 7j NorthEast)</u>) Use Baseline Gears TM NWW Annex VI - Unless <i>Nephrops</i>. If <i>Nephrops</i>>5%30% AND Celtic Sea protection Zone then Art.9(2) of discard plan (80mm-300mmP or seltra or 35mm sorting grid or D100-P100 or dual cod-end with upper D90-T90-SP300mm) - <u>Unless >55% whiting OR >55% MON, HKE, MEG (D100mm-100P, D100-T90)</u>¹
---------------------------	--

¹ inspired by the NWW discard plan Article 9(3) of the Commission Delegated Regulation (EU) 2018/2034

Relative selectivity of the gears

Apart from the effect of the catch composition thresholds on the use of the raised fishing line and gear options discussed below, STECF assesses that the range of gear codend options are essentially similar between the remedial measures 2020/123 and the JR, both within and outside the Celtic Sea protection zone. The only major difference is the introduction of the D100-100SMP in the JR, which was not available as an option in the remedial measures. STECF was not provided with elements to compare the selectivity of

this option with the four other codends evaluated by PLEN 20-01, and cannot fully assess whether this option is more or less selective than 100-T90.

Effects of catch composition thresholds

STECF notes that the JR introduces conditionalities to use the raised fishing line based on cod bycatch thresholds (e.g. cod > 1.5 %), in addition to the initial bycatch threshold on haddock. As already noted above and as explained in detail further below, STECF advises against the use of such thresholds applying on the species to be protected and avoided. In a declining stock like is cod in the Celtic Sea, occurrences of cod catches >1.5% will be scarce and the most selective gears such as the raised line will in practice not be effectively used, thus the overall bycatch mortality will largely not be reduced. STECF considers that catch composition rules should only be applied on the targeted stocks but not on the stocks to be avoided.

The JR is proposing a new measure compared to the remedial measures to derogate from the baseline gears and the threshold on cod for vessels operating with bottom trawls or seines with catches comprising more than 55% of whiting or 55% of anglerfish, hake or megrim combined. In this case, the JR proposes the following gear options: (a) 100 mm cod-end with a 100 mm squared mesh panel; (b) 100mm T90 cod-end and extension. This JR proposal is directly inspired by the NWW discard plan Article 9(3) of the Commission Delegated Regulation (EU) 2018/2034. Since no quantitative information on catch composition per trip for the fisheries in question were provided to STECF, it has not been possible to perform a quantitative evaluation of catch composition thresholds as e.g. performed by STECF PLEN 20-01 in the Celtic Sea (ToR 3.1.c). However, STECF comments that:

- a. Regarding the combined threshold of 55% HKE, MEG and MON combined

This threshold means that any trip whose landing comprise mainly hake, megrim and monkfish combined would be allowed to use the gear assessed to be the least selective for gadoids among those assessed by PLEN 20-01. In the absence of data STECF could not plot catch distribution from individual trips data and investigate quantitatively the impact of this combined threshold as e.g. done by PLEN 20-01 (ToR 3.1.c). STECF notes however that some fishing takes place in the shelf area south and west of Ireland that primarily lands these species and with low landings of cod (see e.g. ICES fisheries overview 2019⁵, figure 14 based on 2011-2016 FDI data). STECF notes also that a "mixed gadoid and slope species fishery" has been identified by Moore et al. (2019, Table 2), with megrim, monkfish and hake as main species, and only limited amount of cod landed over the 2011-2015 period displayed.

However, in the preliminary analyses performed by PLEN 20-01 on the French 2019 OTB data in the Celtic Sea, it was seen that monkfish is caught by all vessels and trips in varying proportions. It can actually represent a significant proportion of the catch on trips by some

5

https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2019/2019/FisheriesOverviews_CelticSea_2019.pdf

vessels (For example for around half of the French 2019 OTB vessels, MON would represent up to at least 50% of the catch from at least one of their trips (PLEN 20-01, ToR 3.1.c)). PLEN 20-01 also discussed that cod was often associated to those trips on which catches of monkfish represented up to 40% of the landings, potentially also in the Celtic Sea protection zone. Cod was proportionally less prevalent in the trips catching above 40% of monkfish. Regarding hake and megrim, PLEN 20-01 showed that few cod were landed from French 2019 OTB trips that landed more than 10-15% of either of these two species.

Thus, while STECF considers that the relatively high catch composition threshold has a potential for discriminating a directed fishery with limited cod bycatch in the shelf area outside the Celtic Sea protection zone, there is no guarantee in the current formulation of the JR that cod will not be caught in the Celtic Sea protection zone with the gears specified. Further quantitative analysis and spatial maps of individual trip data of the fisheries concerned and including more recent years would be necessary for a better assessment of the implication of this measure. STECF refers to the guidelines and suggestions on how to define and assess "directed fishing" provided in ToR 6.3 of this PLEN 20-02 report for this. That would for example include estimating the number of vessels and trips that could fall into that fishery category (for different values of the threshold), and their contribution to the catches of cod and whiting, and what their alternative catch pattern would be if they would not be derogated.

Also the robustness of the use of one threshold combining several species should be assessed more thoroughly, as this combination may cover a wide range of different trips in different areas with potentially different bycatch patterns. In particular, given the observed prevalence of cod bycatch in French 2019 OTB trips with low-medium proportions of monkfish, consideration should be given to include a minimum threshold of e.g. >40% specifically for monkfish (assuming that the French 2019 OTB data are representative of catches of all Member States in the area).

b. Regarding the threshold of 55% whiting

STECF stresses that suggesting a derogation to use a less selective gear to perform a directed fishery on the stock for which remedial measures have been implemented appears largely counterproductive and likely not in line with the CFP and TMR objectives.

STECF notes that a directed Irish whiting fishery (with whiting representing more than 50% of the landings in average) has indeed been identified in area 7g by Moore et al. (2019, Table 2). STECF notes however that based on the 2011-2015 data displayed in that paper, some cod was associated with whiting in the landings of this fishery, and the average proportion of the haddock in the landings was around 20%. Thus, even without a detailed investigation of more recent catch data per trip, STECF estimates that in 2020/123, this directed fishery fell into the conditions for using one of the three codends evaluated by PLEN 20-01 and be required to use a raised line. The JR requests this fishery to use the D100-T90 mm (or 100P), which is the least selective among the three alternatives assessed by PLEN 20-01, and would not be required to use the raised fishing line. STECF considers therefore that for this directed fishery, the JR would imply a deterioration of selectivity compared to the remedial measures 2020/123.

STECF general comments regarding the analyses of catch composition thresholds-related questions

STECF refers to ToR 6.3 of this PLEN 20-02 for a comprehensive discussion on challenges and known pitfalls when defining directed fishing on the basis of catch thresholds. Some important elements are reported here in relation with the JR proposal.

In the past, and largely in the relation with the cod plan Regulation (EU) 1342/2008, STECF has extensively discussed the concerns raised by the use of catch proportion thresholds to trigger remedial actions on protected species, and advises against using them. STECF recalls that such thresholds on protected bycatch (e.g. 1.5% cod) create perverse incentives on several grounds: First, a declining stock is likely to have low bycatch percent in the catch. As such, the use of selective gears will mainly not be triggered, but due to depletion and not due to improved selectivity or avoidance. The standard gear will continue to be used and bycatches will not reduce, thus reducing the declining stock further. Second, a bycatch threshold will incentivize increasing the volume of total catches of any other species in a trip to reduce the relative proportion of the protected bycatch. Third, bycatches of species to be avoided are likely to be extensively discarded in order to decrease their proportion in the total catches, but discard data are not collected for all trips. Fourth, a proportion of bycatch per trip does not limit the total amount of catches of the species. When operated by many trips and many vessels, a small bycatch percent can sum up to a high total volume of catches of the protected species.

STECF notes that the JR has re-introduced such a cod bycatch threshold, and STECF reiterates thus its major concerns against the use of such a trigger. Given the very low level of cod (and whiting) in the NWW waters, the use of the selective gears proposed in the JR will be substantially reduced in comparison to the current provisions of 2020/123.

STECF considers that if catch composition rules are to be applied, these should be applied to the targeted stocks (for example the initial 20% haddock threshold and/or, as suggested by PLEN 20-01, on anglerfish), not to the protected ones. A threshold on the targeted stocks can help identify the fisheries creating the main impacts on the protected stock and implement gear restrictions on these, with less risks to create the perverse incentives described above. Changes of directed fishing towards other species in reaction to the implementation of restrictive rules may nevertheless occur, although the effects and extent of this cannot be easily predicted.

Secondly, STECF underlines that questions related to the effects of changing catch composition thresholds on the populations of protected bycatch cannot be answered using available information published in the scientific literature or accessible in publicly available databases (such as FDI database), where data are aggregated over many trips and vessels with resulting catch composition being an average that does not allow fine-scale comparisons between differences in targeting across trips. Such effects can thus only be evaluated using disaggregated quantitative data specific to the fisheries studied that must be provided by Member States. Typically, catch data by fishing operation or trip (including discards) from the fishery are used to estimate the proportion and total volume of historical catches of bycatch species below or above a given catch threshold. These can then be combined with the underlying length-based abundance of the stock (from survey data) impacted in a given area and with a given gear selectivity ogive. Again, STECF refers to ToR 6.3 for more methodological details

No such trip catch data nor detailed absolute or relative selectivity data has been made available to STECF PLEN 20-02 in support to the JR. Hence, STECF notes that the request could not be answered quantitatively as had been done by STECF-PLEN-20-01. STECF did not re-use the French data used by STECF PLEN-20-01 on the basis that these data would

not be representative of all the fisheries and areas concerned by the JR. To undertake a representative analysis, trip-level data from all concerned Member States would need to be provided. Additionally, the data used by PLEN 20-01 included only landings, with no information on discards.

STECF conclusions

General conclusions

The Member States of the North Western Waters (NWW) Regional Group provided a Joint Recommendation for the continuation, modification and addition of technical measures in the Celtic Sea, Irish Sea and West of Scotland to commence in January 2021. STECF was requested to review the proposed changes to mesh and gear prescriptions for various fisheries and compare to existing legislation. The alternative measures should as a minimum lead to benefits for the conservation of marine biological resources (by reducing the catches of juveniles) that are at least equivalent to the ones provided by the baseline standards, in particular in terms of exploitation patterns and the level of protection provided for sensitive species and habitats.

STECF evaluation depends on the combined effects of two elements: i) the selectivity of the gears proposed for the directed fishery compared to the baseline gear in the TMR, both for the targeted species and for the species to be avoided; ii) the conditions for granting the derogation to use the proposed gear(s), and the proportion of the fleet that will be entitled to use them depending on catch threshold.

STECF stresses that these questions are complex to comprehend and to assess, especially when several conditions are nested. STECF notes that only one limited selectivity study, and no individual catch data per trip, had been provided in support of the JR to justify the selectivity and catch threshold proposals. STECF evaluation is thus only qualitative, and largely based on the outcomes of PLEN 20-01 ToR 3.1.

STECF refers to the guidelines and suggestions provided in PLEN 20-02 ToR 6.3 for a comprehensive overview on which data and information would be useful to provide to properly conduct such an evaluation.

STECF concludes that setting thresholds on stocks that are severely depleted is inappropriate as this undermines the objective to minimise catches and improve exploitation patterns. STECF concludes that if thresholds are required, these should be applied on the targeted stocks and not on the protected ones.

Regarding the NWW JR, STECF concludes the following:

Celtic Sea

Comparison between the proposals in the 22 May 2020 JR and the provisions of the TMR (2019/1241)

STECF concludes that the gears set out in the JR can be considered to be more selective for gadoids than those in TMR (Reg. (EU) 2019/1241).

For the *Nephrops* fishery, STECF concludes that the gears proposed in the JR for the *Nephrops* fisheries are no less selective than the TMR baseline, and could even provide an improvement in the overall exploitation pattern of gadoids if a large proportion of the fishery would fall into the category of >30% *Nephrops*. However, in the absence of detailed catch composition data by trip, STECF cannot assess fully the expected impact of this 30% threshold compared to the initial 5%.

Comparison between the proposals in the 22 May 2020 JR and the remedial measures prescribed in 2020/123

STECF assesses that the range of gear codend options are essentially similar between the remedial measures 2020/123 and the JR, both within and outside the Celtic Sea protection zone. The only major difference is the introduction of the D100-100SMP in the JR, which was not available as an option in the remedial measures. STECF was not provided with elements to compare the selectivity of this option with the four other codends evaluated by PLEN 20-01, and cannot fully assess whether this option is more or less selective than 100-T90.

However, for the trips catching >20% haddock, STECF concludes that the JR is likely to offer a worse exploitation pattern at population level of cod and whiting than the remedial measures, particularly in the Celtic Sea protection zone, due to the introduction of the 1.5% threshold for cod which will imply that substantially fewer vessels would be required to use the raised fishing line in comparison to the current provisions set out in 2020/123.

Regarding the 55% combined hake, megrim and monkfish threshold: while STECF considers that the relatively high catch composition threshold has a potential for discriminating a directed fishery with limited cod bycatch in the shelf area outside the Celtic Sea protection zone, STECF concludes that there is no guarantee in the current formulation of the JR that cod will not be caught in the Celtic Sea protection zone with the gears specified. Further quantitative analysis and spatial maps of individual trip data of the fisheries concerned and including more recent years would be necessary for a better assessment of the implication of this measure.

Additionally, given the observed prevalence of cod bycatch in French 2019 OTB trips with low-medium proportions of monkfish, STECF concludes that consideration should be given to include a minimum threshold of e.g. >40% specifically for monkfish (assuming that the French 2019 OTB data are representative of catches of all Member States in the area).

Regarding the 55% whiting threshold, STECF concludes that this would imply a deterioration of selectivity compared to the remedial measures 2020/123. Additionally, STECF notes that suggesting a derogation to use a less selective gear to perform a directed fishery on the stock for which remedial measures have been implemented appears largely counterproductive and likely not in line with the CFP and 2019/1241 objectives.

Irish Sea

STECF concludes that the T90_100mm gear configuration offers better selection for cod, whiting and other small gadoids than the 100mm mesh that may be used until August 2021.

It still remains uncertain whether the T90_100 gear configuration may be of equivalent selectivity for cod and whiting than the 120 mm baseline gear prescribed in the TM regulation (Regulation (EU). 2019/1241). A more robust selectivity trial would be needed to fully conclude on the outcomes of the supporting study compared to the STECF PLEN 20-01 assessment.

For the *Nephrops* fishery, STECF concludes that the gears proposed in the JR for the *Nephrops* fisheries are no less selective than the TMR baseline, and could even provide an improvement in the overall exploitation pattern of gadoids if a large proportion of the fishery would fall into the category of >30% *Nephrops*. However, in the absence of detailed catch composition data by trip, STECF cannot assess fully the expected impact of this 30% threshold compared to the initial 5%.

West of Scotland

For West of Scotland, STECF concludes that the JR proposal is likely to be an improvement in the selectivity of cod, haddock and whiting as required by TMR Annex VI PartB 1.2.i

Recreational fisheries in NWW

The JR proposes to apply the same species-specific Minimum conservation reference sizes for recreational fisheries in the entire NWW as those prescribed for commercial fisheries in Annex IV PartA of Reg. 2019/1241. STECF concludes that this could reinforce the protection of juvenile marine fish species as defined by Art. 18 of the Technical Measures Regulation. STECF observes that the JR does not provide supporting studies to assess how significant the impact of the recreational fishing is on the stocks covered while the NWW plan requires such a justification.

References

- Moore C., Davie S., Robert M., Pawlowski L., Dolder P., Lordan C., 2019. Defining métier for the Celtic Sea mixed fisheries: A multiannual international study of typology. Fisheries Research, Volume 219, <https://doi.org/10.1016/j.fishres.2019.105310>.
- Scientific, Technical and Economic Committee for Fisheries (STECF) – 63rd Plenary Report – Written Procedure (PLEN-20-01). Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-18117-0, doi:10.2760/465398, JRC120479

6.5 Gangui fishery

Background provided by the Commission

During PLEN 19-03, the STECF assessed France's request for prolonging the derogation to the Mediterranean Regulation granted to the gangui fishery. In June 2020, France provided the Commission with additional information to address PLEN 19-03's conclusions.

Supporting documents

The original documents in French are provided alongside the machine-translated English documents for disambiguation, where necessary.

The STECF assessed this request during PLEN 19-03 and the background documents provided remain relevant. Some updated background documents transmitted to PLEN 19-03 have been re-submitted.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

The STECF is requested to review the additional documents France provided and assess whether these address the conclusions of PLEN 19-03.

Summary of previous evaluations of the derogations for "gangui" trawlers

On 16 June 2017, France submitted a request to renew the derogations for the continuation of the gangui fishery that had been granted in 2014 (Commission Implementing Regulation (EU) No 586/2014¹). PLEN 17-02 reviewed this request in July 2017. On 26 October 2017, the French authorities submitted new information responding to the concerns raised by STECF. STECF reviewed this information at PLEN 17-03 in November 2017.

On 16 March 2018, the French authorities published an 'arrêté ministériel' reinforcing the management framework for this fishery. In May 2018, the derogations regarding the prohibition to fish above protected habitats, the minimum distance from the coast and the minimum sea depth were renewed through Commission Implementing Regulation (EU) 2018/693. These derogations apply until 11 May 2020.

In 2019, STECF PLEN 19-03 was requested to review the implementation report of the 'gangui' fisheries provided by France and the additional documents provided to support the French request for a further renewal of the derogation.

STECF PLEN 19-03 noted that most of the conclusions of the STECF PLEN-17-02 and PLEN-17-03 remained valid and raised the following issues:

- a) no updated information was submitted on species composition or on levels of catches and discards;
- b) the CPUE threshold that was set as a reference value was not reached in the period 2015-17 indicating that the reference value should be revised;

c) the effort reduction proposed in case the reference values were not reached was not precautionary because the activity of the fleet was well below the allowed fishing days. Applying a 10% decrease in the number of fishing days allowed would still mean the reference value would be above the effective fishing activity undertaken by the fleet. It would be more appropriate to apply the effort reduction based on the actual level of fishing activity;

d) the value provided on the impact of the "gangui" fishery on *Posidonia* beds represented an underestimate of the potential swept area because the assessment of whether this condition has been met is sensitive to the choice of parameters value (i.e., if only the impact of the trawl itself is considered or if all the elements of the gear in contact with the bottom are included)

STECF PLEN 19-03 also noted that *Posidonia* beds where the "gangui" fishery operates were in regression, acknowledging though that the fishery is not the only factor impacting them.

STECF PLEN 19-03 acknowledged that the gradual decrease of fishing effort in the "gangui" fishery (i.e., "gangui" authorization is withdrawn when a vessel is sold, or the owner retires) will ultimately lead to the permanent cessation of the fishery over time. At present, only 10 vessels are authorized, compared to 36 in 2014 indicating this measure is working effectively.

Summary of the information provided to STECF

Ten documents were provided to STECF, which are summarized below.

- *Note by the French Authorities to the European Commission, D1 - Fisheries management in the Mediterranean and Black Seas (Courrier Veits janvier 2020V2COM_EN)*

This is the request of the French Administration for a further renewal of the derogation in force for three years, based on a new management framework for the "gangui fishery".

The aim of the management framework is a gradual phasing-out of the gangui fishery through a so-called "bouilleur de cru" regime, included under the French management plan for this fishery. This has led to a decrease in vessels from 25 in 2014 to 10 in 2019. Seven additional vessels could be potentially eligible for authorisation once they will install VMS.

The note also reports no infringements have been detected since 2018 and fishing effort has been consistently below limits laid down in the regulations.

This document also describes new commitments made by the French Administration based on STECF PLEN 19-03 conclusions as follows:

- The maximum impact of gangui on *Posidonia* beds based on VMS data, using the parameters chosen by STECF PLEN 19-03 (i.e. large gangui horizontal gear opening of 20 meters, fishing time increased by applying a filter at a speed of 2 knots). This assumes that gangui operates 100% of its activity on *Posidonia* meadows.
- Decreasing the maximum number of days at sea per year per vessel from 200 to 180 for large gangui. The 50-day limit for small gangui has not been changed (one active vessel).
- Identification of a target reduction of the estimated area of *Posidonia* beds subject to gangui fishing in the Mediterranean (Directives No 2008/56/EC and 2014/89/EU).

- Requesting Ifremer to carry out a socio-economic study of gangui fisheries. The results of this study are expected to be available in the second half of 2021.

The French note refers to three Annexes: a) Summary of the management measures for "gangui"; b) Estimating the maximum Gangui footprint in 2019 using VMS data; c) Decree of 3 February 2020 amending the decree of 13 May 2014 adopting management plans for professional fishing with purse seine, dredger, beach seine and gangui in the Mediterranean Sea by vessels flying the French flag.

- *Summary of the management measures for "gangui" (Annexe_EN)*

This document lists all the measures adopted by the French administration since 2014 to manage the gangui fishery:

- Decree of 13 May 2014 adopting the management plan for professional gangui fishing in the Mediterranean Sea by vessels flying the French flag.
- Decree of 16 March 2018 laying down a plan for the control and monitoring of landings for vessels holding a European authorisation for gangui fishing.
- Decree amending the Decree of 13 May 2014 adopting the management plan for professional fishing for gangui in the Mediterranean Sea by vessels flying the French flag.
- Additional measures adopted by France: a) updated mapping of the *Posidonia oceanica* beds in French Mediterranean waters (presented at STECF PLEN 19-03); b) analysis of the actual impact of gangui on *Posidonia* beds by means of VMS data; c) socio-economic study of gangui fisheries providing updated catch, catch composition and price data in accordance with STECF observations (expected results by the second half of 2021).

Estimating the maximum Gangui footprint in 2019 using VMS data (Estimating the maximum Gangui footprint in 2019 using VMS data V3COM)

This document provides estimates of the maximum gangui footprint in 2019 by analyzing the VMS data filtered as follows: a) speed ≤ 2 knots (referring to the STECF value used in PLEN 17-02 and 19-03); b) ports area; c) maximum delay between consecutive positions set at 3 h. Horizontal gear opening was set at 20 meters for large gangui and 5 m for small ones. Based on a total maximum footprint estimated at 61.94 km². This is compared to an estimated surface area of the *P. oceanica* beds in the PACA Region of 311.68 km² and in the French Mediterranean waters of 872 km², giving an estimated total gangui footprint on the surface area of *P. oceanica* beds of 19.9% in the PACA Region, and 7.1% in the French Mediterranean waters. These estimations do not exceed the ceilings set out in the MedReg for both areas, of 33% and 10% respectively.

- *VMS data of the 10 vessels authorized to use gangui in 2019 (gangui_vms_data_2019_speed_0_5_3.csv)*

This document is a .csv file reporting latitude, longitude and speed of the 10 vessels authorized to gangui fishing in 2019. Data has been filtered for speed ≤ 3 knots.

- *Histogram of the VMS data of the 10 vessels authorized to use gangui in 2019 (hist_vms)*

This document represents the graphical representation (histogram) of data included in the .csv file "gangui_vms_data_2019_speed_0_5_3.csv".

- *Decree of 3 February 2020 amending the decree of 13 May 2014 adopting management plans for professional fishing with purse seine, dredge, beach seine and gangui in the Mediterranean Sea by vessels flying the French flag (joe_20200208_0033_0032_EN)*

This Decree sets the maximum fishing days for both types of ganguis (otter boards and fixed frame) at 180 days per year per vessel.

- *Analytical Summary - Report from France to the European Commission on the follow-up to the derogation concerning gangui-type trawl fishing transmitted on 11 June 2019 (Resume analytique_EN)*

This summary has been already evaluated by STECF PLEN 19-03 and does not include any new information. It reports that:

- The aim is the gradual phasing-out of the "gangui" fishery, not the continuation of the fishery
- The number of vessels decreased from 36 in 2014 to 17 in 2019.
- No infringements were detected from 16 inspections in 2018 and 20 inspections in 2019.
- The Posidonia oceanica surface that could be potentially impacted by the "gangui" is below the threshold laid down in the Mediterranean Regulation (EC) No 1967/2006.
- The mapping of Posidonia beds in the "gangui" fishing grounds has been updated.
- Annex III species and cephalopods are not targeted by "gangui" and are minimal in the catches.

- *Report by France to the European Commission on the follow-up to the derogation concerning gangui-type trawl fishing (11 June 2019) (Rapport gangui final 20092019COM_EN)*

This report has been already evaluated by STECF PLEN 19-03 and informs on the control and monitoring mechanisms put in place in the "gangui" fishery by France. No new information presented in 2020.

The measures described are:

- A plan for the reduction of the number of authorizations;
- Measures for control and monitoring of landings;
- Scientific monitoring of the activity and its impact on the marine environment.

Analysis of catch reports for gangui fishing gear (Analyse declaration de captures gangui_EN)

This document provides an analysis of catch reports made during 2019 by the 10 vessels participating in the "gangui" fishery under an European Fisheries Authorisation (EPA). Data was only provided for 2019 because: a) the number of vessels has declined year-on-year and therefore the past data is not representative, and b) 2019 is the only full year of the management plan has been in place based on the new derogation granted in May 2018. The average catches reported in this report were about 80 kg per fishing trip based on one trip per fishing day. Catches were dominated by the commercial categories "soup" (including 37 species) and "miscellaneous fish" (picarel *Spicara smaris* and striped red

mullet *Mullus surmuletus* represented 75% and 12% in biomass, respectively) consisting of 72% and 21% of the total catch in biomass, respectively. The remaining fraction mainly consisted of octopus *Octopus vulgaris* (3%) and cuttlefish *Sepia officinalis* (2%).

- *Catch data of the vessels authorized to gangui fishing in 2019 (Gangui 2019 captures brutes.xlsx)*

This document includes the weight of catches by species obtained in 2019 by the vessels authorized to gangui fishing.

STECF observations

STECF PLEN 20-02 is requested to review the additional documents France provided and assess whether they address the conclusions of PLEN 19-03 (i.e. that most of the issues raised during STECF PLEN-17-02 and PLEN-17-03 remained unresolved). Specifically, the two concerns raised by PLEN 19-03 were:

1. No updated information on species composition was submitted and, therefore, it was not possible to verify the compliance with Art. 13(9) of MedReg. Specifically, it was not possible to verify whether catches of species mentioned in Annex III are minimal, and cephalopods are not targeted.
2. The potential footprint of gangui was underestimated and, therefore, it was not possible to verify the compliance with Art. 4(5) of MedReg (i.e. the gangui fishery should impact on not more than 33% of the area covered by *Posidonia oceanica* within the PACA Region, and 10% of seagrass beds in the territorial waters of France) (Art. 4(5) of MedReg).

Specific comments on these two issues are as follows:

1. Catch composition:

The French Administration provided catch data and an analysis of catch reports made in 2019 by the 10 vessels authorized to perform gangui fishing.

STECF notes that no information on discard was provided. However, given the mixed nature and small size of the species registered STECF assumes that most catches are landed.

STECF notes that based on the catch information provided by the French administration, catches were dominated by the commercial categories "soup" and "miscellaneous fish", representing 72% and 21% of the total catch in biomass, respectively. The remaining fraction mainly consisted of three cephalopods, common octopus *Octopus vulgaris*, cuttlefish *Sepia officinalis*, and squids, representing 5.9% of the total catch in biomass.

"Soupe" category included 37 species, and five of these species accounted for 61% in biomass of this commercial category. STECF observes that none of these five species are included in the Annex III of MedReg (now Annex IX of the Technical Measures Regulation 2019/1241).

"Miscellaneous fish" category was mainly represented by picarel *Spicara smaris* (75%) and striped red mullet *Mullus surmuletus* (12%). STECF observes that striped red mullet is included in the Annex III of MedReg.

STECF observes that gangui catches included also small fractions of annular seabream *Diplodus annularis*, two-banded seabream *Diplodus vulgaris*, white seabream *Diplodus sargus*, Spanish seabream *Pagellus acarne*, gilthead seabream *Sparus aurata*, common

sole *Solea solea*, seabass *Dicentrarchus labrax*, horse mackerel *Trachurus* spp. which are all included in Annex III of MedReg. All together, these species together with the striped red mullet represent 6.0% of the total catches in biomass.

2. Impact on *Posidonia*:

With the aim of calculating the maximum footprint of gangui fishing, since the 1st April 2018 the French Administration conditioned the granting of gangui authorization to the installation of a VMS transponder. STECF acknowledges the effort made by French Administration to enforce the use of VMS transponder on board of small vessels, beyond the standards otherwise required in the control regulation.

VMS data from the 10 vessels authorized to perform gangui fishing in 2019 were filtered for speed ≤ 2 knots to discriminate vessels towing the gears (≤ 2 knots) from steering vessels (> 2 knots). STECF notes that according to the Report of the SGMED Subgroup on the Mediterranean Sea (STECF, 2004), as well as to the Ministerial Decree of 16 May 2011, gangui towing speed ranges between 1.5 and 3.0 knots depending on the seabed characteristics. Hence STECF PLEN 19-03 had used 2 knots as an average towing speed, not as a maximum one. Nevertheless, the actual frequency distribution of VMS pings provided by France showed 1.5 knot as the peak occurrence and fewer occurrences of pings above 2 knots. Therefore, STECF considers that the 2 knots maximum threshold which was used in the supporting information provided by the French administration, while slightly underestimated, is still adequate for the calculation of swept area.

STECF notes that in the supporting document the frequency of VMS pings is not reported, but the maximum delay between consecutive positions was set at 3 hours to limit aberrant trajectories in the mapping analysis. STECF suggests that for fine-scale mapping of coastal activities performing hauls of about 1 hour, integrating the VMS with an AIS system with a 5-min ping frequency could allow for further precision (i.e., starting and ending of each haul) in the estimation of the footprint of each vessel.

This study using VMS data resulted in the estimation of the actual footprint of the 10 vessels authorized for gangui fishing in 2019 at 61.94 km², representing 19.9% of the *Posidonia* surface of the PACA Region and 7.1% of the French Mediterranean waters, thus not exceeding the ceilings set out by MedReg (33% and 10%, respectively). The total number of fishing days was observed at 1008.

In comparison, the theoretical maximum footprint estimated by STECF PLEN 19-03 for 10 ganguis (9 large ganguis and 1 small gangui) was 125.26 km². In this case, the calculation was based on maximum 150 fishing days for large gangui and 50 for small gangui, for a total of 1400 fishing days.

STECF observes that the use of VMS allowed for a robust calculation of the observed fishing effort and true swept area, which showed to be around half of the maximum theoretical footprint estimated from the information previously available. The average observed footprint by fishing day showed to be around 30% lower than the maximum estimated.

The differences between these values highlight the importance of having a detailed monitoring of the vessels' activity using VMS.

	PLEN 19-03	PLEN 20-02
No. grand gangui	9	9
No. small gangui	1	1

Total Fishing days	1 400	1 008
Footprint (km ²)	125.26	61.94
Footprint of one fishing day (km ²)	0.089	0.061

Other general observations:

STECF notes that the proposed fishing effort reduction, from 200 to 180 fishing days per vessel, will not affect the current activity of the fleet. This limit is not restrictive in reality, given that, in 2019, each vessel operated for about 100 days in average.

STECF observes an inconsistency regarding the number of fishing days the gangui vessels can operate. According to the Decree of 3 February 2020 the limit has been set to 180 days for the gangui vessels, and no difference was made between large and small ganguis. While in the request of the French Administration to the European Commission for a further renewal of the derogation it is indicated that 180 fishing days correspond to large gangui and 50 fishing days to small gangui.

STECF conclusions

STECF acknowledges the effort made by the French Administration to manage the gangui fishery. STECF recognizes the aim of gradually decreasing the fishing effort ("bouilleur de cru" regime) and the objective of monitoring the spatial distribution of gangui, through the installation of a VMS transponder on all authorised vessels.

STECF notes that out of the 17 vessels potentially authorized, only 10 vessels are currently operating in the gangui fishery, compared to 36 in 2014, indicating this measure is working effectively in reducing fishing effort. STECF concludes that if this decline continues, the current management will achieve its objective of phasing out the fishery over time.

STECF also acknowledges the initiative of the French Administration to launch a socio-economic study on gangui fisheries, the results of which are expected to be provided in the second half of 2021.

Furthermore, STECF concludes that adequate information has been provided to address the main concerns raised by STECF PLEN 19-03. As such:

Updated information on catch composition shows that the species landed by gangui are mainly not included in Annex III of MedReg (now Annex IX of the Technical Measures Regulation 2019/1241).

STECF also concludes that cephalopods are not a main target, representing 6% of total catches in biomass in average.

STECF concludes that the VMS approach is effective to measure the footprint of gangui fishery on *Posidonia* beds. In 2019, the observed footprint of the 10 vessels authorized to perform gangui fishing did not exceed the limits defined by Art. 4(5) of MedReg. However, STECF warns that this footprint could potentially increase above that limit in the future, if the authorized vessels would increase their annual number of fishing days up to the limit authorised, and/or if the remaining 7 licensed vessels would require authorization to re-operate the fishery. STECF supports therefore the regular monitoring of trends in fishing effort from VMS data.

STECF notes, however, that the supporting documents do not address the previous comment suggesting a revision of the CPUE threshold set as a reference value.

6.6 Derogation for 'Volantina' demersal otter trawls in the territorial waters of Slovenia

Background provided by the Commission

In accordance with Article 13(1) of Regulation (EC) No 1967/2006 (hereafter the MedReg), the use of towed gears is prohibited within 3 nautical miles of the coast or within the 50m 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.

In addition, a general condition for all derogations is that the fishing activities concerned are regulated by a management plan provided for under Article 19 of the MedReg. Under this provision, Member States are expected to adopt management plans for fisheries conducted by trawl nets, boats seines, shore seines, surrounding nets and dredges within their territorial waters.

In 2013, the Common Fisheries Policy (CFP) introduced new elements for conservation such as the target of maximum sustainable yield (MSY) for all the stocks by 2020 at the latest, the landing obligation and the regionalisation approach.

In line with these two regulations, the plans shall be based on scientific, technical and economic advice, and shall contain conservation measures to restore and maintain fish stocks above levels capable of producing MSY. Where targets relating to the MSY (e.g. fishing mortality) 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.

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

Commission Implementing Regulation (EU) 2017/2383 granted a derogation to Article 13(1) of the Mediterranean Regulation for 'volantina' demersal otter trawls in the territorial waters of Slovenia. This derogation applies until 27 March 2020.

Slovenia, taking into account the STECF Opinion of PLEN 19-03, has re-submitted a request to prolong this derogation after its expiry on 27 March 2020.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

TOR 1. Assess whether the management plan contains adequate elements in terms of:

1.1. The description of the fisheries:

- Recent and historical data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort;
- Data on length-frequency distribution of the catches, with particular reference to the species subject to minimum sizes in accordance with Annex IX of Regulation (EU) No 2019/1241;
- An updated state of the exploited resources; and
- Information on economic indicators, including the profitability of the fisheries.

1.2. Objectives, safeguards and conservation/technical measures:

- Objectives consistent with Article 2 of the CFP and quantifiable targets, such as fishing mortality rates and total biomass;
- Measures proportionate to the objectives, the targets and the expected time frame;
- Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the poor quality of data or non-availability places the sustainability of the main stocks of the fishery at risk; and
- Other conservation measures, in particular measures to fully monitor catches of the target species, to eliminate discards and to minimise the negative impact of fishing on the ecosystem.

1.3. Other aspects:

- Quantifiable indicators for periodic monitoring and assessment of progress in achieving the objectives of the plan.
- If deemed necessary, provide any recommendations and guidance on how to obtain improved scientific/technical supporting material for the plan. This could be done in terms of collection of data, evaluation of the status of the target stocks, evaluation of conservation measures, impact on the marine ecosystem and monitoring programme.

TOR 2. Evaluate whether the following conditions concerning the derogation to the minimum distances and depths (Article 13, paragraphs 5 and 9) are fulfilled:

- There are particular geographical constraints, such as the limited size of coastal platforms or limited fishing grounds;
- The fisheries have no significant impact on the marine environment;
- The fisheries involve a limited number of vessels, with a track record of more than 5 years, and do not contain any increase in the fishing effort;
- The fisheries cannot be undertaken with another gear;
- The fisheries are subject to a management plan and carry out a monitoring of catches as requested in Article 23;
- The fisheries do not operate above seagrass beds of, in particular, *Posidonia oceanica* or other marine phanerogams;
- The fisheries do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets;
- The fisheries are regulated in order to ensure that catches of species mentioned in Annex IX of Regulation (EU) No 2019/1241 are minimal; and
- The fisheries do not target cephalopods.

TOR 3. Evaluate the implementation report of the current derogation and any additional documents provided to support the Slovenian request to renew the derogation.

Summary of the information provided to STECF

Three documents were provided to STECF, which are summarized below.

- *Official Letter from Slovenia on the Request to extend the derogation for "volantina" trawls under the Mediterranean Regulation.*

This is the request from the Slovenian Administration for a renewal of the derogation for the "volantina" fishery in Slovenian waters. The document addresses and provides clarifications to the issues raised by PLEN 19-03.

- *Updated version of the management plan for marine commercial fishing in the territorial waters of the Republic of Slovenia.*

This is an updated version of the management plan for marine commercial fishing in the territorial waters of the Republic of Slovenia (hereafter referred to as the MP). It contains updated data and time series following from the requests by PLEN 19-03.

- *Study "Structure of catch of bottom trawls of the "volantina" type".*

This is a report of a recent study performed by FRIS (Fisheries Research Institute of Slovenia). The study was carried out in 2018 and was made at the request of the European Commission to monitor catches with 'volantina' type bottom trawls. The main objective of the study was to obtain data on the catch composition in 'volantina' type bottom trawls in the strip between 1.5 and 3.0 nautical miles from the coast.

STECF observations

The request submitted by Slovenia (described in the MP) includes requests for derogation regarding the size of the surrounding nets, and for the use of "volantina" trawls in a stretch located between 1.5 and 3 nautical miles from the coast.

Previous STECF evaluations (PLEN 19-03; PLEN 17-01; PLEN 16-02) requested that Slovenia should provide data separately for the "Volantina" net and other otter trawls. Similarly, STECF requested information regarding the area under derogation (the strip between 1.5-3 miles) and rest of the fishing area to be presented separately.

STECF notes that Slovenia informed that, as the whole fishing area is very limited, fishing vessels are passing across both areas (1.5-3.0 NM strip and the area beyond 3 NM) several times during "volantina" fishing operations. Therefore, it is not possible to provide data separately.

However, STECF notes that Slovenia did clarify to PLEN 20-02 that the data presented in the Annex II (Excel file submitted to PLEN 19-03) came from "Volantina" fisheries only. Moreover, it is specified that this data came only from the area for which Slovenia is requesting a derogation extension (i.e. the strip between 1.5-3 NM). STECF notes that Slovenia did clarify that the data were collected through onboard sampling of commercial fisheries in the stripe 1.5-3.0 NM.

STECF notes that Slovenia did also clarify during which part of the year sampling has been performed. In 2016, samplings were performed in January, March, May, June, and July. In 2018, samplings were performed in March, May, June, September and December. Slovenia informed that no sampling was performed in 2017.

The updated Management Plan (MP) for commercial fishing in the territorial waters of Slovenia submitted to the STECF PLEN 20-02 provides information on the Slovenian sea fishing area (including information on protected areas) and included a detailed presentation on the current fleets and fleet segments, spatial distribution of fishing

activities, and seasonality of use of the various fishing gears. Fleet and catch statistic data presented in the newly submitted MP are updated with information up to 2019. Landing value data are provided up to 2018.

STECF notes that the following updates have been made in the newly submitted MP compared to the information provided to PLEN 19-03:

- Changes in chapter 2.1.1;
- New maps of the Slovenian marine fishing area;
- A new chapter (4) of total landings disaggregated by fishing gear/metier;
- Updates in chapter 7.1 (description of métiers) with data up to 2019;
- Fleet capacity, fishing effort and landing (in weight) data for OTB are provided up to 2019;
- Seasonal activity of OTB (number of fishing trips and corresponding landings in weight) is reported up to 2019;
- New data on capacity and vessel length classes of OTB are given for the reference year 2019;
- Updated information on landing composition by species for the period 2013-2018;
- Change in chapter 9 on managements measures at the national level;
- Updates in chapter 10.2.1 (description of the request for a derogation for demersal otter trawls);
- More detailed description regarding the Slovenian statement that fishing with demersal trawling does not affect fishing with other fishing methods is provided;
- Updated information related to discards up to 2019;
- Data on catch per unit effort for three cephalopods species (musky octopus, *Eledone moschata*, European squid, *Loligo vulgaris*, and common cuttlefish, *Sepia officinalis*) for the period 2013-2019 (up to 2018 for cuttlefish);
- Data on activity (number of logbooks per year) for 12 vessels under derogation with track records for the period 2005-2019;
- Updated information on fishing effort in the area from 1.5 to 3 miles, as well as beyond the 3 miles for the period 2016-2019.

STECF comments in relation to each of the elements outlined in the ToRs

TOR 1. Assess whether the management plan contains adequate elements in terms of:

1.1 The description of the fisheries

- *Recent and historical data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).*

Data presented in the MP is related to the OTB fishing gear in general (OTB_DEF_>=40_0_0), and in all Slovenian waters. In the period 2013-2018, the average landings by demersal otter trawls (OTB) (fishing gear) accounted for 40.7% of the total catches in Slovenian waters and 38.4% in terms of value. Vessels using demersal otter trawls (OTB) landed 83 different species. The main target species was whiting, which accounted for 33.2% of total landings. Recent total catch trends (landings and discards) of the species concerned and catch-per-unit-effort (CPUEs) data are presented.

In 2019, nine trawlers were active, compared to 12 vessels operating in 2014. It is though not clear whether all of these nine vessels are using "volantina" all year round or in a specific period of the year.

Fishing effort data (fishing hours and length of fishing routes, km) of "Volantina" fishery in the strip 1.5-3.0 NM is provided. Fishing effort slightly decreased over the period 2014-2018.

- *Data on length-frequency distribution of the catches, with particular reference to the species subject to minimum sizes in accordance with Annex III of the MedReg*

The attached FRIS report provides length Frequency Distributions (LFDs) for whiting which is the target species of "volantina" fishery. LFDs of sardine included in Annex III of the MedReg (now Article 31 of Reg. 2019/1241) are also provided. The number of specimens below minimum size for sardine is small.

- *An updated assessment of the state of the exploited resources.*

STECF notes that in the MP, Slovenia has provided updated information on the status of exploited stocks after 2015. This takes account of GFCM and/or STECF stock assessments for the most important pelagic and demersal stock in the Adriatic Sea for the years 2016, 2017 and 2018.

Most of the species caught by the Slovenian fleet are shared stocks, so the assessment refers to the evaluations performed in the frame of GFCM/STECF until 2018 (reference year). According to the assessments presented in this MP, the stocks of both small pelagic and demersal species showed excessive exploitation or high overfishing (with the exception of cuttlefish). Thus, the objective proposed for all the priority species in the MP is to reduce fishing mortality. No assessment is available for whiting, which is not ranked among the first 20 priority demersal species in GSA17 according to STECF 16-14).

- *Information on economic indicators, including the profitability of the fisheries.*

STECF notes that in the MP, Slovenia provides updated information on economic indicators up to 2017. Landing values by métier are provided up to 2018.

Detailed information on the fishing fleet is given in the MP (tonnage, engine power, number of employees, days at sea, fuel consumption, total income, etc.), including information on economic indicators and profitability. The Slovenian fleet capacity in 2018 was 669 GT and 8467 kW, a decrease of 382 GT (36.1%) and 2107 kW (19.2%) compared to the fleet capacity ceiling on 1 May 2004 (1057 GT and 10974 kW). This is a result of the decommissioning of eight fishing vessels in 2012 and 2013. As of 1 January 2014, Slovenia could not exceed this capacity, which is set in Regulation (EU), No 1380/2013.

The Slovenian fishing fleet consists mostly of small vessels that are considered "small scale" fisheries (<12 m length). There are no vessels larger than 18 meters in length. In 2019, 26 active vessels (36%) were smaller than six meters, 36 (50%) were in the length class from 6 to 12 meters, and 10 (12%) in the length class from 12 to 18 meters.

In 2014, 15% more people were employed in the Slovenian marine fisheries sector than in 2008. In 2017, 101 people were employed in the Slovenian marine fisheries sector, which is 7% less than in 2008.

The revenue of the Slovenian fishing fleet in 2017 was EUR 2.18 million (30% less than in 2013). The total value of landings was EUR 0.89 million, and the value of other revenues was EUR 1.29 million. Most other revenues were generated by tourist activities, such as renting vessels for sport fishing, or transporting tourists in the summer season. The value of landings declined in 2008-2017, whilst other revenue increased by more than 100% in 2017 compared to 2008.

1.2 Objectives, safeguards and conservation/technical measures

- Objectives consistent with article 2 of the CFP and quantifiable targets, such as fishing mortality rates and total biomass.

The management measures proposed in the MP are based on the regional GFCM assessments up to 2018 and recommendations available in 2019.

At a national level, the MP fixes three main objectives focusing on managing fishing effort: 1) Removal of non-active vessels from the fishing vessel register, 2) Implementation of sustainable fisheries, and 3) Fostering sustainable fisheries and the conservation of marine aquatic biological resources. Objective 3 aims at promoting the adjustment of fishing capacity to fishing opportunities.

- Measures proportionate to the objectives, the targets and the expected time frame.

STECF notes that the objectives included in the MP have biological basis and target reference points according to the GFCM adopted "Recommendation GFCM/43/2019/5 on a multiannual management plan for sustainable demersal fisheries in the Adriatic Sea (GSAs 17 and 18)". With regards to timeframes, the plan states that measures will be implemented in 2017 and 2018. These timeframes have not been updated in the MP, and it is not clear whether any of the mentioned measures were actually implemented. Only the timeframe for objective 3 has been updated (2020-2027).

- Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk.

STECF notes that safeguards and remedial actions set by the GFCM adopted Recommendation GFCM/43/2019/5 are taken into account in the revised MP. In particular, fishing effort shall be set at levels consistent with producing a fishing mortality lower than F_{msy} , taking into account the decrease in biomass. Remedial measures include suspending the targeted fishery for the concerned stocks and an adequate reduction of fishing effort or catch limit. According to the MP, given that the share of Slovenia of shared and migratory stocks in the Adriatic Sea can be considered as negligible, when compared with their neighbouring countries, it is not possible to determine quantifiable targets of the management/conservative measures implemented at the national level.

- Other conservation measures, in particular measures to fully monitor catches of the target species, to gradually eliminate discards and to minimize the negative impact of fishing on the ecosystem.

In addition to the monitoring of landings and discards under the Slovenian national work plan on the EU-MAP, STECF notes that to ensure compliance with relevant discard plans, fishers have to fill in fishing logbooks for all quantities and species of fish caught and discarded, including vessels below 10 m in length. No additional conservation measures

to gradually eliminate discards (which are reported as low) and minimize the negative impact of fishing on the ecosystem are foreseen under the MP.

1.3 Other aspects

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

STECF notes that quantifiable indicators for the periodic monitoring and assessment of progress in achieving the objectives of the plan are not provided in the MP.

- If deemed necessary, provide any recommendations and guidance on how to obtain improved scientific/technical supporting material for the plan. This could be done in terms of collection of data, evaluation of the status of the target stocks, evaluation of conservation measures, impact on the marine ecosystem and monitoring programme.*

STECF notes a more robust sampling design for the monitoring of the implementation of the management plan would be beneficial. For example, a sampling design covering all the months of the year would provide better information on catches, especially for those species whose abundance is characterized by a clear seasonality (e.g. cephalopods). Additionally, a comparison between the catches with "volantina" and "tartana" could be helpful to understand whether the "volantina" has different ecosystem impacts. A comparison between catches in the strip 1.5-3.0 NM, and outside this strip would also be informative. According to STECF EWG 16-14, the application of data-limited assessment methods could be investigated to assess the stock status of whiting.

TOR 2. Evaluation of condition concerning the derogation to the minimum distances and depths

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

STECF notes that information provided in the previous STECF Reports (PLEN 13-01; PLEN 16-02; PLEN 17-01; and PLEN 19-03) shows that Slovenia provided sufficient information to fulfil this condition.

- The fisheries have no significant impact on the marine environment

STECF notes that the strip 1.5-3.0 NM exploited by the "volantina" fishery is characterized by muddy grounds. Maps are provided to support that the fishery is not performed on sensitive habitats. There is evidence that the impact of "volantina" fishery on seabed habitats is negligible. Discards rates are shown to be low.

- The fisheries involve a limited number of vessels, with a track record of more than 5 years, and do not contain any increase in the fishing effort

STECF notes that in the updated MP, Slovenia provides sufficient information on the limited number of vessels and the fact that the vessels that are under derogation have more than 5 years of track record.

- The fisheries cannot be undertaken with another gear

A description of the different types of trawl nets was included in the updated MP, where it is stated that the "Volantina" trawl is lighter and less impacting on the sea bottom than the traditional "Tartana" net. Furthermore, it is stated that the "Volantina" is less effective in catching cephalopods than the "Tartana".

STECF notes that the information provided in the MP shows the differences between the "volantina" and "tartana" trawl designs. The "volantina" trawl has a higher vertical

opening and is rigged to have lighter bottom contact and target species swimming higher in the water column such as whiting. While not specifically documented, it will also seem that the "volantina" is trawled with shorter bridles which would also reduce bottom impact. STECF cannot definitively say that the fishery cannot be undertaken with another gear but notes the design of the "volantina" is similar to other trawl designs used in fisheries targeting mixed species.

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

STECF notes that Slovenia has provided sufficient information to fulfil this condition. The volantina fishery in Slovenian sea is regulated by MP, which was adopted for the first time in November of 2013. According to the MP, data on activity (number of logbooks per year) for the vessels under derogation with track records for the period 2005-2019 were collected. All authorised vessels using volantina trawls are required to land all of the catches in authorised ports in line with Article 23 of the EU Reg 1967/2006.

- The fisheries do not operate above seagrass beds of, in particular, Posidonia oceanica or other marine phanerogams

STECF notes that information provided on Posidonia spatial distribution shows this condition has been fulfilled.

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

STECF notes that the information provided in this MP is sufficient to conclude that otter trawl fisheries in Slovenia do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets. It is explained that Slovenia has established a corridor within which a spatial and temporal schedule for fishing with demersal trawls and different types of bottom-set nets has been prescribed; fishing with towed fishing gears is only allowed during the night in the corridor.

- The fisheries are regulated in order to ensure that catches of species mentioned in Annex IX of Regulation (EU) No 2019/1241 are minimal

STECF notes that according to the data provided the demersal fisheries in the Slovenian sea area are multispecies, and a large part of the catch is composed of cephalopods and species listed in Annex IX of Reg. (EU) 2019/1241 (previously Annex III of Council Regulation (EC) No 1967/2006).

There were 17 species specified in Annex IX of Reg. (EU) 2019/1241 in the catch accounting for 28.5% of total catches in weight. Juvenile specimens of eleven species were found. The share of juvenile specimens of commercial species in the catch is 3.75% in number. The axillary seabream (*Pagellus acarne*) represents the highest share of juvenile specimens. This species represents less than 0.1% of catches.

STECF notes that the proportion of catches of species mentioned in Annex IX of Regulation (EU) 2019/1241 remains substantial. It cannot be considered that the condition that demersal fisheries are regulated in order to ensure that catches of these species are minimal is fully met. Nevertheless STECF notes that given the limited size of the Volantina fishery, these catches of species mentioned in Annex IX of Regulation (EU) 2019/1241 sum up to a total volume of a few tens of tons, which represent only a very small amount of the total catches of these species in the area.

- The fisheries do not target cephalopods

STECF noted in its previous evaluation that there was only limited information to demonstrate the fleet does not target cephalopods, implying that the condition 10 of

Article 13 of the MedReg is not fulfilled. The Annex II Excel file, submitted to PLEN 19-03, provided an estimate of cephalopod catches of around 35% of total catches by "volantina" trawls in the strip 1.5-3.0 NM in 2016 and 2018. In comparison, a recent Slovenia study made by FRIS and provided to PLEN 20-02 showed catches of cephalopods in the strip 1.5-3.0 NM in 2018 represented 9.2% of total catches by "Volantina" trawls.

The difference of scale between the two estimates is not discussed. STECF suggests a possible explanation could be in the timing where the samples were taken, given the high seasonality of the cephalopods catches in early autumn. STECF notes that in any case, cephalopods catches cannot be considered to be negligible although equally STECF cannot say the fishery targets cephalopods. Nevertheless STECF notes as above that given the limited size of the Volantina fishery, these total catches of cephalopods will whatsoever represent only a very small amount of the total catches of these species in the area.

TOR 3. Evaluate the implementation report of the current derogation and any additional documents provided to support the Slovenian request to renew the derogation

Slovenia provided PLEN 20-02 with a document entitled "Study "Structure of catch of bottom trawls of the "volantina" type". This report contains data collected under the framework of the implementation of the derogation on "volantina" fishery in the strip between 1.5 and 3 miles from coast in 2018.

The document is comprehensive and addresses the comments raised by PLEN 19-03. It provides new information on:

- Catch composition;
- Fishing effort;
- Data on retained/discarded share by species for the most frequently landed species;
- The share and composition of juvenile organisms listed in Annex IX of Reg. (EU) 2019/1241.

STECF conclusions

STECF acknowledges the improved quality of the plan and the new information provided by Slovenian authorities.

STECF concludes that the updated MP provided by Slovenia is comprehensive and addresses most of the comments previously raised by STECF. It contains sufficient information supporting the condition that otter trawl fisheries do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets. Slovenia also has provided sufficient information to show that the vessels under derogation have more than 5 years of a track record in the fishery.

Information on catch, effort and the status of the exploited stocks have been updated with the best available scientific information from the most recent years. However, information on the status of the stock of whiting is still not available because this stock has never been assessed.

STECF notes that the proportion of catches of species mentioned in Annex IX of Regulation (EU) 2019/1241 remains substantial and cannot be considered to be minimal. Also, STECF notes that uncertainties remain on the actual level of targeting of cephalopods. Nevertheless, STECF notes that these proportions still amount to limited volumes of total catches of these species in the area.

6.7 Italy request of scientific research on "SARDELLA" (*S. pilchardus*) in Liguria (GSA 9)

Background provided by the Commission

Italy intends to launch a scientific fishing programme for 3 years on sardine fry by granting a scientific fishing licence for up to 72 vessels in the Liguria Region in GSA 9.

The proposed experimental fishing activity has a general strategic relevance as the expected results could possibly be a useful tool for the implementation of a long-term Management Plan that could be extended to the fishing communities in other areas of Italy, interested in fishing for juvenile sardine

With the entry into force in August 2019 of the new Technical Measure regulation (TMR, EC 1241/2019), there are new procedure and conditions for such fisheries (Art 25 of the TMR). In substance scientific fishing can be carried out by maximum 6 vessels and, shall the request cover more than 6 vessels, STECF needs to evaluate the scientific justification.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

On the basis of the criteria established by Art 25 of EC 1241/2019 and on the basis of the information sent by Italy, evaluate if the participation of up to 72 vessels is justified on the scientific grounds presented in the background documents provided.

Summary of the information provided to STECF

STECF received a document entitled:

"FISHING OF THE "SARDELLA" IN LIGURIA (GSA 9). EXPERIMENTAL FISHING PLAN USEFUL FOR THE ACQUISITION OF TECHNICAL AND SCIENTIFIC KNOWLEDGE FOR THE SET UP OF A SPECIFIC MANAGEMENT PLAN". This includes an Annex (Annex A), as a separate file.

The document details a three-year monitoring plan for sardine, which has the objective of acquiring the information needed for preparing a Management Plan (MP) proposal for the 'sardella' fishery in the Ligurian Sea.

The document describes the 'sardella' (also known locally as "bianchetto") fishery (boat seine fishery using ca. 5 mm-mesh nets and targeting early life stages [late larvae] of *Sardina pilchardus*). This was an important fishery in GSA 9 (and other Italian GSAs) up until 2010 when the fishery was closed following from Regulation (EC) 1967/2006 (MEDREG). The MEDREG requests that all fishing nets have mesh openings not smaller than 14 mm and operations be carried out at a minimum 300 m distance from the coast or in areas with depth greater than 30 m deep. However, the MEDREG provides the

possibility of obtaining derogations on the mesh size and distance from the coast if the fishery is conducted under a Management Plan.

The 'sardella' fishery was considered important in terms of economic profit (prices of the targeted larvae reached 60-65 Euros/kg before fishery closure) as well as of social and cultural value, as the 'sardella' was historically the basis of traditional recipes in Liguria.

The document states that the proposed experimental fishing activity has 'general strategic relevance' as the expected results will help implement the long-term Management Plan. The supporting document suggests that this Plan could be used to extend the fishing for juvenile sardine to other areas of Italy.

The three-year monitoring programme includes:

- a. experimental boat-seine fishing for 'sardella' by up to 72 vessels;
- b. compilation and analysis of data (mainly DCF data) on (adult) sardine fisheries (catches, effort and biological data), as well as MEDIAS biomass estimates, for the assessment of the sardine stock;
- c. targeted interviews with fishers and other stakeholders to define relevant socio-economic parameters.

One of the main goals of the monitoring program is (after combining data on 'sardella' and adults' fisheries), to evaluate stock status and the impact of the 'sardella' fishery on the stock.

The specific objectives of the program listed (but not further detailed) in the document provided, are:

- acquisition of knowledge on the reproductive biology and the recruitment of sardine (including the 'identification of the relationships' between recruitment, abundance of juveniles and environmental/oceanographic variables);
- acquisition of knowledge on population dynamics (natural mortality, growth) of its early stages;
- acquisition of knowledge on 'sardella' and adult sardine fisheries: fishing vessels, gears, fishing techniques, fishing yields, demographic structure and species composition of catches, also through scientific campaigns (experimental boat seine fishing and echo-surveys);
- evaluation of the exploitation level of the stock;
- definition of adequate "Limit Reference Points" to be adopted in a future Management Plan;
- elaboration of the main socio-economic indicators (gross profit, economic added value etc.);
- simulations aimed at evaluating the effects of different management scenarios on biological, economic and social parameters, including the introduction of catch quotas for vessels authorized both for "sardella" and sardine fisheries.

The document also includes a chapter entitled "State of knowledge for the *S. pilchardus* in GSA 9", in which past experimental surveys concerning the 'sardella' fishery is listed (1996-

1997, 2009-2010, 2012-2013), but no further information is provided. Concerning adult fish, available data sources that can be used to carry out stock assessments are mentioned (DCF data on catch and effort since 2002, MEDIAS acoustic data) and reference is made to the outcomes of the most recent assessment of the sardine stock in GSAs 9-10-11 (STECF 17-15 - Mediterranean stock assessment - Part 1). According to the latter, stock status is uncertain but not necessarily overexploited (2016).

Characteristics of the proposed experimental fishery

Vessels involved in the experimental fishing for "sardella" shall not exceed the maximum number of fishing units that were authorized during the last fishing season (2010). In 2010, 72 boats were authorized for this fishery in Liguria. In 2019, 66 out of these 72 vessels were still registered in the region.

In order to assess with precision the number of vessels that could actually be involved in the trial fishery, the Liguria Region has already launched an exploratory investigation through a manifestation of public interest (expression of interest).

The criteria used for identifying the fishing units suitable for the trial are:

1. possession of ministerial authorization for fishing for sardine juveniles prior to 2010;
2. possession of the ministerial authorization for the fishing of the transparent goby *Aphia minuta* consecutively in the three-year period 2017/2020;
3. possession of the permit for the fishing of the transparent goby effectively released to fishers by the local Coast Guard office;
4. possession of the permit for the fishing of the transparent goby by Coast Guard to the fishers in a consecutive way in the three-years period 2017/2020;
5. possession of logbooks proving the actual fishing activity in the three-years period 2017/2020

The requirements 2 to 5 have been introduced in order to assure the selection of boats which are still active.

Experimental fishing will have a maximum duration of 2 months between January and March, taking into account the historical fishing period for the "sardella" (15 January - 15 March).

Additional restrictions will be imposed during the trial fishery such as:

- the authorized boats shall fish only during daytime, from sunrise to 13:00;
- fishing shall be carried out exclusively on weekday (Monday through Friday), excluding holidays and vacation days;
- it shall be prohibited to use and retain on board fishing gears other than the authorized boat seine;
- the tonnage of authorized vessels shall not exceed 15 GT and engine power shall be <120 KW;

- net length shall not exceed 300 m and mesh size ≥ 3 mm.

The authorized boats shall be equipped with 'dedicated electronic devices' in which the total catches (target species and by-catch), number and characteristics of hauls (start-end time of the haul, fishing area, gear size etc.) and socio-economic data (retail/wholesale price, fisher's age, number of employees) must be recorded.

These rules, aimed mainly at controlling the fishing effort and monitoring the fishing activity, are those intended to be included in the future MP proposal.

The rationale for involving in the experimental fishery a number of vessels similar to the one in 2010 ($n \leq 72$) is to collect data 'as realistic as possible' of the fishing activity and the management measures that will be introduced later in the Management Plan proposal. In this way, it is considered that the scientific data collected will be robust in order to:

- assess the 'real' impact of this fishery on the resource;
- check whether the proposed measures of controlling fishing effort are appropriate and effective, including corrective actions, if needed;
- define possible Limit Reference Points, in order to guarantee the long term sustainability of this fishing activity

The monitoring program mentions also the elaboration of the main socio-economic indicators (gross profit, economic added value etc.)

In 2020 and in order to start the experimental fishing as soon as possible, six (6) commercial vessels were selected and authorized to fish for 'sardella'. A first, preliminary report of the organization and monitoring of the 2020 experimental campaign is provided in Annex I. The 6 vessels were selected by means of a call for tenders (three belonged to the Genoa Maritime district and one to each of the other districts: Imperia, Savona, La Spezia). However, due to the COVID 19 outbreak and subsequent lockdown, the authorization for experimental fishing was delayed (26 March). Although the traditional fishing period (when late larvae are abundant) is between January-March, the period of authorization was extended to 30 April, in order to develop and test the monitoring protocols and highlight possible problems. The 2020 activities at sea (in which scientists could not participate due to COVID restrictions) resulted, as expected, in few larval catches. The scientific analysis of the samples acquired (with the collaboration of fishers) is still pending.

STECF comments

STECF notes that the proposed trial fishery involves a similar number of vessels (i.e. 72 vessels) to that when the MEDREG derogation ended in 2010. This will essentially represent a full census of the fishery. STECF considers thus that the proposed trial would *de facto* correspond to the re-opening of the *sardella* fishery for a three years period.

As pointed out by STECF in PLEN 19-03 (ToR 6.3 Croatia request of scientific research in West coast of Istria, p. 82) a trial fishery, in the sense of Article 25 of the Technical

Measures Regulation, is an experimental fishery aimed to collect a representative sample of the population for the purpose of biological investigation. It should not simulate the full fishery. There is no need scientifically to run the experiment fishery with all vessels concerned to assess the impact of a potential 'sardella' fishery on the sardine population. It would be adequate to assume a range of potential maximum allowable levels of catches (corresponding for instance to a maximum number of working days per year \times daily quota/vessel \times number of licensed vessels), whereby a reduced experimental fishery will serve to examine the actual length and weight characteristics of the catches expected to result from such fishery.

STECF considers that an appropriate number of vessels in the trial should be determined using standard sampling designs of experimental fishing trials and following a methodology similar to the one used to derive abundance indices with scientific surveys at sea involving a limited number of vessels (e.g. in the frame of the EU Data Collection Framework). This allows balancing expected precision levels in abundance indices and other biological data with sampling size. Therefore, STECF considers that up to 6 vessels should be a sufficient number of vessels for a trial fishery, provided that the trial is conducted following a statistical protocol ensuring a stratified deployment of effort over the entire area and fishing season.

STECF notes that the proposed trial aims at improving knowledge on the reproductive biology and recruitment of sardine and estimating parameters such as CPUEs and the demographic structure of the targeted sardine larvae. However, no information is provided on how such knowledge and the data collected during the trial will be used to evaluate the impact of the 'sardella' fishery on the Ligurian sardine stock (which seems to be one of the main goals of the proposed monitoring program).

STECF notes that modelling a larval fishery and assessing its impact are by nature very challenging and dependent heavily on some key parameters difficult to estimate, including the choice of natural mortalities assumed for the different early life stages (e.g. Carpi et al. 2017). Furthermore, given the major effect of inter-annual environmental variability on both egg production and natural mortalities of egg, larval and juvenile stages (Somarakis et al. 2019), impact assessments of larval fisheries should be considered with caution. Regardless of the number of vessels engaged in the trial, the estimation of the impact of the larval fishery on the sardine stock in the short- and in the medium/long term is expected to be highly uncertain.

STECF notes that according to the STECF 17-15 assessment, the status of the stock is uncertain but not necessarily overexploited. STECF also notes that a more recent assessment has been carried out in GFCM-WGSASP in 2019 using SPiCT (reference year 2018)⁶, but has not yet been endorsed by the GFCM-SAC. This more recent assessment indicates that in the recent years, F was below F_{msy} and B was above B_{pa} , but not in the former decade. Hence, in 2018, the sardine stock in GSA 9 was not overfished and overfishing was not reported. While this may suggest that additional catches of that stock could be envisaged, STECF warns that there is evidence across a number of sardine stocks (including Bay of Biscay, Catalan Sea, Gulf of Lions, Adriatic Sea, Sicilian channel) that

⁶ <http://www.fao.org/qfcm/technical-meetings/detail/en/c/1274635/>

recent climatic changes have had a negative impact on sardine growth, body condition and longevity (Brosset et al. 2017, Véron et al. 2020) with potential consequences on sardine population dynamics. Thus, any additional fishing pressure should be considered with great caution. The range of uncertainties around the actual impact that a large-scale reopening of the fry fishery (regardless whether it is called a trial or a full fishery) would create on the sustainability of the stock and on the achievement of the Common Fisheries Policy objectives needs thus to be thoroughly investigated, using, for example, quantitative management strategies evaluation, before any such decision shall be made.

STECF conclusions

STECF concludes that there is no justification on scientific grounds to conduct an experimental fishery for sardine fry in GSA 9 with more than 6 vessels. Under favourable fishing conditions, deploying up to 6 vessels and adopting standard sampling designs for experimental fishing trials and scientific surveys at sea, is likely to provide sufficient representative data and information to assess the potential impacts of re-opening the fishery for up to 72 vessels.

References

- Brosset P., Fromentin J.-M., Van Beveren E., Lloret J., Marques V., Basilone G., Bonanno A., Carpi P., Donato F., Cikes Kec V., De Felice A., Ferreri R., Gasparevic D., Giráldez A., Gücü A., Iglesias M., Leonori I., Palomera I., Somarakis S., Ticina V., Torres P., Ventero A., Zorica B., Ménard F., Saraux C. 2017. Spatio-temporal patterns and environmental controls of small pelagic fish body condition from contrasted Mediterranean areas. *Progress in Oceanography* 151: 149-162, doi: 10.1016/j.pocean.2016.12.002
- Carpi P., Morello E.B., Uriarte A., Panfili M., Roel B., Santojanni A., Donato F., Arneri E. 2017. Impact of the fishery for late-larval European sardine (*Sardina pilchardus*) on the adult stock in the Adriatic Sea. *ICES Journal of Marine Science* 74: 728-740, doi:10.1093/icesjms/fsw208.
- Somarakis S., Tsoukali S., Giannoulaki M., Schismenou E., Nikolioudakis N. 2019. Spawning stock, egg production and larval survival in relation to small pelagic fish recruitment. *Marine Ecology Progress Series* 617-618: 113-136, doi:10.3354/meps12642.
- Véron, M., Duhamel E., Bertignac M., Pawlowski L., Huret M. 2020. Major changes in sardine growth and body condition in the Bay of Biscay between 2003 and 2016: Temporal trends and drivers. *Progress in Oceanography* 182, 102274, doi: 10.1016/j.pocean.2020.102274

6.8 Joint recommendation on Norway Pout fishery

Background provided by the Commission

The new Technical Measures Regulation (TMR)⁷ introduces the process of regionalization to amend certain regional baseline selectivity standards. Member States with interests in a given region may adapt various aspects of fisheries management, while ensuring that activities carried out are consistent with the objectives of the TMR. This permits the tailoring of detailed and technical rules so as to take into account regional specificities.

In this regard, the Scheveningen Regional Group has previously developed the attached joint recommendation in accordance with article 15 of the TMR and article 18 of Regulation EU no 1380/2013. This joint recommendation was assessed by the STECF (PLEN 20-01) in order to determine to what extent it goes in line with achieving the objectives and targets set out in Articles 3 and 4 of the TMR, and does not lead to a deterioration of selectivity standards.

The STECF evaluation identified a number of data and information gaps that prevented a positive assessment that the alternative gear fulfilled the criteria set out in TMR article 15. The Scheveningen Regional Group has supplied additional data and information to redress the concerns expressed by the STECF with a view to permitting the use of the excluder trawl as an alternative to the selection grid specified in annex V of the TMR.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

Linked to point 6.11, and on the basis of Article 15(4) (5) and (6) of the TMR, the STECF is requested to evaluate the attached joint recommendation on the use of the "excluder" grid device in the Norway Pout fishery in the North Sea, including the additional information provided by the Scheveningen group. The STECF should assess to what extent the joint recommendation helps at achieving the objectives and targets set out in Articles 3 and 4 of the TMR, and whether the joint recommendation could lead to a deterioration of selectivity standards.

More specifically, the STECF advice is requested to assess, in particular:

- to what extent does the excluder achieve or improve upon the by-catch reduction of the existing grid.

⁷ Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005

- Whether the technical specifications of the excluder are appropriate to achieve the required selectivity levels under the TMR or should be modified to increase by-catch reduction.
- Whether the materials, methods and statistical analysis used may be considered as adequate and fit for purpose, and whether data and information submitted are considered robust and enough.
- In the event that STECF identifies shortcomings in the joint recommendation, it is requested to provide guidance on whether these can be overcome through further work and if so, the specific elements that should be further considered

Documentation: Joint recommendation of the Scheveningen Group: Use of the 'Excluder' grid in the Norway pout fishery. Annex to Joint Recommendation.

Summary of the information provided to STECF

The documentation provided to PLEN 20-02 consisted of a joint recommendation from the Scheveningen Group: "Use of the 'Excluder' grid in the Norway pout fishery", three annexes and a document with responses to comments and conclusions from the assessment of the original exemption request by PLEN 20-01: "Response to STECF Excluder".

Annex 1 was a scientific manuscript by Eigaard et. al (2019, unpubl.): "Improved sorting in a netting-based alternative to rigid grids in the small-meshed Norway pout (*Trisopterus esmarkii*) trawl fishery".

Annex 2 was a short supplementary note that provided some more results from the trial undertaken on bycatches of species other than those reported in annex 1.

Annex 3 was a table with data of species composition by weight in the Danish Norway pout fishery, based on harbor sampling by the Danish Control Agency. Data in annex 3 covered the period from 2000 to 2019.

The joint recommendation itself and annex 1 and annex 2 were previously summarized and evaluated by PLEN 20-01. STECF has thus summarised only the new information in the response document and in annex 3.

The document "Response to STECF Excluder" by Ole Ritzau Eigaard (DTU AQUA) and Claus Reedtz Sparrevohn (Danish Pelagic Producers Organisation), explains that the overarching principle of the Excluder device is to replace the currently legislated 35 mm grid. They argue that the grid has a roundfish L_{50} of approximately 35 cm, compared to the 72 mm square mesh netting of the Excluder, which has a roundfish L_{50} of approximately 25 cm. They argue that the release of unwanted bycatch is much larger due to the 10 cm difference in L_{50} with the Excluder compared to the grid. Bycatch selection was described in earlier material presented to STECF (annex 1 and 2), however only for those species and sizes caught in sufficient numbers for meaningful statistical analysis. In addition to a higher selectivity, a further motivation mentioned for using the Excluder is improved crew safety onboard.

After this initial summary of motives and principles the document contains a list of responses to some of the comments and conclusions in the PLEN 20-01 evaluation. These are listed and summarized below:

Comment 1: STECF notes that additional catch and size distribution data of bycatch species in the regular fishery (observer or unsorted landings data) is needed to assess the representativeness of the catches taken during the trial.

The authors acknowledge PLEN 20-01 concerns of potentially poor representativeness of bycatches of smaller gadoids, specifically haddock and whiting in the supporting study originally presented (annex 1). To address this, the authors refer to Annex 3, which contains a table of annual raised catch estimates based on unsorted landing samples taken in the Norway pout fishery by the Danish fisheries control authorities. The data covers the period from 2000 to 2019, except for 2005 and 2007 (where there was no quota and therefore no fishery). In total, samples from 10 years of fishing without the 35 mm grid (data up until 2012) and 8 years of fishing with the grid are available. The sampling by the Danish fishery agencies has estimated total catch composition by weight, which means that length data has not been provided. Annex 3 presents annual estimated catches per species in weight for the 10 most abundant species. Bycatches on average constituted around 10% of the total catches in the fishery. Figure 6.8.1 shows annual estimated catch proportion for the top 10 bycatch species (based on data in Annex 3).

- For haddock, the unsorted landings data shows that in the period prior to the introduction of the grid (2000-2011), annual average bycatch in weight was 0.99%, ranging from 0.19% to 2.82%. After use of the grid was made mandatory (2012-2019), annual bycatch was on average 0.06% ranging from 0% to 0.24%.
- For whiting annual bycatch without the grid was on average 2.28%, ranging from 0.06% to 3.96%, and with the grid it was 1.96%, ranging from 0.7% to 3.62%.
- According to the control samples, cod is not among the top 10 bycatch species in the Norway pout fishery (i.e. < 0.03 % on average).

No details regarding sampling design, coverage or raising methods behind the estimates in annex 3 are presented.

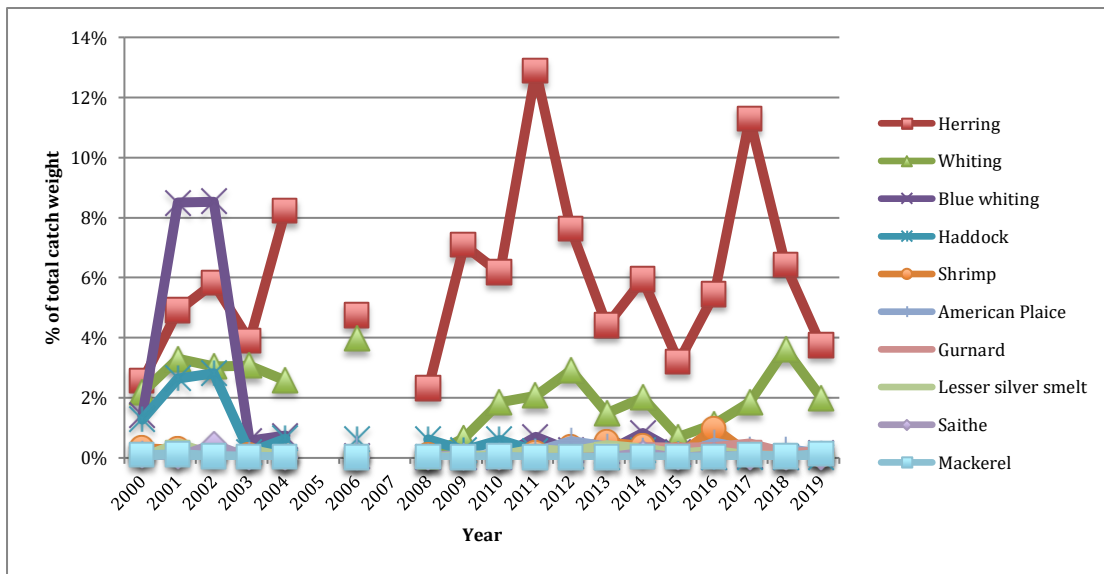


Figure 6.8.1. Estimated catch proportion for the top 10 bycatch species per year 2000-2019 except 2005 and 2007 when the fishery was closed (drawn by STECF on data provided in Annex 3).

Comment 2: STECF notes that clarification of the estimation method of total numbers caught by species and length would provide greater confidence in the results presented.

The authors provide detail on questions raised by PLEN 20-01 regarding the sampling methodology. The total catch weight in each codend (Excluder and Grid) in each haul was estimated by the skipper. Before pumping the catch into the Refrigerated Seawater Tanks (RSW-tanks), the volume markers on the side of the tanks were inspected and the pre-pumping tank volume noted to the nearest 1 000 kg. After pumping all of the catch into the tank, the markers were again inspected, and the post-pumping tank volume noted to the nearest 1 000 kg. The difference between the two values noted was used as an estimate of the total codend catch. This procedure is similar to how the logbooks are filled. For each codend catch 12 full baskets (approx. 340 kg), spread evenly across the pumping period, were sampled from a conveyer belt, which corresponds to an average total catch weight sampling fraction of 2.6 % (SD=1.4) across all codend catches. After sorting by species of the entire sample, a sub-sample (approx. 3 kg) of the Norway pout sample fraction was taken for length measurements of the species. For all the other species sorted, all individuals were length-measured.

Comment 3: STECF observes that average length at first maturity (L_{m50}) of Norway pout in the Northern North Sea, Skagerrak and Kattegat has been estimated to be 11.7 and 13.1 cm for males and females, respectively (Lambert et al., 2009), and between 11-15 cm in other studies (e.g. Froese and Pauly, 2019). The results presented in Annex 1 with increased catches of Norway pout in sizes around 10 cm thus suggest that catches of juveniles may increase with the Excluder.

The authors understand this comment as raising concerns that implementation of the Excluder, as an alternative to the grid, will result in a larger catch proportion of non-mature

individuals. They agree with STECF's estimates of an average 32% increase in Norway pout catches, however with large uncertainty (CI: 3-95%). The increase is only statistically significant for size group 9.5 but the trend seems to be there for size-groups up to 15 cm.

The authors explain that for a short-lived species as Norway pout the fishery is mainly targeting pre-spawning individuals (aged less than 2 years) and that there is no MCRS for Norway Pout. Post-spawned individuals will only constitute a smaller part of the fishable biomass due to high natural mortality which in case of Norway pout is further increased by a high spawning mortality (Nielsen et al., 2012). Related to this, the authors argue that to what extent a change in selectivity would result in any negative effect on the stock will also depend on the fishing mortality relative to the natural mortality. The natural mortality for Norway pout is higher than the fishing mortality implying that the size selection in natural mortality (with higher mortality for older ages) has a larger impact on the dynamics of the adult stock than the fishing mortality on juveniles. The quarterly estimates increase from 0.29 for age 0 and 1 to 0.39 and 0.44 for ages 2 and 3 respectively, whereas annual F for both age-groups is typically around 0.3 (ICES, 2017).

Comment 4: STECF considers that more details will be needed to legislate for such a device, and to assess how easy it would be to define and enforce. In particular, the PVC attachments and flap at the end of the inner netting tube may be difficult to legislate for based on the information provided.

Based upon the comments of PLEN 20-01 regarding the definition of the Excluder device for legislative purposes, the authors suggest the following definition:

An "Excluder" means a conic net device inserted before the codend, in such a manner that there is only connectivity between the trawl and the codend through the meshes of the Excluder net. The Excluder can at the front be mounted with a kite made of PVC or similar flexible materials to ensure correct geometry and a proper opening of the Excluder. Inside the Excluder, a sail made of PVC or similar flexible materials is mounted across the Excluder cone/tube. The size of the sail must be limited such that it does not cover more than 75% of the cross-section area where the sail is positioned. At the end of the Excluder, an opening of minimum 50 x 50 cm leads those fish that have not passed through the Excluder netting, out of the trawl.

Comment 5: STECF notes that it would be beneficial to test a version of the Excluder without the PVC and flap to establish how it influences the selective properties of the design.

The authors explains that the purpose of the PVC kite is to secure the correct geometry and opening of the Excluder. This is necessary in case the dimensions of the Excluder and trawl are not fully aligned. If the trawl and Excluder are made and custom fitted by the same net-manufacturer, the kite is not needed, as the dimension of the trawl can then be fitted to the dimension of the Excluder or visa-versa. In the Experiment by Eigaard et al. (2019, unpubl.) the Excluder was produced separately from the trawl and codends and therefore the kite was needed.

Employing the Excluder without the sail (flap) in the cross-section would result in water flowing rapidly and undisturbed through the Excluder and most, if not all, catch would escape. The idea of slowing the water flow with the sail, and thereby "forcing" the individual fish to either swim through the mesh and enter the codend or surpass the sail, is a fundamental concept of the Excluder and hence fishing without the sail would practically mean that the gear is no longer an Excluder.

Comment 5: STECF considers that due to its construction of flexible materials the performance of the Excluder design has more potential to become damaged with use, or be changed unintentionally or intentionally, and therefore may not function as consistently as a grid.

The authors do not agree with this comment and argue that a design with a rigid grid attached to flexible materials under great strain is more prone to damage with use than gears made exclusively of flexible materials. They argue that the Excluder is made of standard trawl netting and will therefore have the same potential for damage and unintentional or intentional changes as other trawl gears currently in use.

Conclusion 1: STECF concludes that the results of the trial suggest increased catch efficiency for small Norway pout (including some juveniles) with the Excluder design compared with the grid. From the information provided, it is not possible to assess whether the increased efficiency may also risk increased catches of juveniles of other species in the same size range as Norway Pout where they are encountered together.

The response is divided into two parts.

Total bycatch (absolute value)

As also explained above in comment 3, the authors state that is correct that Annex 1 (Eigaard et al., unpublished) estimates a 32% increase in catch for Norway pout using the Excluder compared to the grid. However, the confidence interval is large (CI: 3-95%) and the increase is only significant for length-group 9.5 cm, although a trend of higher catches is present for length-groups up to 15 cm. They explain that it is therefore also appropriate to assume that catches of comparable bycatch species of similar size (and morphology) will also increase with around 32% (CI: 3 - 95%).

The authors argue that a proportional increase in catch of target species and similar sized bycatch species will often be the generic result of any technical development where the catch efficiency is improved. For example, this will also be the case if bigger trawls with a larger swept area are implemented, or if a gillnetter increase its catching ability by deploying more gill nets. The authors thus query why the increase in gear efficiency is specifically raised in the case of Norway pout and the Excluder, especially as the results, as illustrated by the large confidence intervals, are uncertain.

Relative bycatch

Secondly, the authors state that the overall bycatch percentage (% bycatches of total catch weight) will decrease with the Excluder compared to the grid. Their explanation for this is that on the one hand, catches of both Norway pout and similar sized bycatch species will increase proportionally and hence the bycatch percentage will remain unchanged for smaller species. On the other hand, they argue that the smaller L_{50} of the Excluder is expected (and this is demonstrated in Annex 1), to decrease catches of larger bycatch species. Hence, the combination of these two effects will mean that the overall relative bycatch fraction by weight will decrease.

Conclusion 2: STECF concludes that the technical specification of the Excluder design provided is insufficiently detailed for legislative purposes. For example, no net plan was provided. Information on those key components of the design that ensure consistent selective performance should feature in any legislative definition of the design, including the technical attributes and function of the PVC components.

The paper refers to the response under "4. Comments".

Conclusion 3: However, the results are based on only a limited number of hauls (11 hauls) carried out in only 2 different locations. In addition, known bycatch species like haddock and cod were not caught in sufficient numbers for a scientific evaluation of bycatch reduction capacity of the Excluder design in the trial. Consequently the representativeness of the fishery as a whole is limited.

The response refers to Comment 1. Additionally, the authors argue that the analytical design with paired data - using a double trawl with "control" in one codend and "treatment" in the other codend - is a robust experimental and statistical setup where influence from variation between hauls is practically eliminated. Combining such a pairwise data collection setup with a statistical sound approach adds confidence to the analytical results and the comparability with earlier published studies in terms of the data basis.

Conclusion 4: STECF concludes that representative data (observer or unsorted landings data) on the catch and size of bycatches taken in the fishery are needed to fully evaluate the design in the context of the whole fishery. These data would be used to assess the risk of catching more small/juvenile gadoids < 20cm with the Excluder.

The response refers to Comment 1

Conclusion 5: Further trials should also be considered so that selectivity data may be collected for species and size ranges not encountered in the reported trial.

In Annex 3 the total bycatch percentage in the Norway pout fishery after implementation of the grid in 2012, is found to be 9.41% (annual average in weight). Separated into species it was: 6% Herring, 1.96% Whiting, 0.31% American Plaice, 0.32% Shrimp, 0.27% Gurnard, 0.21% Blue Whiting, 0.18% Lesser Silver Smelt, 0.06% Haddock, 0.04% Mackerel and 0.03% Saithe.

Of these top 10 bycatch species in the fishery, Shrimp, Gurnard, Blue Whiting, Haddock and Saithe were not caught in sufficient numbers in the Excluder trials to estimate the differences between the Excluder and the grid (Annex 1). When pooled these non-examined species make up 0.9% of bycatch in the fishery, whereas the examined bycatch species make up 8.51%. Hence, the authors argue that the experiment already accounts for 90.4% of the bycatch species in weight. Based on this data the authors argue they have covered the main bulk of relevant species in Annex 1 (Eigaard et al., unpubl.).

STECF comments

The comments focus on the new information provided in response to the request of additional information by the Commission to the Scheveningen group based on the evaluation by PLEN 20-01. The comments are listed in relation to the four specific questions of the ToRs (1-4 below) in the request to STECF PLEN 20-02 by COM and, where applicable, also to the relevant articles (3, 4 and 15) of Regulation (EU) 2019/1241. For comments on previous issues not covered here STECF refers to the PLEN 20-01 report.

1. *to what extent does the excluder achieve or improve upon the by-catch reduction of the existing grid.*

PLEN 20-01 commented on the representativeness of the catches taken in the underlying study and suggested observer or unsorted landings data from the fishery was required to enable a better assessment of potential risks to by-catch species. This has been provided (Annex 3). STECF notes that bycatches comprises around 10% of the total catches in the fishery on average. STECF also notes that of these by-catches, 90% (by weight) were covered in Annex 1 (Eigaard et al., unpubl.), and that among the top-10 by-caught species haddock, saithe, blue whiting, gurnard and shrimp were not caught in sufficient numbers for statistical analyses.

As PLEN 20-01 noted both the grid and the Excluder designs are size selective devices, which are designed to retain small fish and release larger fish, regardless of the species. Therefore, specimens of bycatch species (including quota species), of similar sizes as Norway pout, are potentially vulnerable to capture when using either the grid or Excluder design where distributions of small/juvenile fish overlap with the Norway Pout fishing area. STECF notes that this assessment is concurred in the response letter. Thus, based on the estimated 32% catch increase in Norway pout up to 15 cm using the excluder compared to the grid, it would be reasonable to assume that catches of comparable bycatch species of similar size (and morphology) would also increase by around 32% (CI: 3-95%).

Overall, STECF agrees with the argument in the response letter that relative bycatch levels (% of total weight) will most likely decrease as a result of the combination of two effects: On the one hand an unchanged bycatch ratio of small bycatch species (resulting from the 32% (CI: 3-95%) increase in catch efficiency for both Norway pout and for the bycatch species of similar size; and on the other hand the significantly reduced catches of by-catch species larger than 15-20 cm (30-95% depending on species; PLEN 20-01) because of the reduction in L_{50} with the excluder in comparison to the grid.

Related to the issue of proportional increase of small-sized bycatch volume, STECF notes the reasoning argued in the response letter regarding this inherent consequence of improved catch efficiency; However STECF cannot conclude whether this is fully in alignment with Article 3, 4 and 15.5 of Regulation (EU) 2019/1241, as is discussed further below.

2. *Whether the technical specifications of the excluder are appropriate to achieve the required selectivity levels under the TMR or should be modified to increase by-catch reduction.*

STECF notes that the response letter provides important details on how to define the Excluder in legislation. PLEN 20-01 specifically noted that specifications of the PVC-kite and sail in of the inner netting tube are important details and these have now been included. In the case of the Excluder, STECF observes that the most central elements for a correct functioning is that the meshes in the inner tube are kept sufficiently open to allow small fish like Norway pout to penetrate the Excluder meshes and enter the codend (and larger by-catches to be retained in the Excluder and subsequently led out via the escape opening) and that the water flow in the funnel is slowed down and disturbed by the sail in the cross-section to facilitate this selection to occur. Based on the information provided, STECF agrees that both the efficiency to catch Norway pout and the reduction of bycatch species are dependent on a functioning selection process in the tube. STECF therefore considers that the incentive to make sure the Excluder works properly is rather strong and that circumvention of the intentions with the gear is not very likely.

3. *Whether the materials, methods and statistical analysis used may be considered as adequate and fit for purpose, and whether data and information submitted are considered robust and enough.*

STECF considers that the additional information provided on sampling methodology has clarified the comments made by PLEN 20-01. (comment 5 in the response letter). STECF reiterates that the trial methodology overall (design, sampling, analyses) is scientifically robust and follows common guidelines for conducting catch comparison trials (Wileman et al., 1996). Specifically regarding to the results upon the by-catch reduction- see point 1 above.

4. *In the event that STECF identifies shortcomings in the joint recommendation, it is requested to provide guidance on whether these can be overcome through further work and if so, the specific elements that should be further considered*

STECF considers that the major shortcomings in the original submission have been addressed in the response from the Scheveningen group.

The main point identified by STECF relates thus to the contribution of the Excluder device to the relevant articles (3, 4 and 15 paragraph 5) of Regulation (EU) 2019/1241. The policy objectives and targets in Articles 3 and 4 relate to catches of juveniles, and the provision

in Article 15(5) states that the application of the conditions in relation to the mesh size specifications shall not lead to a deterioration of selectivity standards, in particular in terms of an increase in the catches of juveniles.

For Norway Pout, the data presented indicates that selectivity will be decreased, in that more juvenile Norway Pout may be caught with the Excluder compared to trawls fitted with the sorting grid. However, STECF agrees that this remains of limited concern due to species-specific life history traits associated with Norway Pout (i.e. high natural mortality, high spawning mortality) and because the fishery is already targeting juveniles and is managed accordingly. Additionally, the species has no MCRS and the TAC is typically not fully utilized.

For the bycatch species, the information provided indicates a decreased selectivity for comparable bycatches smaller than 15 cm but improved selectivity for bycatches larger than 15-20 cm. The combination of the two effects is expected to result in a reduced total bycatch rate in weight (and in number for the larger specimens) but at the same time an increase in the absolute volume of bycatch of smaller specimens.

Therefore, STECF acknowledges that it cannot be fully ascertained whether the Excluder device is entirely compatible with the relevant articles of Regulation (EU) 2019/1241. The introduction of the Excluder represents a trade-off between relative and absolute selectivity given the nature of the fishery and the biological characteristics of the target species.

STECF conclusions

- *to what extent does the excluder achieve or improve upon the by-catch reduction of the existing grid.*

STECF concludes that the Excluder design shows substantial (and statistically significant) reduction (30-95% in number depending on species) in bycatches of larger individuals of herring, mackerel, whiting, long rough dab and witch flounder compared with the currently required grid design. More specifically bycatches larger than 21-26 cm (whiting, herring and mackerel) and 15-17 cm (long rough dab and witch flounder) were significantly reduced by numbers.

STECF concludes that for Norway pout and for comparable bycatch species of similar size and morphology (e.g. gadoids smaller than 15 cm) the Excluder design can be expected to result in increased catches of around 32% by numbers (CI: 3-95%).

Considering that these two effects contribute to opposite conclusions with regards to the articles 3, 4 and 15 paragraph 5 of Regulation (EU) 2019/1241, STECF cannot fully conclude whether the Excluder device is compatible with the relevant objectives of Regulation (EU) 2019/1241.

- *Whether the technical specifications of the excluder are appropriate to achieve the required selectivity levels under the TMR or should be modified to increase by-catch reduction.*

STECF concludes that the additional technical specifications provided are appropriate to ensure the proper functioning of the Excluder.

- *Whether the materials, methods and statistical analysis used may be considered as adequate and fit for purpose, and whether data and information submitted are considered robust and enough.*

STECF concludes that new details about the methodology of the underpinning study (design, sampling, analyses) have addressed the concerns raised by PLEN 20-01. STECF reiterates that the study follows common guidelines for conducting catch comparison trials and the analyses undertaken are appropriate.

STECF concludes that the new catch information provided clarifies the case for use of the excluder and provides information on most bycatches in the fishery.

In the event that STECF identifies shortcomings in the joint recommendation, it is requested to provide guidance on whether these can be overcome through further work and if so, the specific elements that should be further considered

STECF concludes that there are no major shortcomings and that the issues raised by PLEN 20-01 have been addressed.

References

- ICES. 2017. Report of the Benchmark Workshop on Norway Pout (*Trisopterus esmarkii*) in Subarea 4 and Division 3a (North Sea, Skagerrak, and Kattegat), 23–25 August 2016, Copenhagen, Denmark. ICES CM 2016/ACOM:35. 69 pp.
- Nielsen, J. R., Lambert, G., Bastardie, F., Sparholt, H., and Vinther, M. 2012. Do Norway pout (*Trisopterus esmarkii*) die from spawning stress? Mortality of Norway pout in relation to growth, sexual maturity, and density in the North Sea, Skagerrak, and Kattegat. – ICES Journal of Marine Science, 69: 197–207.
- Wileman, D. A., Ferro, R. S. T., Fonteyne, R., Millar, R. B. (1996). Manual of methods of 555 measuring the selectivity of towed fishing gears. ICES Coop. Res. Rep., No. 215. ICES, Copenhagen. 216 pp.

6.9 Selectivity trials in the Celtic Sea

Background provided by the Commission

In its Plenary report (PLEN 20-01) STECF was asked to estimate the likely differences in selectivity parameters (e.g. L50 and SR) on cod, whiting and other target and bycatch demersal species observed in the BIM studies when using mesh size combinations of (i) 100 mm T90 cod-ends; (ii) 110 mm codend with 120 square mesh panel; (iii) 120 mm cod-ends and; (iv) 100 mm with 160 square mesh panel.) On the likely differences in selectivity parameters when using different mesh size combinations, STECF concludes that the 100 mm T90 codend is the least selective codend for all four species investigated (cod, haddock, whiting and plaice).

STECF concluded that for cod, the most selective combination is the 110 mm diamond mesh codend with a 120 mm SMP positioned at 9 to 12 m. The 100 mm codend with the 160 mm SMP is the most selective for haddock and whiting, but it was unfortunately not possible to derive reliable estimates for cod with this combination. The French authorities are proposing to undertake additional selectivity studies in the Celtic Sea demersal fisheries operating on vessels using either single and pair trawl.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

STECF is asked to assess whether the level of participating vessels and the duration of experiments proposed by France are warranted to address the previous questions raised by STECF and in particular on the selectivity of the 100mm/160mm cod-end/square mesh panel configuration. STECF are also asked to determine whether additional data for the 120mm cod-end; 100mm cod-end and; the 110mm and 120mm square mesh panels for both bottom trawls and pair trawls is necessary in light of the previous assessment by STECF as well as the current level of available data and whether the level of participating vessels and duration are warranted in the event that additional data is considered necessary.

Summary of information provided to STECF

STECF received the following documents in relation to the request:

- Une 'note des autorités françaises a la Commission européenne DG Mare' avec pour objet 'Réponses aux interrogations de la Commission européenne concernant le projet de pêche scientifique « SelecMC », suite au courrier Ares (2020)3004687'
- Authorizations to three fishing vessels to fish, until December 31 2020, using the four codends listed below on single or twin trawls, where the trawls are constructed without a minimum of one meter spacing between the fishing line and the ground gear (raised fishing line).
- The IFREMER protocol for carrying out selectivity trials on bottom trawl vessels.

From the background documents provided to STECF it is ascertained that France are proposing to run catch comparison trials to compare the selectivity of the following four codend configurations

- (i) 100 mm diamond mesh;
- (ii) 110 mm with 120 mm square mesh panel;
- (iii) 120 mm;
- (iv) 100 mm with 160 mm square mesh panel.

The French authorities plan to use three vessels, one twin trawl and two single trawls, and the trials are expected to be between 14 to 21 days long and to be held during June 15 and August 10 2020.

The codends specified in article 13 (EU 2020/123) for use in the Celtic Sea by bottom trawls whose catches consist of at least 20% haddock are:

- (i) 100 mm T90;
- (ii) 110 mm with 120 mm square mesh panel;
- (iii) 120 mm;
- (iv) 100 mm with 160 mm square mesh panel;

France therefore proposes to trial a 100mm diamond mesh codend instead of the 100mm T90 codend of article 13.

Furthermore, the trials will not use fishing gears that are constructed with a minimum of one meter spacing between the fishing line and the ground gear, even though, as from June 1 2020, only gears with this type of construction can be used in the Celtic Sea by bottom trawlers whose catches consist of at least 20% haddock (article 13, EU 2020/123).

After clarification during plenary, DG Mare confirmed that the 100mm diamond mesh codend is the standard (or reference) codend, with which the other three will be compared.

STECF comments

STECF notes that the proposed trials will be carried out as a catch comparison analysis using either twin trawl or single trawl fishing gears. The catch comparison approach is a standard, well-established method, which has been used in many studies of the catching performance of fishing gears.

STECF notes however that the trials will not provide an absolute measure of the selectivity of the codends tested, as there will be no estimate of the population fished. Measurement of absolute selectivity would require the use of a covered codend or small mesh codend. The trials proposed by France will thus only provide estimates of the relative performance of (i) 110 mm codend with 120 square mesh panel, (ii) 120 mm cod-end, and (iii) 100 mm with 160 square mesh panel in comparison to the 100mm diamond mesh codend.

STECF considers that the methodology for sorting, subsampling, measuring and recording of the catch of several species is well described and appropriate, and the number of participating vessels appears reasonable given the nature of the work. The duration of the trials, 14 days for the twin trawl trial and 21 days for each of the single trawl trips, should be sufficient to compare the fishing performance of the gears tested. However, STECF notes that the authorization to fish has been granted until December 31 2020 yet the trials are scheduled to finish by week 33 (mid-August). Accepting the need for flexibility in the schedule (due to weather, other operational conditions etc.), STECF still considers this buffer to be excessive.

STECF notes that the biomass of the Celtic Sea cod and whiting stocks is very low, and there may not be sufficient individuals caught during the trials to demonstrate any differences (if they exist) of the fishing performance for cod and whiting between gears.

Given these circumstances, STECF suggests consideration should be given to obtaining absolute measures of selectivity. In the case of the twin trawl, this could be done using a small mesh cod-end on one trawl, and in the case of the single trawls, this could be done using the covered cod-end method.

In its plenary report (PLEN 20-01) STECF estimated selectivity parameters for cod, whiting, haddock and plaice when using mesh size combinations of (i) 100 mm T90 cod-ends; (ii) 110 mm codend with 120 square mesh panel; and (iii) 120 mm cod-ends. And for whiting, haddock and plaice using a mesh size combination of 100 mm cod-end with 160mm square mesh panel. It was not possible to derive reliable estimates for cod with this last combination. STECF advised that the results be treated with caution as they were estimated from different models and data sets; that they were point estimates of L50 and SR and did not take into account the large between trip variability that naturally occurs during fishing gear trials.

Consequently, STECF notes that, although they will not provide absolute measurements of selectivity, the trials have the potential to provide useful additional data on a range of gear options, including the 100mm cod-end with 160mm square mesh panel.

The trials will contribute to assessing the relative selective performance of three of the gears specified in article 13 of EU 2020/123, which have to be used by vessels fishing with bottom trawls whose catches consist of at least 20% haddock. However, STECF notes that, as from June 1 2020, these vessels have, in addition, had to use a fishing gear that is constructed with a minimum of one meter spacing between the fishing line and ground gear. The proposed trials do not include such a construction and will thus not contribute to assessing the effect on fishing performance of using a gear with this additional technical measure. The trials are thus not replicating the current legal gears in the Celtic Sea and therefore the results are not applicable to assess the impact of the changes in legislation.

STECF conclusions

STECF considers that the level of participating vessels is reasonable.

STECF considers that specified duration of the trials (14 – 21 days) is reasonable. However, STECF considers that the time buffer until December 31th, 2020 to account for the need for flexibility in the schedule appears excessive.

STECF considers that the additional data, comparing the 120mm cod-end with the 100mm cod-end, and comparing the 110mm codend and 120mm square mesh panel cod-end with the 100mm cod-end, will be useful to further validate the assumptions formulated by PLEN 20-01.

STECF concludes that the proposed trials have the potential to inform on the catching performance for cod of the 100mm/160mm cod-end/square mesh panel configuration.

However, STECF considers that given the present low biomass of cod and whiting, it may be difficult to catch sufficient quantities of these two species to demonstrate differences between gears (assuming they exist). Hence, STECF concludes that consideration be given

to obtaining absolute measures of selectivity using a small mesh codend (in the case of the twin trawl) or a covered cod-end (in the case of the single trawl).

STECF concludes that the relevance of these trials, in relation to the gears of article 13 EU 2020/123, that have to be used by vessels fishing with bottom trawls whose catches consist of at least 20% haddock, would be greatly enhanced if they used fishing gears that are constructed with a minimum of one meter spacing between the fishing line and the ground gear as required in the legislation since June 1st, 2020. Otherwise the trials are not replicating the current legal gears in the Celtic Sea and therefore the results are not applicable to assess the impact of the changes in legislation.

7. ITEMS/DISCUSSION POINTS FOR PREPARATION OF EWGS AND OTHER STECF WORK

7.1. Preparation of EWG 20-02 on the review of the Technical Measures Regulation

Background provided by the commission

According to Article 31 of Regulation (EU) 1241/2019⁸ on the conservation of fishery resources and protection of marine ecosystems through technical measures, the Commission is required to report, following evaluation by STECF, on the extent to which technical measures both at regional level and at European Union level have contributed to achieving the objectives set out in Article 3 and reaching the targets set out in Article 4 of Regulation (EU) 1241/2019. The first report is due to be submitted on the 31 December 2020, with reports every three years thereafter.

To facilitate this, STECF is requested by the Commission to evaluate the performance of technical measures to conserve fishery resources and protect marine ecosystems. STECF should consider the following elements in their evaluation:

- selectivity improvements;
- innovative gears (e.g. pulse trawl);
- catches of marine species below MCRS;
- incidental catches of marine mammals, sharks, reptiles, seabirds and other sensitive species;
- the impact of fishing activities on seabed habitats;
- the optimisation of exploitation patterns to provide protection for juvenile or spawning aggregations of marine resources;
- the minimisation and possible elimination of incidental catches of sensitive species (as defined in Article 6(8) of that Regulation); and
- minimising the environmental impacts of fishing.

Specific attention should be paid to areas where, at regional level, there is evidence that the objectives and targets as set out in Articles 3 and 4 of Regulation (EU) 1241/2019 have not been met.

STECF is also asked to advise on the most appropriate selectivity performance indicators for comparative evaluation of fishing gears according to Article 16 of Regulation (EU) 1241/2019. In preparing its advice, STECF shall *inter alia* consider the use of the length of optimal selectivity (Lopt) compared to the average length of fish caught. As part of its

⁸ Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005, OJ L 198, 25.07.2019, p. 105.

evaluation, STECF shall calculate historic time-series of the most appropriate indicator identified for each of the commercially exploited stocks where feasible.

Request to the STECF

Originally, it was planned to hold two EWGs (EWGs 20-02 and 20-07) during 2020 with intersessional *ad hoc* expert contracts as required to support the EWGs. However, due to the Covid-19 pandemic the first of these EWGs was postponed and re-scheduled for 5-9 October 2020. To plan for this EWG, initial discussions have been held between the STECF bureau, co-chairs of the EWG and DG MARE focal points. STECF PLEN 20-02 was requested to continue with the scoping and planning of EWG 20-02, with a view to finalising the data requests to ICES and other publically available data that is needed for the EWG meeting.

STECF observations

Based on the discussions held at PLEN 20-02 with DG MARE and the co-chairs of the EWG, the following were agreed:

Selectivity Indicators

EWG 20-02 will advise on an appropriate indicator of gear selectivity to be used both for tracking long-term changes in fisheries selectivity but also for assessing selectivity characteristics according to Article 16 of the Technical Measures Regulation. It was agreed that the EWG will build on the work on age-based selectivity indicators initiated by STECF EWG 18-15 and further developed by Vasilakopoulos et al. (2020)⁹. The EWG will also consider the length of optimal selectivity (Lopt) building on work by ICES WKLIFE and others.

DG MARE will request ICES to provide F-at age data by stock and by fleet/fishery, in digital format where possible. The stocks concerned are those that are mentioned in Annex XIV of the Technical Measures Regulation. Information on additional species covered under the relevant multiannual plans will also be requested. Depending on the availability of data, analysis of these additional stocks will be undertaken by EWG 20-02. For the Mediterranean F-at age data can be extracted from the Mediterranean stock assessment data held by the JRC and used by the STECF Mediterranean stock assessment EWGs.

Sensitive species

EWG 20-02 will report on the best available estimates of sensitive species (including protected fish species, seabirds, sharks, turtles, cetaceans) disaggregated by species, fishery and Member State in relation to the conservation status of each species.

Based on the discussions at PLEN 20-02, it was agreed that no formal data requests were required for sensitive species. It was identified that publically available data from ICES Working Groups and workshops (WGBYC, WKLIFE) and a variety of other sources (e.g. research projects such as STREAM and PROBYFISH, previous analysis by STECF, FDI data, GFCM etc) would provide the most up-to-date knowledge available, and at the most disaggregated scale possible given the scarcity and the variability of data. STECF

⁹ Vasilakopoulos, P, Jardim, E, Konrad, C, et al. Selectivity metrics for fisheries management and advice. *Fish Fish.* 2020; 21: 621– 638. <https://doi.org/10.1111/faf.12451>

emphasises that it will not be possible to provide accurate indicators for all fleets and métiers.

Sensitive habitats

EWG 20-02 will use the data generated by ICES WGFBIT and EMODNET to provide an analysis of the impacts of fishing gears on sensitive habitats. This data is publically available through the GITHUB repository. This includes data for the main sea basins including the Mediterranean.

Next Steps

DG MARE will submit the request to ICES for F-at-age data as soon as possible to allow ICES adequate time to collate the data. The STECF bureau and co-chairs will hold a further preparatory meeting with DG MARE in early September, following closure of registration for the EWG meeting.

7.2 Preparation of EWG 20-06 on methods for defining sustainable fisheries and aquaculture

Request to the STECF

In the light of previous discussions with the STECF Bureau, DG MARE suggests to change the title of the working group to "EWG 20-06 on criteria and indicators that could contribute to incorporating sustainability aspects in the marketing standards under the CMO".

STECF is requested to examine and discuss the draft ToRs. The Plenary should also reflect on what the EWG will be available to deliver for each tasks and how it will be achieved.

STECF observations

According to the ToRs submitted by DGMARE after discussions with the STECF bureau, the Expert working group "EWG 20-06 On criteria and indicators that could contribute to incorporating sustainability aspects in the marketing standards under the CMO" (Common Market Organisation) is requested to help with the development of robust policy options for the revision of the EU regulatory marketing standards in terms of incorporating sustainability aspects for all fishery and aquaculture products (FAPs).

More specifically, objectives of the EWG will be to help:

- identify sustainability aspects (environmental and possibly social) that could be addressed through the marketing standards, and
- propose transparent methods of scoring such sustainability aspects, based on scientifically sound, simple and verifiable criteria and indicators.

The EWG will have to build on preparatory work prepared through ad hoc contracts that provide a mapping of existing methodologies, criteria and indicators developed with the aim to assess Fisheries and Aquaculture Products (FAPs) sustainability. This includes private labelling standards, national approaches, NGOs databases, etc.

The provisional ToRs suggest to organise the EWG according to three main tasks:

- Assess the feasibility of using a number of existing criteria and indicators for regulatory marketing standards on FAPs in the EU,
- Explore the possibilities to assign or combine sustainability criteria / indicators,
- Provide a critical analysis of the different combinations identified.

STECF comments

General comments on the approach needed

From the discussion during STECF plenary, several considerations emerge:

- According to its new title, the overall objective of the EWG is clearly not to define what sustainable fisheries and aquaculture are, neither to identify a method or a list of criteria able to provide such a definition. It aims at identifying some aspects of sustainability that could be incorporated into a scoring system in order to inform actors along the supply chain.
- This implies that some aspects, even if scientifically demonstrated as important for the sustainability of seafood production, will likely not be considered in the system, at least in a first step, and this mainly for reasons linked to feasibility, based on current available methods and data.
- Therefore, the approach the EWG will have to develop will differ from most labelling approaches, as its purpose is only to deliver a relative score. Such a score has not to define whether the considered product is sustainable or not. Its aim is to compare performances between seafood products, according to the set of criteria considered in the scoring system.
- Thus, a scoring related to the environmental dimensions of sustainability has to include a quantitative criteria measuring the ecological impacts of fishing or aquaculture on ecosystems (or at least some impacts). This can be particularly useful in helping minimize the ecological impact of fishing on the marine environment, as required by the CFP. Likewise, scoring on social aspects (if feasible) would help identify high social standards and reduce the non-ethic or most controversial social practices within the seafood production system.
- For some criteria, especially where quantifying an impact is difficult, it will likely be appropriate to use risk-based indicators, based on expert judgment, in order to identify situations where an ecological impact (or a non-ethic social practice) is likely to occur. Such an approach should consider governance aspects, a lack of clear environmental rules, as well as a lack of enforcement or compliance, introduces a risk of impact.
- Introducing a scoring system for products from the EU and imports has to fulfil the requirements of the WTO not to discriminate foreign products. As all the marketing standards used under the CMO, it has to be based on the same scientific, transparent and non-discriminating criteria, applying to all products regardless of where they are coming from. This also excludes the introduction of a mandatory certification to enter the EU market, what would be against WTO rules.
- In some cases, a scoring approach may be warranted to flag the lowest environmental or social standards, what can have a significant impact on trade in these products. Thus, such "red flags" should likely be used with caution. On the other hand, a scoring system may be useful and efficient in highlighting good practices to all. In this sense, its ultimate objective is to incentivise stakeholders along the supply chain to favour wild and farmed seafood products that are the most environmentally and socially friendly produced.
- Provided all the stakeholders, including producers, can take ownership of the scoring tool and possibly change their practices in consequence, such a system may lead to generalizing the current good practices, which therefore are progressively expected to become the common standards. At the same time, higher environmental standards should emerge becoming the new and achievable good practices. Thus, the scoring intends to initiate and/or encourage a virtuous circle and a continuous dynamic of

progress, toward less ecological impacts and possibly better social standards in seafood production and trade.

- The scoring system itself must be intrinsically scalable, as new dimensions of sustainability should and could be gradually considered, depending on societal expectations, the improvement of scientific knowledge or the availability of data required for an improved scoring.

Specific comment on the EWG work and expected outputs

- As specified in the provisional ToRs, the first step in building such a scoring system will be to identify and select relevant criteria and indicators. The EWG will have to consider a broad range of approaches, including not only indicators derived from fisheries science, aquaculture experience, or Life cycle analyses (LCA) applied to the field, but also from the existing national initiatives, the NGO's attempts to build related databases, the fish processing and trade sector expertise, etc.
- From this point of view, the mapping of methodologies, reports and databases collected by the preparatory ad hoc contracts, appears highly relevant and already very comprehensive. The STECF PLEN 20-02 added new references to the list, such as the UK Seafish program ([//www.seafish.org/risk-assessment-for-sourcing-seafood/full-search](http://www.seafish.org/risk-assessment-for-sourcing-seafood/full-search) and [//seafish.org/aquaculture-profiles/](http://seafish.org/aquaculture-profiles/)), Fishsource (www.fishsource.org), to be also considered by the EWG. Preliminary exchanges with the participants of the EWG ahead of the meeting will discuss the pertinence and completeness of this mapping of existing methodologies.
- Reports from the ad hoc contracts also include criteria and indicators related to economic dimensions of sustainability and to governance. The EWG will have to discuss if and how these important dimensions of fisheries and aquaculture sustainability might be considered in the scoring system.
- The mapping of existing methodologies will be used by the EWG to select relevant criteria and the related indicators, provided they are applicable to a scoring of market products. A major criterion for the selection of indicators will be the existence and public availability of the data required to estimate these indicators for all kinds of seafood products. Another limitation the EWG will have to discuss is linked to the updating of indicators. It is likely that criteria and indicators which would have to be re-estimated every year should not be selected. Finally, candidate criteria and indicators should be selected based on two major characteristics: their pertinence as robust measure of some major dimensions of sustainability, and the feasibility of using them at the level of the whole seafood supply chain.
- Therefore, as a first step, the EWG will have to build indicators based on existing and available data. However, recognising that data are lacking for some dimensions of sustainability that may be considered as crucial (especially for aquaculture) is also an expected output of the EWG. It would have to be used in the next steps of an iterative process aiming to improve the scoring methodology, especially informing the relevant UE data system on specific data needs.
- The list of relevant indicators might specify various levels of feasibility, especially with regards to data availability, and various levels of priority, based on expert judgement

on which dimensions are important to consider, for instance according to their potential impacts on the ecosystems structure and functioning.

- From the list, EWG will have to develop a combined and integrated scoring system. Existing systems will be of course considered. It is likely that wild and farm products will have to be scored separately, as well as the environmental and social aspects. The scoring system should be simple and easily understandable by all actors of the supply chain, from producers to final sellers and consumers. Various options and levels of complexity and completeness will be assessed by the EWG, especially tacking into account how many dimensions and indicators of sustainability are to be retained in the combined scoring.
- For fisheries products, only three characteristics are linked to every product and thus easily available to all actors of the supply chain: the species, the fishing gear and the fishing area. This will likely not be enough to implement a relevant scoring approach on sustainability, even if very simple. As a consequence, it is likely that some selected indicators will require data that are not easy to access and to interpret for non-expert people (for instance using ICES or IUCN databases). Therefore, it seems little likely that the EWG will be able to identify a relevant scoring approach that will be simple enough to be implemented directly by the actors of the seafood supply chain themselves.
- At the same time, the scoring of all seafood products can definitively not require a long and complicated assessment of every individual product by high level experts or third party. Building on existing systems, an intermediate option the EWG will have to evaluate is to set up a simple database where the scoring is defined by categories of products. As an example, the French Agribalise system, build under the guidance of scientists of the national research institute, includes 2500 references for all the food products ([//ecolab.ademe.fr/agribalyse](http://ecolab.ademe.fr/agribalyse)).
- Therefore, the EWG will also have to discuss the different ways a scoring system could be implemented at the whole CMO level, trying to provide guidance on the most efficient one, or at least on the advantages/disadvantages of various possible systems.
- Finally, it should be noted that seafood suppliers, and more generally stakeholders of the seafood chain including the producers' representatives, should be involved in the definition and the implementation of the scoring system from the beginning. These actors will be more likely to adapt their way of working provided they have been involved in and take ownership of its technical specification and policy of enforcement.

STECF conclusions

STECF concludes that setting up a scoring system in order to incorporate sustainability aspects into the marketing standards for FAPs under the CMO will probably be a long, time consuming and iterative process. At the same time, STECF recognizes that this can be an effective means of pushing fisheries and aquaculture towards the adoption of better environmental (and possibly social) standards, by providing economic incentives for the good practices highlighted by the scoring system.

Such a system will include certain aspects of sustainability linked to the ecological impacts of fishing and aquaculture, as well as governance and social aspects to the extent possible. It should be scalable, while remaining simple, easily understood by users and based on scientifically sound methodologies.

STECF concludes the EWG will be a first and useful step to provide DG MARE guidance for the implementation of such a scoring system. STECF bureau, DG Mare and EWG chair will exchange on the list of invited experts in order to ensure a broad coverage of the required expertise.

Finally, STECF concludes the setting up of the scoring system should be coordinated with an impact assessment, providing information on its effectiveness in introducing incentives in the seafood market, and pushing fisheries and aquaculture towards more environmental-friendly production processes.

7.3 Preparation of the EWG 20-12 on EU Aquaculture sector. Economic report 2021

Request to the STECF

STECF is requested to examine and discuss the draft ToRs for the EWG 20-12. The Plenary should also indicate whether it considers that some preparatory work would be needed and, in that case, explain in details what would be needed and how it can be achieved.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

STECF observations

STECF notes that the EWG 20-12 has been postponed to the end of January/beginning of February 2021. The data call will be issued at the latest in November 2020 in order to allow the data to be checked by the Joint Research Centre (JRC) and Member States (MS) to resubmit data when necessary before the start of the meeting.

STECF notes that the MS will provide data for the year 2018, for the report that will be published in 2021. Due to this time lag the European Commission asks STECF to conduct a nowcast exercise to be able to provide some basic information for 2019 and 2020 – especially also regarding the expected impacts of the COVID-19 crisis. STECF observes that in 2018 the experts performed only a limited forecast for 2017 and 2018 using stable production trends from 2013-2016, and STECF considers that the ToRs for EWG 20-12 will require a more advanced approach in 2021.

STECF notes that the European Commission requests information on the impacts of the COVID-19 crises both on fisheries (to be dealt with by EWG 20-06) and on aquaculture (EWG 20-12). STECF draws attention that similar methodologies should be applied or both reports as far as possible. There will be, however, differences between the two sectors as there will be more information available on the development of key variables in 2020 for fisheries than for aquaculture, e.g. landings per month for fisheries are available whereas sales data per month for aquaculture are not.

In addition, for the analysis of the impact of the COVID-19 pandemic, using the nowcast, STECF observes that it could be necessary to leave out subsidies of the analysis as they differ very much between countries and regions within countries (not only to the level of either being available or not but also whether being indeed paid out or not). Without including subsidies for addressing the COVID-19 crisis in the nowcast the current year would follow the same methodology as previous years making estimates and trends more robust. There are several activities, including an EASME research project, to address the effects of the COVID-19 crisis and those projects may include an analysis of the effects of subsidies on companies only for some countries and a few production systems.

STECF observes that only the collection of economic data on marine aquaculture is mandatory in the EU MAP. The collection of economic data on freshwater aquaculture is only voluntarily and, if collected, MS are invited to provide it during the data call. In addition, the EU MAP includes a threshold for the data collection where countries having a production level of under 1% of total EU production not having to collect even the mandatory data (e.g. some countries with low production levels such as Cyprus are not reporting any data, while other countries such as Italy are only reporting the production of

their main species). Also companies with aquaculture not being the main activity are usually not covered. This leads to substantial data gaps and experts need to use other databases, e.g. EUROSTAT or FAO, to close those gaps for individual MS but also for the information on the EU as a whole (in case of confidentiality issues on MS level EU totals may still be provided).

STECF observes that it is not possible to close the data gaps with EUROSTAT and FAO data before the meeting as it is only after the data call and the checks and resubmissions that the data gaps regarding MS data are identified and can be addressed.

STECF conclusions

STECF concludes that during the STECF PLEN 20-03 meeting DG Mare should organise a scoping meeting between DG Mare, EWG 20-12 chair, JRC and members of STECF to clarify what the COVID-19 impact analysis and nowcast exercise should include. For the nowcast exercise the following should be clarified:

- To what extent EU production and related economic performance should be estimated in spite of the knowledge gaps (e.g. by estimating production not reported due to being freshwater production, under certain thresholds, or from non-main activity companies)?
- How to collect information of COVID-19 impacts to estimate some variables for the nowcast of 2020, also including provision of EUROSTAT, FAO or EUMOFA data if necessary. The methodologies to assess the impacts for aquaculture and fisheries should be harmonized as far as possible.
- Which segments, species should be involved including marine, freshwater and shellfish, and what is the length of the time series available for each product? How to derive a robust trend of EU production over years when the time series differ? It may be necessary to adjust e.g. the production data for the whole EU for previous years applying the same methodology for the whole time series.
- How to prepare the modelling exercise of the nowcast.

7.4 Preparation of the EWG 20-10 Fisheries Dependent Information (FDI)

Request to the STECF

STECF is requested to discuss the state of play and the development of the FDI data and its functionality. STECF will base the discussion upon the background document and analysis performed by the Joint Research Centre and DG MARE of the FDI data and its use.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Summary of the background document provided to STECF

An analysis performed by the JRC and DG MARE of the FDI data and its use, the main elements of which are copied here.

Objective

This document, prepared by DG MARE with help of the JRC, serves as a background document for the STECF PLEN 20-02 where STECF is requested to discuss the state of play and the development of the FDI data and its functionality, in preparation of the EWG 20-10 on FDI.

This document will give a brief context and an overview of the past and current known users and functionality in order to guide the discussion of the STECF, which will contribute to the ongoing discussion between DG MARE, the JRC, and the EWG chairs to explore possible future scenarios (for the work focus of this expert group).

Background

FDI data contains effort metrics and landings, as well as biological data – landings and unwanted catch by age and length classes. The current FDI data call originates from the 'Fishing Effort Regimes' data call (2010–2014) which requested landings and discards structured by age for the period 2003-2013 and effort for the period 2000-2013. Because the effort management regimes, which motivated formation and maintenance of the FDI data base, were being repealed as the area based multi-annual plans came into effect, the '**Fishing Effort Regimes**' data call changed its name to '**Fisheries Dependent Information**' in 2015 but remained essentially the same until 2017 (years of data until 2016). Although not used for evaluating effort management regimes anymore, the STECF was of the opinion that information on fishing effort by Member States (MS) remains of high generic importance both for resource management purposes and for the scientific

community¹⁰. The annual updates and data checks of Member States data should be continued, but it was necessary to consider adjustments to the FDI database and its outputs, to better support the evolving needs in relation with the management applying in European waters. Therefore, in 2017, the JRC developed, in consultation with multiple end-users and data providers, a new data call 'the New-FDI'. The intention is for the 'New-FDI' (2018-2019) to replace the "FDI-classic" as the reference database for transversal data plus age (and additionally length) based landings and discard data (years of data 2015-2018).

Analysis of FDI data and use

STECF was requested to map the use of data from the different data calls issued by DG MARE and served by the JRC in support to STECF and other sources. This analysis was carried out in 2015 ([STECF PLEN 15-01](#)) on the 'fishing effort regime' data call and the table in the annex shows for which specific tasks performed by STECF the FDI/effort regime data call is used.

In this 2015 study, the economic and the effort data were the most utilised datasets for the STECF. There were also a range of other users including researchers, consultants, civil servants, private persons etc.. MS also directly used the collected data but this was not registered by the STECF. Over the period 2003-2014, from a total of 1,560 requests for access on the data dissemination website, 747 considered the effort regime data (table 6.1.2 in STECF PLEN 15-01) regarding effort, landings and discards.

JRC provided an updated overview of FDI related *ad-hoc* requests by DG MARE to the JRC. In 2019 and 2020, within DG MARE, the FDI data has been used for, where possible, the calculation of fishing opportunities concerning the exemptions of the landing obligation; the calculation of percentages above and below Minimum Conservation Reference Size; and for *ad-hoc* requests as the database is a comprehensive overview of EU wide fishing effort – allowing comparison between regions at detailed level (metier, gear) due to coherent methodologies.

STECF conclusions

STECF¹¹ concluded that taken into account the enormous amount of valuable information available in the FDI-classic database and its proven usefulness in the past, it may not be prudent to stop this database development before the New-FDI has proven its utility and reliability. STECF concluded that there are substantial benefits conferred by further developing the database to allow basic monitoring of trends in key fishery indicators.

In STECF 19-03, the STECF observed that the FDI database hosted by the JRC represents the most comprehensive data set currently available and it enables to deliver the best available estimates for discards. This would create the possibility of significant utility for monitoring the landing obligation, one of the policy areas for which the database potentially has significant utility.

¹⁰ STECF PLEN 16-03

¹¹ In STECF 17-03

During 2017 – 2019 the STECF EWG on FDI worked on the FDI data handling process to include transparent and clearly documented procedures/code on how the data is processed, as requested by STECF in PLEN 17-02. One important aspect that will require follow up in the EWG is the need stressed by the STECF PLEN 19-03 to develop a suite of methodologies for the dissemination of FDI data. Such methodologies will provide a visual and numerical indication of estimate robustness and coverage – in particular for discards estimates. This could be achieved through an *ad-hoc* contract.

Questions to the STECF

- 1) Could the STECF plenary clarify the usage of the FDI database by other stakeholders then DG MARE as described in the ad-hoc request overview provided by the JRC?
- 2) Does the 'new FDI' currently replaces the 'FDI classic' as the reference database for transversal data plus age (and additionally length) based landings and discard data as was the intention? Or does it need further improvement?
- 3) If the functionalities or data within the FDI database would be stopped, could the different data be directed into the other existing databases?

STECF comments

STECF emphasizes that the observations and conclusions referring to "FDI" relate to the newest version of the database (2017-2019). When referring to the older version the term "FDI-classic" is used.

Q1. Could the STECF plenary clarify the usage of the FDI database by other stakeholders than DG MARE as described in the ad-hoc request overview provided by the JRC?

Internal use by STECF (including access to the disaggregated data)

As shown in the JRC analysis, FDI and FDI-classic data have been used by JRC and STECF for several ad hoc requests from DGMARE and other users.

On the basis of this analysis, STECF suggests in Table 7.4.1 an overview of potential present and future use of FDI data for STECF analyses and reports.

Table 7.4.1: Potential FDI data use in STECF

STECF EWG	FDI
Plenary Meeting Reports	X

Economic analysis (fleet, processing, aquaculture)	X
Evaluation of Effort Regimes	X
Management Plans; impacts and evaluations	X
Mediterranean and Black Sea Stock Assessments	X
Balance between capacity and fishing opportunities	X
Environmental Impacts	X
Landing obligation	X
Technical measures	X
Strategic issues (e.g. ecosystem approach)	?
<i>Ad hoc</i> contracts	X

STECF notes that in most cases the FDI database is to be used directly, but in the past the FDI database has also been used to check consistency, to track errors and to fill some gaps identified in other databases, for example in the case of Med and Black Sea assessment and for the AER data.

When a longer timeseries of data becomes available in the FDI database the calculations of the biological indicators of the Balance EWG will benefit from using this database. At present the biological Balance indicators are based on landings data from the AER datacall, which does not include discards data. This is a serious limitation, in particular for the estimation of the Stock at Risk indicator.

STECF notes that EWG 19-14 has considered that FDI data would be the most appropriate database in support of the West Mediterranean effort management plan. STECF highlights the intentions by EWG 20-13 to use these data again to deliver advice on effort limitations in 2020.

Public use of FDI data aggregated into the online dissemination tool

STECF observes that FDI data set was firstly disseminated for the public in January 2020 but all JRC servers were down in spring due to COVID19. Therefore, the use of published data was limited in 2020.

Several ICES Expert Groups (e.g. PGDATA, WGBFAS, WGBAOP, WGRMES and others) have used FDI-classic data in the past for different purposes. STECF also observes that ICES has

used FDI classic data for its fisheries overviews¹² as the most comprehensive source of EU catch and effort data for all regions.

Although not registered in the JRC review, Member States and a wide range of other users including researchers (e.g. for EU projects¹³ and studies), consultants, civil servants, private persons etc. directly have utilised the publicly available FDI-classic data. For example, FDI-classic data has regularly been used by consulting companies in their evaluation for Marine Stewardship Council fisheries certification.

STECF also notes that GFCM (and other RFMOs) could be among potential users of the FDI database, but their actual use of this database is unknown to STECF.

STECF notes that the data stored in the FDI database could be used for bio-economic modelling as the only source of data linking biological metiers to economic fleet segments and their economic performance.

Q2. Does the 'new FDI' currently replaces the 'FDI classic' as the reference database for transversal data plus age (and additionally length) based landings and discard data as was the intention? Or does it need further improvement?

STECF notes that the current FDI database provides the only EU-wide comprehensive overview of catches and fishing effort. In the Mediterranean and Black Sea, it is the only data source covering both landings and discards data for all species. It is also the only source of rectangle level spatial information on catches and effort by the EU fleets. Furthermore, it is the only source with a linkage between metiers and economic fleet segments.

STECF concludes that the current FDI database replaces the 'FDI-classic' database for the most recent years. It includes now information for the time period 2015-2018 with 2019 data to be provided in 2020. The coverage is now completed with economic data and it also now covers all EU fleets, fishing regions and species caught. Data prior to 2015 have not been transferred into the new FDI and are therefore only available in the FDI-classic.

However, STECF also notes that although discard information is still requested for all species and all areas; biological data for the Mediterranean Sea is now (since 2020) no longer requested in the FDI data call of 2020. That information should be extracted from Mediterranean and Black Sea data call and added to FDI for completion for those species included in the Mediterranean and Black Sea data call.

¹² <http://ices.dk/advice/advisory-process/Pages/fisheries-overviews.aspx>

¹³ See for example <http://www.discardless.eu/atlas>

The FDI database stores stratum-specific (fleet/gear/mesh size etc) data on landings by species and area. For those strata for which Member States have undertaken sampling for discards, stratum-specific discard estimates are estimated. Furthermore, for similar strata for which no sample data are available, discard estimates may also be computed using dedicated raising procedures.

STECF notes that the discard estimates held in the FDI database when summed up over a given stock may differ from those estimated by ICES. This had been investigated by STECF EWG 13-23, the differences being primarily in the raising procedures used to estimate discards for non-sampled strata. STECF underlines that both procedures rely on assumptions and not on data, and therefore it is difficult to establish whether any of the raising procedures would be more suitable than the other, and both estimates might be considered as plausible considering the range of uncertainties in this metric. With the improved quality and increased transparency and checks of these procedures in the FDI database, STECF expects nevertheless that these differences may now be of a lesser extent. However, STECF notes that the intermediate calculations of estimating discards by fleet are not publicly available in the ICES data, and only the total summed over a stock is given. Therefore it is in most cases not possible to perform more detailed comparison analysis.

STECF observes that in the period 2017-2019, the STECF EWG on FDI has worked on the FDI data handling process to include transparent and clearly documented procedures/code on how the data is processed, as requested by STECF PLEN 17-02. One important aspect that will require follow up actions in the EWG is the need stressed by the STECF PLEN 19-03 to develop a suite of methodologies for the dissemination of FDI data. Such methodologies will provide a visual and numerical indication of estimate robustness and coverage – in particular for discards estimates. This could be achieved through an *ad-hoc* contract; however, this is not foreseen for this year due to COVID 19.

STECF reiterates that, to ensure the best data quality and to continue building a common methodology addressing the data call creating the EU level FDI database, two EWG's are convened in the future, alike the Annual Economic Report. First, "DATA EWG-FDI" would be solely dedicated to compiling and checking the data submitted through the FDI data call, while the second, "Analysis EWG-FDI", to respond to additional specific requests and improvements. In particular, the analysis above has shown that many groups make use of the FDI and for doing this, they need that the methodology and dissemination procedures are fully operational. Such improvements cannot be dealt with during the data EWG.

Q3. If the functionalities or data within the FDI database would be stopped, could the different data be directed into the other existing databases?

STECF notes that the FDI database is the only data source of this magnitude for the EU fisheries, and its greatest added value is the public access to aggregated data for any user. There are no other databases at the moment that provides rectangle level spatial information on catches and effort for EU fleets with linkages to e.g. métiers, fleet segments, species, and fishing areas. The catch data also include estimates of discards and value of landings, linked to métiers and fishing fleets. All these characteristics of the FDI are not

simultaneously covered by any of the other existing databases available at JRC (AER, MBS, etc.).

STECF further notes that the information collected and provided by the Member States is obtained using public money and should therefore be publicly available.

STECF also notes that less aggregated information is also stored in regional databases such as those hosted by ICES (RDBs, RDB-ES), however they are not publicly available. Data requests, prior to the data extraction, need to be duly justified and require agreement and approval from all National Correspondents before data could be provided. Furthermore, no such regional database exists yet for the Mediterranean and Black Sea.

STECF conclusions

STECF concludes that the public dissemination of aggregated FDI data in January 2020 will likely expand the number of data users to a wide range of stakeholders including research and management organisations, certification bodies and NGOs, researchers, consultants, civil servants and private persons interested in EU fisheries.

STECF highlights that EWG 20-13 on Fishing effort regime for demersal fisheries in West Med is meeting in October this year with an objective to use FDI for the advice on fishing effort limits in the West Mediterranean Sea.

STECF concludes that taking into account the enormous amount of valuable information available in the FDI database and its proven usefulness in the past; it might not be prudent to stop the development and support of this database. STECF concludes that there are substantial benefits conferred by further developing the database to allow basic monitoring of trends in key fishery indicators.

STECF concludes that the FDI data could not be transferred into other existing databases because no other public database currently offers the level of details and of coverage of the EU fleets information (catches and effort in all areas and all species caught), and the linkages between economic and biological data.

7.5 Revision of work plan and annual report templates as well as annual report guidance for data collection

Background provided by the Commission

The Data Collection Framework (DCF) Regulation (EU) 2017/1004 requires the Commission to establish a multiannual Union programme (EU-MAP) for the collection and management of data. The current EU MAP set in Commission Implementing Decision (EU) 2019/909 and Commission Delegated Decision (EU) 2019/910 is subject to revision, and will enter into force as of 1 January 2022. Consequently, the work plan (WP) and the annual report (AR) templates, used by the Member States to plan their data collection activities and report on it, need an update to align to the contents of the revised EU MAP. A lot of preparatory work for the WP template was conducted during EWG 19-12 on the EU MAP revision in September 2019, and comments on the WP/AR guidance for Member States were gathered during EWGs assessing the AR/WP in years 2016-2019. These comments were compiled under Task 1 of March 2020 ad-hoc contracts.

The EWG 20-18 on WP/AR templates would incorporate and critically assess contributions made so far, and produce structured, streamlined and revised guidance and templates for a single Commission implementing decision that will replace current decisions (EU) 2016/1701 and (EU) 2018/1283.

A series of ad-hoc contracts would be strongly advisable during the second half of 2020, to prepare draft documents for the EWG 20-18, so that the legislative consultation and adoption procedures can be launched without further delay, once the STECF 21-01 spring plenary evaluates the EWG 20-18 outcomes. New WP templates must be available to MS in due time before the 2021 WP submission deadline.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen2002>

Request to the STECF

STECF is requested to scope the work needed to finalise the STECF input for a single Commission implementing decision that will replace current decisions (EU) 2016/1701 and (EU) 2018/1283, and recommend timing and a STECF member to chair the related EWG 20-18. Considering that many EWGs will take place in the second half of 2020 and that substantial drafting should take place upfront, the EWG 20-18 meeting may take place at the latest in the week(s) before STECF 21-01 spring plenary.

STECF comments

STECF welcomes the Commission's intent to draft a single legal act providing the templates and guidance for DCF Work Plans (WP) and Annual Reports (AR). STECF understands that this legal act will not contain the evaluation grids and guidance for pre-screeners and evaluators, as going through a legal process with these 'living documents' would restrict the possibility for STECF to improve the evaluation process in the short term.

STECF acknowledges the comprehensive preparatory work conducted within various STECF EWGs on WP/AR evaluation (2016-2019) and through *ad hoc* contracts in March 2020. STECF notes that outcome of the *ad hoc* contracts, namely a compilation of EWG comments on the WP/AR templates and guidance, a revised AR evaluation grid and a revised guidance document for AR evaluators, were originally to be evaluated by PLEN 20-01. This agenda item was omitted in the revised PLEN 20-01 ToRs, which had to undergo a prioritization process due to Covid-19-related work limitations. The *ad hoc* contract files, however, were used by the pre screeners prior to EWG 20-08 and by the EWG experts for the evaluation of the MS ARs for 2019 (see ToR 5.3 of this plenary report).

STECF considers that additional input for the revision of the WP/AR templates and guidance, to be conducted by the EWG 20-18, comes from the EWG 20-08 (AR evaluation, see ToR 5.3) and presumably also from the EWG 20-16 (WP evaluation). In addition, the current revision of the EU-MAP and provisions for Regional Work Plans have to be taken into account during the finalisation of the WP/AR templates and guidance. In this respect, STECF supports the Commission's approach of establishing a series of *ad hoc* contracts during the second half of 2020 to incorporate this additional input and to prepare draft WP/AR templates and guidance for the consideration of the EWG 20-18.

With regard to the timing of the EWG 20-18, the STECF would propose February/March 2021, a few weeks before the PLEN 21-01, to allow sufficient time for endorsement of the WP/AR templates and guidance in April 2021 and a legal adoption by summer 2021. This timing would enable Member States to have the new legal act at hand for the submission of WPs 2022-2024 by the end of October 2021.

For chairing the EWG 20-18, STECF would like to promote the idea of co-chairs, with one co-chair being experienced in previous STECF EWGs on WP/AR evaluation and one co-chair with some DCF experience, but not necessarily related to those specific EWGs.

Finally, while the procedures outlined above reflect the current situation and near future, STECF would like to further stress the need of a database solution for the planning and implementation of WPs, on both Member States' and regional level.

8. CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS

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

Name	Affiliation ¹	Email
Abella, J. Alvaro	Independent consultant	aabellafisheries@gmail.com
Bastardie, Francois (rapporteur)	Technical University of Denmark, National Institute of Aquatic Resources (DTU-AQUA), Kemitorvet, 2800 Kgs. Lyngby, Denmark	fba@aqua.dtu.dk
Borges, Lisa	FishFix, Lisbon, Portugal	info@fishfix.eu
Casey, John (rapporteur)	Independent consultant	blindlemoncasey@gmail.com
Catchpole, Thomas*	CEFAS Lowestoft Laboratory, Pakefield Road, Lowestoft, Suffolk, UK, NR33 0HT	thomas.catchpole@cefas.co.uk
Damalas, Dimitrios	Hellenic Centre for Marine Research, Institute of Marine Biological Resources & Inland Waters, 576 Vouliagmenis Avenue, Argroupolis, 16452, Athens, Greece	shark@hcmr.gr
Daskalov, Georgi	Laboratory of Marine Ecology, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences	Georgi.m.daskalov@gmail.com
Döring, Ralf (vice-chair, rapporteur)	Thünen Institute [TI-SF] Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries, Economic analyses Herwigstrasse 31, D-27572 Bremerhaven, Germany	ralf.doering@thuenen.de

Name	Affiliation¹	Email
Gascuel, Didier (rapporteur)	AGROCAMPUS OUEST, 65 Route de Saint Briec, CS 84215, F-35042 RENNES Cedex, France	Didier.Gascuel@agrocampus-ouest.fr
Grati, Fabio (rapporteur)	National Research Council (CNR) – Institute for Biological Resources and Marine Biotechnologies (IRBIM), L.go Fiera della Pesca, 2, 60125, Ancona, Italy	fabio.grati@cnr.it
Ibaibarriaga, Leire	AZTI. Marine Research Unit. Txatxarramendi Ugarte a z/g. E-48395 Sukarrieta, Bizkaia. Spain.	libaibarriaga@azti.es
Jung, Armelle	DRDH, Techopôle Brest-Iroise, BLP 15 rue Dumont d'Urville, Plouzane, France	armelle.jung@desrequinsetdeshommes.org
Knittweis, Leyla (rapporteur)	Department of Biology, University of Malta, Msida, MSD 2080, Malta	Leyla.knittweis@um.edu.mt
Kraak, Sarah	Thünen Institute of Baltic Sea Fisheries, Alter Hafen Süd 2, 18069 Rostock, Germany.	sarah.kraak@thuenen.de
Ligas, Alessandro (rapporteur)	CIBM Consorzio per il Centro Interuniversitario di Biologia Marina ed Ecologia Applicata "G. Bacci", Viale N. Sauro 4, 57128 Livorno, Italy	ligas@cibm.it ; ale.ligas76@gmail.com
Martin, Paloma	CSIC Instituto de Ciencias del Mar Passeig Marítim, 37-49, 08003 Barcelona, Spain	paloma@icm.csic.es
Motova, Arina	Sea Fish Industry Authority, 18 Logie Mill, Logie Green Road, Edinburgh EH7 4HS, U.K	arina.motova@seafish.co.uk
Moutopoulos, Dimitrios	Department of Animal Production, Fisheries & Aquaculture, University of Patras, Rio-Patras, 26400, Greece	dmoutopo@teimes.gr
Nord, Jenny (rapporteur)	The Swedish Agency for Marine and Water Management (SwAM)	Jenny.nord@havochvatten.se
Prellezo, Raúl	AZTI -Unidad de Investigación Marina, Txatxarramendi Ugarte a z/g 48395 Sukarrieta (Bizkaia), Spain	rprellezo@azti.es

Name	Affiliation¹	Email
O'Neill, Barry (rapporteur)	DTU Aqua, Willemoesvej 2, 9850 Hirtshals, Denmark	barone@aqu.dtu.dk
Raid, Tiit	Estonian Marine Institute, University of Tartu, Mäealuse 14, Tallin, EE-126, Estonia	Tiit.raid@gmail.com
Rihan, Dominic (vice-chair, rapporteur)	BIM, Ireland	rihan@bim.ie
Sampedro, Paz (rapporteur)	Spanish Institute of Oceanography, Center of A Coruña, Paseo Alcalde Francisco Vázquez, 10, 15001 A Coruña, Spain	paz.sampedro@ieo.es
Somarakis, Stylianos (rapporteur)	Institute of Marine Biological Resources and Inland Waters (IMBRIW), Hellenic Centre of Marine Research (HCMR), Thalassocosmos Gournes, P.O. Box 2214, Heraklion 71003, Crete, Greece	somarak@hcmr.gr
Stransky, Christoph (rapporteur)	Thünen Institute [TI-SF] Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries, Herwigstrasse 31, D-27572 Bremerhaven, Germany	christoph.stransky@thuenen.de
Ulrich, Clara (chair)	IFREMER, France	Clara.Ulrich@ifremer.fr
Uriarte, Andres (rapporteur)	AZTI. Gestión pesquera sostenible. Sustainable fisheries management. Arrantza kudeaketa jasangarria, Herrera Kaia - Portualdea z/g. E-20110 Pasaia - GIPUZKOA (Spain)	auriarte@azti.es
Valentinsson, Daniel (rapporteur)	Swedish University of Agricultural Sciences (SLU), Department of Aquatic Resources, Turistgatan 5, SE-45330, Lysekil, Sweden	daniel.valentinsson@slu.se
van Hoof, Luc (rapporteur)	Wageningen Marine Research Haringkade 1, IJmuiden, The Netherlands	Luc.vanhoof@wur.nl
Vanhee, Willy (rapporteur)	Independent consultant	wvanhee@telenet.be

Name	Affiliation¹	Email
Villasante, Sebastian	University of Santiago de Compostela, Santiago de Compostela, A Coruña, Spain, Department of Applied Economics	sebastian.villasante@usc.es
Vrgoc, Nedo	Institute of Oceanography and Fisheries, Split, Setaliste Ivana Mestrovica 63, 21000 Split, Croatia	vrgoc@izor.hr

*STECF members marked with an asterix did not attend the meeting.

JRC experts		
Name	Address	Email
Carvalho, Natacha	DG Joint Research Centre JRC	Natacha.carvalho@ec.europa.eu
Doerner, Hendrik	DG Joint Research Centre JRC	Hendrik.doerner@ec.europa.eu
Guillen, Jordi	DG Joint Research Centre JRC	Jordi.guillen@ec.europa.eu
Konrad, Christoph	DG Joint Research Centre JRC	Christop.konrad@ec.europa.eu
Mannini, Alessandro	DG Joint Research Centre JRC	Alessandro.mannini@ec.europa.eu
Pinto, Cecilia	DG Joint Research Centre JRC	Cecilia.pinto@ec.europa.eu
Vasilakopoulos, Paris	DG Joint Research Centre JRC	paris.vasilakopoulos@ec.europa.eu
Zanzi, Antonella	DG Joint Research Centre JRC	Antonella.zanzi@ec.europa.eu

European Commission		
Name	Address	Email
ALIBERT-DEPREZ Caroline	DG MARE, C.1	Caroline.ALIBERT-DEPREZ@ec.europa.eu

Calvo, Angel	DG MARE, A.4	angel-andres.calvo-santos@ec.europa.eu
Doerner, Hendrik	DG Joint Research Centre JRC, STECF secretariat	Stecf-secretariat@jrc.ec.europa.eu
GARCIA ALVAREZ Blanca	DG MARE, C.3	Blanca.GARCIA-ALVAREZ@ec.europa.eu
Graham, Norman	DG MARE, D.3	norman.graham@ec.europa.eu
HEDERMAN John	DG MARE, D.4	John.HEDERMAN@ec.europa.eu
HEINEN Gerd	DG MARE, A4	Gerd.HEINEN@ec.europa.eu
IVANESCU Raluca	DG MARE, C.1	Raluca.IVANESCU@ec.europa.eu
JOLLY Laurene	DG MARE, A4	Laurene.JOLLY@ec.europa.eu
MARKOVIC Laurent	DG MARE, D1	Laurent.MARKOVIC@ec.europa.eu
MERINO BUISAC Adolfo	DG MARE, C.3	Adolfo.MERINO-BUISAC@ec.europa.eu
MOSET MARTINEZ Maria	DG MARE, D.3	Maria.MOSET-MARTINEZ@ec.europa.eu
NIKOLIAN Frangiscos	Head of Unit, DG MARE, A4	Frangiscos.Nikolian@ec.europa.eu
OSIO, Chato	DG MARE D.1	Chato.OSIO@ec.europa.eu
RANSHUYSEN Evelien	DG MARE, D.3	Evelien.RANSHUYSEN@ec.europa.eu>

SHRIVES Jonathan	DG MARE C.1	Jonathan.SHRIVES@ec.europa.eu
STERCZEWSKA Monika	DG MARE, C.3	Monika.STERCZEWSKA@ec.europa.eu
SURDU Oana	DG MARE, C3	Oana.SURDU@ec.europa.eu
VILLAR Jacier	DG MARE, A4	Javier.VILLAR-BURKE@ec.europa.eu

GETTING IN TOUCH WITH THE EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696, or
- by electronic mail via: https://europa.eu/european-union/contact_en

FINDING INFORMATION ABOUT THE EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU publications

You can download or order free and priced EU publications from EU Bookshop at: <https://publications.europa.eu/en/publications>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

STECF

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

The European Commission's science and knowledge service

Joint Research Centre

JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.



EU Science Hub

ec.europa.eu/jrc



@EU_ScienceHub



EU Science Hub - Joint Research Centre



Joint Research Centre



EU Science Hub

