



Scientific, Technical and Economic Committee for Fisheries (STECF)

—

76th Plenary report (STECF-PLN-24-02)

Prellezo, R., Nord, J., Doerner, H. (eds)

2025

This document is a publication 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 contents of this publication do not necessarily reflect the position or opinion 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 Ocean and Water, Via Enrico Fermi 2749, 21027 Ispra VA, Italy

Email: jrc-stecf-secretariat@ec.europa.eu

Tel.: +39 0332 789343

EU Science Hub

<https://joint-research-centre.ec.europa.eu>

JRC140570

PDF ISBN 978-92-68-23030-5 ISSN 2467-0715 doi:10.2760/1035959 KJ-01-24-218-EN-N

Luxembourg: Publications Office of the European Union, 2025

© European Union, 2025



The reuse policy of the European Commission documents 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). Unless 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 European Union permission must be sought directly from the copyright holders.

How to cite this report: European Commission: Joint Research Centre, Scientific, Technical and Economic Committee for Fisheries (STECF) – 76th Plenary report (STECF-PLN-24-02), Prellezo, R., Nord, J. and Doerner, H. editor(s), Publications Office of the European Union, Luxembourg, 2025, <https://data.europa.eu/doi/10.2760/1035959>, JRC140570.

CONTENTS

Abstract.....	1
1. INTRODUCTION.....	4
2. LIST OF PARTICIPANTS	4
3. INFORMATION TO THE PLENARY	4
4. STECF INITIATIVES.....	5
5. ASSESSMENT OF STECF EWG REPORTS.....	6
5.1 EWG 24-02 Methodologies for Mediterranean stock assessments and the estimation of reference points.....	6
5.2 EWG 24-03 Annual Economic Report on the EU Fishing Fleet I and EWG 24-07 Annual Economic Report on the EU Fishing Fleet II.....	9
5.3 EWG 24-05 Social Data in EU fisheries	13
5.4 EWG 24-06 Outermost regions	18
5.5 EWG 24-08 Evaluation of the Annual Reports for data collection and data transmission issues... ..	22
6. ADDITIONAL REQUESTS SUBMITTED TO THE STECF PLENARY BY THE COMMISSION	28
6.1 Assessment of the review and analysis of socio-economic data relating to the TACs of pollack in ICES divisions 8c, 9-10.....	28
6.2 Assessment of Joint Recommendations on directed fisheries for squid	40
6.3 Evaluation of Joint Recommendation on mitigation measures to reduce incidental catches of common dolphin in the Bay of Biscay	45
6.4 Future involvement of STECF in the follow-up of the FishGenome Project.....	64
6.5 Review of national management plans for boat seines in the Gulf of Manfredonia (Apulia, Italy) ..	67
6.6 Review of national management plans for boat seines in the Ligurian Sea (GSA 09)	82
6.7 Review of the monitoring report for mechanised dredges and the derogation for boat seines in certain territorial waters of Spain (Catalunia).....	97
6.8 Review of the monitoring report of the management plan for transparent goby in certain territorial waters of Spain (Murcia)	123
6.9 Follow-up of EWG 24-01: West Med MAP measures	131
6.10 Review of the ad-hoc contracts to follow-up on STECF EWG 24-01 concerning quantification of aid measures for the fleets fishing under the West Med MAP.....	151
6.11 Assessing an amended request from Finland for a scientific fishery for Baltic salmon	154
ITEMS/DISCUSSION POINTS FOR PREPARATION OF EWGS AND OTHER STECF WORK.....	160
7.1 EWG follow up on the assessment of socio-economic impact of VMEs in Member States	160
7.2 Preparation of EWG 24-16: implementation of the technical measures regulation	162
7.3 Preparation of EWG 24-10: West Med MAP stock assessments	166
7.4 Preparation of EWG 24-12: Fishing Effort Regime for demersal Fisheries in the West Med	167
7.5. Preparation of Prep Working Group for EWG-24-13 Balance/capacity, EWG-24-17 EWG Balance/capacity outermost regions, and mini-plenary to validate results of EWG-24-17 ..	168
7. CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS.....	172

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 held its 76th plenary from 8 to 12 July 2024.

76th PLENARY REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-24-02)

8-12 July 2024

1. INTRODUCTION

The STECF held its summer plenary 8-12 July 2024 in the Centre Borschette, Brussels. The meeting was held as a hybrid meeting. The meeting was chaired by the STECF vice-chairperson Raul Prellezo as the Jenny Nord was prevented from travelling.

2. LIST OF PARTICIPANTS

The meeting was attended in person by 19 members of the STECF and three JRC personnel. 11 STECF members, one invited expert and six JRC personell attended online. Several Directorate General Maritime Affairs and Fisheries (DG MARE) attended parts of the meeting physically or online. Section eight of this report provides a detailed participant list with contact details.

The following three STECF members did not attend the plenary meeting:

Leyre Goti

Christoph Stransky

Daniel Valentinsson

3. INFORMATION TO THE PLENARY

STECF membership

The STECF member Marta Coll took the decision to resign from the committee because her my obligations as vice-director of the Institute of Marine Science (ICM-CSIC) in Barcelona have not allowed her to participate to the committee sufficiently.

Update STECF autumn 2024 meeting calendar

Two additional meetings added:

- EWG-24-17 Balance/Capacity outermost regions, 11-13 September, virtual meeting, chair: J. Casey

- Mini-plenary to validate results of EWG-24-17, 17-18 September, virtual meeting, chair: J. Nord

4. STECF INITIATIVES

Numerous frequent and often recurring requests to STECF concern the evaluation of the effectiveness and potential adjustments to management plans for fisheries that operate at Member States regional or even local level. Furthermore, these requests are repeated periodically when their duration expires, with minor changes in the management plans. Such requests demand a disproportionate amount of STECF time in an already overloaded agenda. STECF considers that these evaluations could be conducted by other qualified scientific bodies.

STECF suggests that this topic is addressed within the bureau and during the November plenary meeting with the Commission to identify possible ways forward.

5. ASSESSMENT OF STECF EWG REPORTS

5.1 EWG 24-02 Methodologies for Mediterranean stock assessments and the estimation of reference points

Request to STECF

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

STECF observations

EWG 24-02 was held 8-12 April 2024 in hybrid form with some participants attending physically at the Joint Research Centre (Ispra, Italy) and others attending remotely. The meeting was attended by 22 experts in total, including 4 STECF members and 6 JRC experts.

ToR 1 Reference Points West Mediterranean EU MAP

STECF notes that the EWG delivered the ToR as requested.

STECF observes that during the EWG the methodology to compute F_{msy} targets, or proxies, and related ranges was discussed and applied along the lines described by the West Med MAP for stocks which had a well-defined production curve, which the EWG classified as type 1 stocks. For stocks without a well-defined production curve, the EWG suggested a path forward to estimate F_{msy} proxy targets and ranges. On the one hand, for stocks reaching a peak in the production curve but with an almost flat limb curve beyond it, $F_{0.1}$ was taken as the F_{msy} proxy and F_{max} was taken as the upper bound of the F range (F_{upper}). On the other hand, for the stocks showing a continuously increasing production curve, the methods used previously were applied ($F_{0.1}$ as a proxy for F_{msy} and F ranges based on the empirical formulas from EWG 15-09).

STECF observes that in relation to $Blim$, the EWG used the figures calculated by EWG 23-09 according to the methodology developed by EWG 22-03. The EWG computed preliminary F_{msy} proxies and F_{msy} ranges for most stocks requested, and analysed the probability of SSB to be above $Blim$ when such stocks are exploited at the relevant fishing mortality reference points. For the stocks of deep-water rose shrimp in GSA 1 and deep-water rose shrimp in GSAs 5, 6 & 7, the stock-recruitment relationship was not considered appropriate, and reference points were not estimated.

STECF notes that due to the challenge of estimating reference points for stocks that are heavily exploited and for which only a part of the stock dynamics is observed in the stock assessment, only preliminary F_{msy} proxies and F_{msy} ranges can be computed. In these cases, the stocks' productivity is poorly estimated, but they drive the estimation of stock recruitment relationships and reference points. This challenge is visible in the fraction of

virgin biomass each of these reference points ended up with. For example, Blim is about 10% of virgin biomass for most stocks, and in one case as low as 1%, which is not appropriate. This situation reflects the complicated process of estimating biomass reference points that lay outside the stocks' historical range of values, including virgin biomass, Bmsy and Blim.

Additionally, having Blim reference points at such low level of biomass impacts the evaluation of the probability of exploitation levels bringing the stock below Blim, which can end up giving a false sense of low risk when exploiting these stocks at high exploitation levels as set by Fupper. Since Fupper is supposed to be capped by the probability of driving the stock below Blim, this situation ends up impacting its estimation since the Blim cap effect is seldomly triggered.

Furthermore, EWG 24-02 noted that applying F ranges calculations to situations for which they were not designed for, poses additional challenges and runs the risk that such ranges are inappropriate. For example, when the Fmsy proxy reference point is not at the top of a well-defined production curve (as for F0.1). In such a case, the exploitation level that generates 95% of the catch produced at the proxy's exploitation level, will lay far away on the right side of the production curve, potentially generating a Fupper at a very high level of exploitation, occasionally leading the stock to levels of biomass outside safe boundaries. For this reason, even though those potential Fupper values were reported in the tables by stocks together with other alternative values, they were not included in the final proposal of F ranges.

Nevertheless, STECF recognizes the need to estimate reference points to support the implementation of the West Med MAP and therefore looked at the short term needs of the MAP. STECF interprets article 6 of the MAP as follows: once one stock is below Bpa, the use of Fupper is not permitted for any stock, and Fmsy, or proxies, should be used to set effort reduction objectives. Due to the current overexploited situation of the hake stocks in the region, it is unlikely the MAP will need to use F ranges. For this reason, STECF suggests the Fmsy proxies identified by EWG 24-02 for each stock to be updated during EWG 24-10, and used in the MAP as preliminary estimates, setting the stocks on course to reduce overexploitation. STECF expects biomasses of the affected stocks to increase with the reductions of fishing mortality prescribed according to the MAP. Such trajectory will provide information about the stock dynamics outside the current ranges of biomass, allowing a better understanding of the stocks' productivity and, consequently, the estimation of reference points.

ToR 2 evaluation of 'QualiTrain' tools

STECF notes that the EWG delivered the ToR as requested.

STECF observes that the RDBqc and RoME packages were found to be useful in assisting Member States with identifying and reducing data issues. The tools are expected to contribute to a significant reduction in data errors and improve the overall quality of data

submissions. STECF considers that the documentation provided for both tools is sufficient for users with a basic knowledge of R. However, continuous updates and improvements to the documentation are necessary to keep it relevant and user-friendly.

STECF conclusions

STECF concludes that the EWG 24-10 should estimate the reference points needed for the MAP implementation: F_{max} for type 1 stocks and $F_{0.1}$ for all the others. Furthermore, STECF concludes that if the 2024 hake stocks assessments performed by the EWG 24-10 show any of these stocks to be above B_{pa} , in which case F ranges may be needed, the F ranges estimated by the EWG 24-02 could be used preliminarily.

However, STECF concludes that the current framework to set B_{lim} , F_{msy} and F_{msy} ranges, and the current reference points should be revised in a maximum of 3 years. STECF further concludes that if the use of F ranges is required, as per previous paragraph, the revision will have to be brought forward.

STECF concludes that the EWG analysed the Qualitrain tools described by ToR 2 as being appropriate and provided relevant feedback.

5.2 EWG 24-03 Annual Economic Report on the EU Fishing Fleet I and EWG 24-07 Annual Economic Report on the EU Fishing Fleet II

Request to STECF

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

STECF observations

EWG 24-03 took place online 8-12 April 2024 (AER I) and EWG 24-07 took place in Ispra, Italy 10-14 June 2024 (AER II). The two EWGs addressed all the ToRs.

STECF observes that the Annual Economic Report (AER) is structured in four parts with i) a structural and economic overview of the EU fishing fleet, ii) a regional analysis of the EU fishing fleet by major sea basin, outermost regions and by different Regional Fisheries Management Organisations (RFMOs), iii) a detailed structural and economic overview of each EU Member State fishing fleet and iv) an assessment of the data quality and coverage.

STECF notes that from next year onwards, the data of the AER will be made available to experts in the JRC web dashboard. EWG 24-07 tested the useability of the dashboard but the data analysis remained based on the previous approach. The dashboard was considered an improvement by the EWG as it allows experts and end-users to directly visualize, analyse and download the data (replacing the data visualisations previously provided in annex 2 of the report).

STECF notes that to ensure that the experts, in particular experts new to the AER process, understand the data and the workflow during the EWG, more information on the database structure, aggregation levels and codes used is needed in addition to a description of the tasks performed by the EWG experts.

STECF observes that all the national, regional and EU overview sections in the AER are based on the same reference year (2022). As requested by PLEN 23-02, all time series are updated to 2022 real prices, the historic time series provided in the AER is therefore now 2013-2022 and the nowcast performance estimates are provided for 2023 (t+1) and 2024 (t+2).

STECF notes that as in previous years, the AER includes information on the EU fleet's fishing capacity, effort, employment, landings, income, costs and performance indicators. In addition, following the so-called special request of the ToRs, the report also includes a section on energy use with fuel intensity, fuel efficiency and the calculation of break-even fuel price.

STECF notes that the EWG 24-07 proposed new fleet group definitions for the overview of the EU fleet for the 2024 report and onwards. From 2024 onwards, “long distance fisheries” (LDF) will be replaced by “Distant Water Fleet” (DWF) as the AER considers fleets (aggregation of vessels) and not fishing operations.

STECF observes that for the AER 2025 and onwards, EWG 24-07 suggested to add a new vessel category for vessels under 12 meters that are using active gears. This vessel group currently encompasses over 4000 vessels classified under the Large-Scale Fleet (LSF). This grouping of vessels creates inconsistencies in the analysis, as it includes vessels that vary significantly in size and operation. STECF notes that the Small-Scale Coastal Fleet (SSCF) section also presents the economic performance results by length classes (0-6/6-12 meters in the Mediterranean Sea, 0-8/8-12 meters in the Baltic Sea and 0-10/10/12 meters in the other regions). This is considered an important addition, done with available data, to provide a more detailed analysis for an heterogeneous group of vessels.

STECF notes that in the AER 2024, the analysis of the economic performance of the EU overview and the national chapters are focused on active vessels only (net profit and related indicators). For the capacity and capital value, information is also reported for inactive vessels (inactive vessels represent about 25% of the total capacity and approximately 10% of the total estimated capital value).

STECF notes that the EWG estimated Net Profit with opportunity cost based on a fixed rate of 3.5% (as requested by PLEN 23-02) instead of the real interest rates. As explained in detail in the report, this will not affect the work of the Balance/Capacity EWG, because the interest rate is not used to calculate the balance indicators only for the interpretation of performance of the return on investment.

STECF notes that on a voluntary basis Member States should be able to provide data for the nowcast t+1 (2023 in the AER 2024). A workshop facilitated by RCGECON could be organised to develop a common methodology for this nowcast.

STECF notes that the possibility to separate less active vessels from other vessels in a fleet segment by using the “ACTIVITY” column has been used in the outermost fishing regions in two French territories (French Guiana and Guadeloupe). This led to improved assessments of the economic performances of those fleets.

STECF observes that the EWG 24-07 considered the Data Transmission Monitoring Tool (DTMT) Guidance, version March 2024 updated by the STECF PLEN 24-01, as a mean for tracking data issues. The EWG used the dashboard implemented by the JRC to identify data issues and to report any additional data issues detected during the analysis. To this end, the EWG defined an internal DTMT workflow (see below) with a clear division of tasks and assignment of responsible people to each task during both EWGs.

DTMT workflow

AER I:

1. **Each national expert** to check the data and include data issues in the excel template
 - data issues to be identified on the basis of: dashboard/data checks during the EWG/expert knowledge
 - recurrent issues to be identified by comparison with the list of previous issues made available by JRC in the STECF working space
 - make use of the DTMT guidance (version March 24) on filling in issues

AER II:

1. Revision of the data issues from AER I:
 - **JRC** to inform on the MS/data sets resubmitted in between the 2 EWGs.
 - **One expert to be appointed as focal for the revision of the list from AER I on the basis of the updated dashboard [Evelina]**
2. New issues to be included in the excel template, on the basis of the regional data analysis, following the DTMT guidance. The **focal person of each region/section** is responsible for such updated
3. Final assessment of the issues in the **plenary** the last day of the meeting

STECF observes that out of the 29 data issues identified (19 related to coverage, 10 related to quality), only one was considered of “high severity” (Malta did not provide economic data for 2022), four were considered of “medium severity” and 24 of “low severity”. The EWG decided to use Malta’s data from 2021 for 2022 in the EU overview and Mediterranean chapter, while the National chapter was not updated.

STECF observes that while new data issues were identified and documented, future EWGs related to the AER could also check if issues from previous years have been resolved.

STECF notes that to facilitate the regional analysis in Outermost regions, landings data could be requested by species *at least* at level 3 (the EUMAP (Commission Delegated Decision (EU) 2021/1167) states that: “3.1. Data shall cover variables indicated in Table 6 [*Fishing activity variables*] at the lowest relevant geographic level”), allowing Member States to provide data also at level 4.

STECF conclusions

STECF concludes that the two EWGs addressed all TORs and STECF endorses the AER report.

STECF concludes that it is currently not possible for Member States to provide economic data for the report that is more up to date than is collected currently (i.e., t=2022 in the 2024 AER). However, a workshop could be facilitated by RCGECON to develop a common method for nowcasting for the year t+1. Such a methodology could be applied by Member States to provide the nowcast for the year t+1 in the yearly data call.

STECF concludes that to further improve the reporting by fleet at the EU level, the Small-Scale Coastal fleet using active gears should be included in the EU overview and separated from the Large-Scale Fleet in the future.

STECF concludes that the text of the official data call could be slightly modified to ask for landings data “at least” at level 3. The call now asks “Yearly, by: 1) Fleet segment and Supra-region, FAO area level 4 (Baltic), GFCM-GSA (Mediterranean & Black Sea), FAO area level 3 (All other regions)” and it is suggested to be changed to: “Yearly, at least by: ...”

STECF concludes that checking the data issues of previous years could be carried out by the EWG if specified in an additional TOR for the EWG.

STECF concludes that it is fundamental to provide the EWG experts with a manual on the database structure with a description of the different data aggregation and codes that will be available to them in the two AER EWGs. This would avoid misinterpretation of datasets and facilitate the involvement of new experts. This manual could be prepared before AER I with ad-hoc contracts for the chairs and support from the JRC.

5.3 EWG 24-05 Social Data in EU fisheries

Request to STECF

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

STECF observations

EWG 24-05 was held online 13-17 May, 2024. The meeting was attended by 19 independent experts, one member of STECF, experts from JRC and 6 observers. The meeting was also attended by DG MARE on a regular basis.

EWG 24-05 produced a report on Social Data in Fisheries. STECF notes that his report is the fifth in a series of STECF reports operationalising the social dimension of the CFP and providing analytical tools. The EWG report addresses three specific areas: the National Fisheries Profiles, Community Profiles and social indicators.

The first topic concerns the National Fisheries Profiles (NFPs). Following the Dutch profile (assessed in EWG 22-04) and the Danish and Spanish profiles (assessed in EWG 23-07) as well as experts' experiences in developing the Greek and German profiles, ten additional profiles were developed under ad hoc contracts for Bulgaria, Cyprus, Croatia, Estonia, France, Ireland, Italy, Portugal, Slovenia and Sweden. The ten new NFPs were evaluated for fitness for purpose. The findings informed the update of the NFPs template to increase usefulness and cross-comparison between NFPs.

The second task for the EWG was to provide an operational definition of fisheries communities, a first partial list of such communities in the EU and an updated template for developing Fisheries Communities Profiles (FCPs). STECF observes that the EWG proposed a definition of Fisheries Community that builds on state-of-the-art research as well as empirical work developed in the Member States.

STECF observes that the heterogeneity and richness of fisheries communities across the EU is well known. Using three criteria (contrast, plurality, policy impact), EWG 24-05 developed a list of 96 fisheries communities covering 16 Member States, all sea basins, and including the Outermost Regions. This list serves as a first selection of communities from which a FCP could be developed. The experience gained with the NFPs and insights from former EWGs served to explore and update the FCP template developed under an ad hoc contract.

The third part of the EWG report addresses the development of a set of social indicators, pointing out the next methodological steps for their integration in an EU data call and providing a list of countries for pilot studies. The indicators have been informed by the policy

priorities identified by DG-MARE in 2023 and through stakeholder consultation developed in 2024.

National Fisheries Profiles (NFPs)

STECF notes that EWG 24-05 updated the NFPs template (current version 4) to integrate the potential improvements identified in the assessment of the 13 NFPs so far produced. STECF observes that the template balances the need for a standardized and systematic approach with the capability to accommodate plurality and heterogeneity across and within each MS.

STECF notes that in order to produce new NFPs and to update the current set of NFPs, EWG 24-05 advises to formalize this process. For the production of an NFP EWG 24-05 suggests that the process includes expert(s) ad hoc contract, a peer review, and ideally, a focus group with Member State stakeholders before publishing.

STECF observes that input data required for the NFP can be difficult to obtain as access to non-public data can be restricted and not be accessible for the experts drafting the NFP. STECF notes the importance that the (group of) expert(s) that is tasked to develop the NFP for a Member States is given sufficient access to relevant data sources. EWG 24-05 notes that data sources used in the current NFP did not create confidentiality issues.

STECF notes that EWG 24-05 suggests that an Annual Social Report should be produced. The assessment of the new NFPs and the update of the existing ones would be part of this Annual Social Report on the EU fisheries.

STECF observes that the suggestion of an Annual Social Report is in line with prior discussions on the presentation of the Social Dimension of EU fisheries. As suggested by EWG 22-14, PLEN 23-01, EWG 23-07 and PLEN 23-03 in the long-term preference would be to produce a stand-alone document. However, STECF notes that in the current work programme social data are collected once every three years. Although this may change over time, for now this three-year period will be adhered to. Based on further developments in the NFPs, FCPs and social indicators a structure for a possible Annual Social Report could be developed. For the time being social information will be made available on a tri-annual basis

STECF notes that the issue of publishing the current set of NFPs still needs to be resolved. This will on the one hand require a final editing of the 13 profiles. On the other hand, it will require the establishment of a channel through which the profiles will be made public. As the web-based application, as proposed by STECF, is currently not yet developed, it is suggested to include the 13 edited NFPs as Annex to the EWG 24-05 report.

The potential cross-comparison among NFPs is an asset to support policymaking at multiple levels (regional, MS, sea basin, EU). The current set of NFPs do, to an extent, allow for the comparison across Member States for example at the level of fleet structure, management measures and trends and patterns. However, STECF acknowledges that ensuring cross-comparison of NFPs should not be accomplished at the expense of being able to reflect the plurality and heterogeneity of the national fisheries sector in the EU.

Fisheries Community Profile (FCP)

Concerning the Fisheries Community Profile (FCP) STECF notes that the EWG 24-05 has provided an operational definition for fisheries communities that can provide the basis for the identification of, and elaboration of, FCPs. The definition is presented in Box 5.3.1 below.

Fisheries communities pertain to settlements around fishing harbours where the fisheries generate social and economic benefits (e.g., employment), and which enables new generations of fishers, due to shared norms and inter-generational links. Such norms are reflected in, for instance, resource stewardship, notions of shared materialities, cultural heritage, and interests, ways of life, and a sense of belonging. Fisheries communities are place-based but can pertain to wider geographical areas which gravitate towards the harbours, and are likely to include fisheries-based organisations and ancillary industries in aquatic food value chains.

EWG 24-05 has provided a first partial list of fisheries communities (96 in total) based on different criteria (contrast, plurality, policy impact), that can be used to develop a first set of FCPs throughout the EU. STECF notes that the FCP will enable the elaboration of social impact assessments of measurements and policies in the fisheries sector. Community profiles rely on NFPs and complement them in their goals.

Social indicators

Concerning the development of Social Indicators, EWG 24-05 identified the five top priority areas for developing social indicators. STECF notes that for these five priority areas the development of social indicators will best advance if a stepwise multi-level approach is taken. STECF notes that a set of social indicators was defined by the EWG, (38 in total) in relation to these priority areas, 12 of which can be collected relatively easy. Other indicators need further development and operationalisation. Some of these indicators could be developed using pilot studies.

STECF notes that EWG 19-03 suggested that for proper socio-economic impact assessments a link should be kept between vessel and social EUMAP variables. Nevertheless, the EWG 24-05 notes that in developing the FCPs new social indicators, there might be indicators that only indirectly can be linked to fleets (via the community).

The EWG 24-05 suggests the need to have an annual EWG on social indicators, where the development of social indicators is the only task on the agenda, allowing for in-depth discussion of methodological aspects. However, STECF notes that also other tasks need to be addressed, such as the evaluation of NFPs and FCPs produced.

STECF reiterates its observation that in order to assess and validate any Member State data, it is required to have national experts available to implement this context specific evaluation. STECF notes that this may be most easily addressed by organising separate EWGs: one

EWG for the assessment of data produced, and one EWG for the further development of the social indicators.

STECF conclusions

STECF concludes that EWG 24-05 has addressed the TORs.

STECF concludes that the work completed by the EWG provides the tools required to progress the implementation of the social dimension of the EU fisheries policy. The available NFPs provide for the Member States covered a description of the national fisheries; over time, with an update of the NFP, developments can be described. The FCPs to be developed will add more detail to this analysis and focus on the community level. And the set of social indicators developed so far will allow for an analysis of social impacts of policies and developments.

STECF concludes that version 4 of the National Fisheries Profiles (NFP) template, as presented in the report of EWG 24-05, is now robust enough to be used as standard for the production of NFPs. Having said this, STECF acknowledges that this template is designed as a guiding and living document. It has already been reviewed in previous Social EWGs and is expected to evolve through the learning process of developing new NFPs. In addition, the template offers needed flexibility to be tailored to national specific circumstances.

STECF reiterates the need to develop the NFPs as a web-based application (STECF PLEN 23-01, PLEN 23-03). This would allow for easy reference to further information, such as studies and databases. And, in addition, it would facilitate an easier process of updating sections of the information in the NFP that need updating.

STECF concludes that the issue of the development of the web-based application is closely related to the overall issue of whom to be the custodian of the process of collecting the social data. The Commission, Member States and STECF could play a role in this process. However, specific roles and tasks need to be further detailed along the process of shaping the procedures of developing and updating NFPs, FCPs and social indicators.

Noting the findings of EWG 24-05 in evaluating the additional set of 10 NFPs, STECF concludes that a peer review of NFPs is required in order to guarantee sufficient robustness of the NFPs. This becomes even more important when NFPs are used to implement a cross-comparison across Member States. This peer review can be undertaken jointly by national experts, conversant with the national context, and experts assessing the information with an outside perspective.

STECF concludes that, in line with the findings of EWG 24-05, cross-comparison between Member States is possible in terms of fleet structures, management measures and trends and patterns.

STECF concludes that EWG 24-05 has provided a practicable definition of the concept of Fisheries Community. STECF concludes that his definition is suitable for the foundation of the preparation of a series of Fisheries Community Profiles (FCP).

STECF concludes that the concept of FCP, as prepared by EWG 24-05, which builds on elements of the NFPs and on an earlier iteration of a FCP, is robust enough to be the basis for a first selection of 30 FCPs across the EU.

STECF concludes that EWG 24-05 has made a step in the process of further developing operational social indicators, based on questions and issues raised by the social partners. Out of a set of 38 potential indicators 12 have been found to be ready for use.

STECF concludes that for 2025 the EWG should be established to evaluate available FCPs and evaluate the template used. In addition, the EWG should further develop the set of social indicators.

5.4 EWG 24-06 Outermost regions

Request to STECF

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

Summary of the information provided to STECF

STECF was provided with the draft report of the EWG. A presentation of the outcomes of the EWG and the logistic problems of the EWG was made by the chairs.

STECF comments

EWG 24-06 met online 13 to 17 May, 2024. The meeting was attended by 20 experts in total, including three STECF members, and five observers.

STECF notes that the Terms of References (ToRs) were available to the EWG only a few days before the start of the meeting. Due to this, the first day of the meeting was used to discuss the ToRs, the data needs and availability for the EWG to carry out the analysis. The remaining days of the EWG were dedicated to conduct the analysis using available data.

STECF notes that the EWG 24-06 was tasked to: ToR1) provide guidelines for the assessment of balance in the Outermost Regions (ORs); ToR2) discuss the preparation of the Member States DCF workplans; and ToR3) to analyse and advise on measures to recover the red snapper stock in French Guiana waters.

ToR1. Guidelines for the assessment of balance in the outermost regions

STECF notes that the EWG considered the different characteristics of the Outermost Regions (OR) fisheries such as, small size fishing vessels, multi-species catches and often shared stocks, in the application of balance indicators. The main problem in the application of the sustainable harvest indicator (SHI) indicator in ORs is the low number of stocks with assessment. STECF considers that the relevance of a particular SHI value as an indicator of balance could be better assessed if the SHI is used in combination with the exploratory alternative indicator SHI partial indicator and information on fleet coverage.

STECF notes that no particular issues associated with the stocks at risk indicator (SAR) for the fleet segments in ORs were identified. However, the EWG considered that an increase in the catch threshold value (from 10% to 20%) for stocks to be considered as a stock at risk in order to increase the number of fleet segments for which a SAR value could be computed is not desirable. The STECF agrees and reiterates that any level of threshold chosen is

arbitrary and the higher the threshold, the less likely it is that a fleet segment would be identified as exploiting stocks at risk.

The EWG identified the low number of stock assessments available for the stocks in the ORs as the main limitation to the appropriate applicability of the current balance indicators, SHI and SAR. The EWG suggested that to increase the number of stock assessments available to calculate balance indicators, a peer-review process of the national stock assessments should be carried out.

STECF notes that additional alternative indicators might be used in the fleet segments of the ORs to provide context to the interpretation of the indicators currently used: the Number of Overexploited Stocks (NOS) and Economic Dependency Indicator (EDI), Social indicators, Secondary indicators (LPUE) and Essential Capacity.

ToR 2. Preparation of the Member States DCF workplans

STECF observes that the first task of ToR 2 was dedicated to the analysis of the improvement in quality and coverage of the economic data delivered under the 2024 Economic data call for French ORs. The EWG was only tasked to carry out the analysis for France as they recently introduced a new DCF methodology.

STECF notes that the roadmap defined by EWG 19-19 was reviewed for all ORs. STECF observes that France has promoted knowledge in ORs through research projects and workshops dedicated to diverse subjects such as recreational fisheries, IUU (Illegal, Unreported and Unregulated) catches, increase at-sea monitoring, increase the biological sampling, assessment of small-scale fisheries or the social and economic knowledge. Portugal has increased the number of sampled species and reinforced the control against the IUU, but other aspects including stock assessment, monitoring of recreational fisheries and the economic and social data need to be improved. In the case of Spain, the number of species with biological sampling and at-sea monitoring has increased, since 2021 exploratory stock assessments are available and the knowledge about recreational fisheries and IUU fishing must be improved.

STECF notes that the EWG identified the improvements in ORs that can be made in the forthcoming DCF Workplans. Some of the improvement suggested are that the information of ORs should be presented separately in DCF Tables and WPs, to increase the sampling at-sea and the number of species with biological sampling, to increase the monitoring of recreational fisheries and check the quality of the social and economic data provided.

STECF notes that the EWG identified ICES, STECF, RFMO and FAO/CECAF as organizations that could peer-review the national stock assessments in ORs. STECF also notes that France has an internal Working Group to validate the stock assessments in ORs and 38 stock assessments were validated in 2023 following this process. The methodology

(based on SPiCT assessment model) and the results are presented in the EWG 24-06 report. STECF was notified that the report of the internal French working group is not available yet but is intended to be published by Ifremer during the summer in 2024.

ToR 3. French Guiana red snapper

STECF observes that the red snapper is the main snapper species caught in French Guiana comprising the 87% of total snapper weight landed in this OR. The 2023 stock assessment was reviewed by the EWG and the quality of the data used in the assessment was discussed. There are different sources of uncertainties, the IUU being the most important one. The EWG also considered that the assessment is sensitive to the model assumptions, in particular regarding the IUU level. Although the model results are uncertain, the biomass trends and the reduction in average size of catches would indicate a deteriorating stock status.

STECF notes that the management of this stock is only based on the number of licences for French Guiana waters, that has remained constant since 2012. To reduce the fishing mortality of the stock, derived from legal fisheries and IUU, a set of potential management measures were evaluated. However, the EWG did not suggest a specific management measure to be applied for the red snapper in French Guiana.

STECF notes that the previous OR EWG in 2019 (EWG 19-19) concluded that a dedicated EWG on ORs to increase knowledge share between ORs experts on data collection and on calculation of indicators methodologies should be established. Although not specified at the time, these EWGs were intended to be in-person meetings, as the knowledge sharing and understanding between experts is significantly hampered by having the EWGs online. Nevertheless, the EWG 24-06 was carried out online and associated also to logistic issues, this made it difficult for the EWG to respond to the ToRs, but also on the building of the experts' network.

STECF conclusions

STECF concludes that the EWG addressed the ToRs appropriately in the given time despite the difficulties experienced before and during the meeting.

While the number of fleet segments in the ORs for which a value for the SHI can be computed is low, largely due to a paucity of relevant results from fish stock assessments, 38 new assessments have been provided by France in 2024. At present, such national assessments have not been subject to external peer review. According to new guidelines from the Commission (COM (2024) 223 final), such assessments will be used to compute SHI values by EWG 24-17. Nevertheless, to be consistent with the process adopted in previous EWGs to assess balance, STECF considers that as a matter of priority, such

national assessments need to undergo external peer review. STECF concludes that the additional balance indicators proposed by the EWG to provide context to the segments, the Number of Overexploited Stocks (NOS) and Economic Dependency Indicator (EDI), social indicators, secondary indicators (LPUE) and essential capacity, might be provided by Member States.

STECF concludes that the dedicated research projects and specialized working groups conducted by France have significantly contributed to improve the knowledge in its ORs. Furthermore, Portugal, France and Spain have realized important advances in the topics outlined in the STECF 19-19 roadmap for their outermost regions.

STECF concludes that recent stock assessments and the analysis of additional information suggest a decline in the status of the red snapper stock in French Guiana. In order to restore the stock, the implementation of new management measures alongside actions to combat Illegal, unreported, and unregulated (IUU) fishing are needed.

STECF concludes that in order to increase knowledge sharing and understanding between experts, it is preferable if any future EWG on ORs is carried out in in-person meetings.

5.5 EWG 24-08 Evaluation of the Annual Reports for data collection and data transmission issues

Request to STECF

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

Summary of the information provided to STECF

EWG 24-08 met virtually from 24 to 28 June 2024, with just one week between the end of the EWG and the start of STECF PLEN 24-02. Consequently, the following STECF comments and suggestions are based on discussions amongst STECF members, on a presentation of the outcomes from the EWG 24-08 meeting made by the co-chairs, and a draft version of the EWG 24-08 report made available to STECF.

STECF observations

STECF notes that EWG 24-08 met virtually to:

- Evaluate Member States' annual reports on the implementation of their Work Plans (WPs) in 2023.
- Evaluate the "high severity" data transmission issues (DTi) reported by end users for data calls launched during the year 2023 and "medium/low" severity DTi from 2023 Fleet economics data call where MS resubmitted the data.
- Approve the final regional Work Plans (RWPs).
- Comment on the trial use of the DCF IT platform for WPs and ARs.

1. Evaluation of Member States' Annual reports

STECF observes that the evaluation of the 2023 Annual Reports (ARs) was based on a similar procedure as last year using the outcome of the pre-screening exercise of all AR sections and supporting documents, the updated evaluation grid and the revised AR assessment guidance.

STECF observes that following last year's evaluation improvement a two-step pre-screening exercise was carried out. Member States were asked to address the issues identified by the pre-screener/EWG and resubmit the ARs before and during the EWG as necessary. In the setup of this exercise 26 Member States were contacted prior to the EWG for clarification on various AR sections. By the first day of the EWG, 25 Member States responded or confirmed

receipt of the feedback. During the EWG, 24 Member States were contacted from which all Member States replied, which led to the improvement and finalisation of the assessments. The communication with Member States both prior to and during the EWG was documented for future reference.

STECF acknowledges that the two-step approach with early correspondence with Member States results in a more efficient evaluation and a reduced workload during the EWG.

STECF observes an increasing trend in the overall scores of performance levels by Member States, with the number of Member States receiving a compliance level score of “YES” increasing from 5 in the 2020 AR, to 14 in the 2021 AR, to 19 in the 2022 AR and finally to 23 in the 2023 AR.

STECF observes that the EWG noted some general recurrent issues regarding the reporting of the AR that are not in line with the requirements of the IT platform and made the evaluation difficult:

- empty cells in the AR tables,
- some AR tables present multiple years instead of only the implementation year of the AR,
- text edits of the WP accepted sections ('white' parts) in the AR text boxes,
- the reference year mentioned in the AR data availability table is not in line with the reference year provided in the other AR tables.

STECF observes that effort has been made to further refine the AR templates, AR guidelines and assessment grid for future AR evaluations and/or submissions, e.g. the EWG agreed to put 'NA' in the assessment grid for cases where an irrelevant question ('positive no') has to be assessed and suggested to add a specific question in the assessment grid on the execution of the sampling schemes listed in Table 2.5.

STECF observes that the EWG reviewed the EWG 23-16 WP assessment grid and proposed some adjustments to improve the evaluation efficiency of the new WPs during the EWG 24-15.

STECF observes that the EWG proposed some guidelines for the future AR assessment traffic light evaluation, in which the reporting and the execution should be separately assessed. The execution of the WP's should get a higher weight in the final judgement, as STECF is required to evaluate the implementation of the WP's.

STECF observes that the EWG was not able to conduct a thorough analysis of the AR quality annexes (annex 1.1 and 1.2) as there are currently no quality criteria defined, the guidelines are not clear and the reporting by Member States is not harmonized. STECF notes that STECF EWG 23-08 has proposed guidelines to achieve a consistent quality evaluation,

however a further follow-up on these during 2024 was not done. STECF observes that the EWG suggests a standardised approach on the coding of the sampling scheme identifier to create a link between the quality annexes and the information provided in the respective AR tables.

STECF observes that the EWG reiterates the need for a collaborative, regional approach to follow-up the recommendations listed in the AR table 'Follow up of recommendations and agreements'. The EWG suggests developing a recommendations data base or web service to centralise all the recommendations to assess the follow-up of recommendations

2. Evaluation of Data Transmission issues (DTi)

STECF observes that the EWG focussed on the "high severity" issues during the Data Transmission issues (DTi) evaluation with 7 issues from the 2023 Mediterranean & Black Sea data call (EWG 23-09 and 23-12) and 45 issues raised by the Indian Ocean Tuna Commission (IOTC). The issues resulting from the Mediterranean & Black Sea data (call related mainly to COVERAGE (5 out of 7, whereas the issues resulting from IOTC were almost all RECURRENT issues (40 out of 45). STECF notes the enhanced clarity regarding the issues raised by IOTC compared to their first submission last year (STECF EWG 23-08) and after the request to express the issues in a clear and common understandable language. The assessment resulted in 12 issues with FOLLOW-UP NEEDED, 2 issues as SATISFACTORY and 31 issues as UNSATISFACTORY.

STECF observes that some mismatches in the severity rating of the Mediterranean & Black Sea data issues were identified. Because some "high severity" issues had a low impact on the objectives of the assessment working groups, those issues should not be rated as 'high severity'. In addition, other issues were reported as RECURRENT when they were reported for the first time.

STECF notes that the EWG drafted a workflow of the new DTMT assessment cycle that will be implemented in 2024, clarifying the timeline of the process and the responsibilities of the different actors. Following the new DTMT assessment cycle, the high severity DT Issues will be assessed by the AR EWG in June so that high impact issues can be flagged in the Member States performance reports published in the summer and the low/medium DT issues will be assessed in the WP EWG in October to allow time to fix the issues. In this workflow the "end user" refers to anybody that is analysing the DCF data (ICES, GFCM, IOTC, other RFMOs, some STECF EWGs, etc.), while "STECF" is the actor responsible for the assessment of the DTi. During this drafting process, it became apparent to the EWG that the following adjustments should be considered:

- delete the STECF EWG assessment option "not assessed" from the guidance as the other available options already cover all possible cases,

- set a maximum life cycle of 2 years for each issue. If the issue has not been solved in 2 years, then it should be closed as a data issue,
- the possibility for the end user or the Member State to amend the initial comments and tracking the changes over time in the 'Follow-up needed' cases. The 'ping-pong' information exchange already used for the AR/WP evaluations, could be a sensible approach.

STECF notes that the EWG was asked to assess issues recorded in the DTMT with medium/low severity from 2023 Fleet economics data call, even though those issues were already assessed by STECF EWG 23-16.

STECF notes that the EWG analysed the revised version of the DTMT guidance (DTMT Guidance Version 13032024) and acknowledges the improved definitions and further streamlining of the decision tree for DTi assessments. However, the addition of the columns 'Member States Action Taken' and 'Member States Action When', provided little additional information on the actions that MS' intended to solve the data issues, as not many of the MS used this column or used it incorrectly. STECF notes that the EWG emphasizes that DG MARE should encourage the Member States to provide the requested information as this would benefit the DTi evaluation.

STECF observes that the EWG provided guidance on the population of the 'Follow up responsible' field and adjusted the decision tree in the DTMT guidance document accordingly. In the specific case of the tuna commissions (ICCAT and IOTC), it was decided to assign the follow-up responsibility to DG MARE, as the European Commission acts as an intermediary in the data transfer.

STECF notes that the lack of feedback from end-users on the responses provided by Member States was a recurrent issue up until now, but in the new DTMT assessment cycle there is time for the end-users to re-evaluate the data issue and provide feedback.

STECF notes that the AER EWG has provided guidance to assess the AER DTMT issues within their in-year meeting cycle (See ToR 5.2 of PLEN 24-02).

3. Approve the final regional Work Plans (RWPs)

STECF notes that the EWG did a final evaluation of the 5 Regional Work Plans (RWPs) (Large Pelagics (LP), Economic Issues (ECON), Mediterranean and Black Sea (Med&BS)), Baltic and North Atlantic, North Sea & Eastern Arctic (NANSEA)) that were updated by the Regional Coordination Groups (RCGs) following the STECF evaluation in October 2023.

STECF notes that the EWG listed some minor inconsistencies/editorial issues in each RWP that will be forwarded to the respective RCG for finalising the RWPs by the summer 2024.

STECF notes that the EWG considers the comprehensive Med&BS RWP with regards to the sampling of recreational fisheries well planned and proposes this RWP as a model for the others.

STECF notes the effort made by the RCG LP to provide the requested landing figures to update table 2.1. As this quality evaluation will take more time to complete, the EWG suggested listing the species/stock relevant to RCG LP without landing figures as an interim solution.

4. Comment on the trial use of the DCF IT platform for WPs and ARs

STECF notes that the EWG performed an intensive testing of the DCF IT platform consisting of the following:

- testing the upload and download phases for both NWPs and Ars,
- testing the ping-pong process between STECF experts and NCs experts when adding and replying to comments and/or reporting problems on the online version,
- testing the syntax and validation rules by template.

STECF notes that the EWG acknowledged the progress made compared to the previous testing of the DCF IT platform in October 2023 (EWG 23-16), with some member states able to successfully upload their AR to the platform.

STECF notes that there are still inconsistencies between Member States' AR and the respective Member States' WP and that it was not possible to respond to the comments raised in the online platform during the EWG.

STECF conclusions

STECF endorses the outcomes of EWG 24-08 presented during STECF PLEN 24-02 and concludes that all ToRs were appropriately addressed.

STECF acknowledges that considerable effort was made by the EWG to provide suggestions for the improvement of future AR and WP submissions and evaluations and to anticipate the future use of the DCF IT Platform.

STECF concludes that there is currently no feedback/follow-up procedure in place to implement the suggested future improvements following the EWG, as some issues are recurrent and proposed solutions are repeated in the report. STECF suggests listing all the proposed adjustments in an electronic annex to keep track of the changes over time. The suggestions related to the AR/WP assessment (guidance document, assessment grid) should be addressed during the EWG by the EWG experts and those related to the AR/WP official templates should be handled by DG MARE after the EWG.

STECF concludes that based on a higher overall score of performance level by Member State in the traffic light evaluation, there is an overall improvement in data collection and reporting over the years.

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

6.1 Assessment of the review and analysis of socio-economic data relating to the TACs of pollack in ICES divisions 8c, 9-10

Background provided by the Commission

In June 2024, a political agreement was reached between Member States to set a definitive TAC for pollack in ICES division 8abde for 2024 at 959 tonnes, of which up to 500 tonnes may be taken in directed fisheries (as previously set in the context of the provisional TAC for Jan-June 2024) and the remaining 459 tonnes may exclusively be taken as by-catch and reported separately. This TAC is accompanied by a conservation measure whereby the minimum conservation reference size for pollack is raised from 30 cm to 42 cm immediately.

This agreement was largely based on the STECF advice of March 2024 indicating the choke phenomenon created by the TAC of pollack when set at the level advised by ICES for 2024 (698 tonnes, -53% compared to the TAC 2023). The definitive TAC shall be adopted by Council at the end of the June 2024¹. The reasoning of the Commission proposal which constitutes the basis for the agreement is enshrined in the explanatory memorandum as follows:

*“Regulation (EU) 2024/257 provisionally set the TAC for pollack (*Pollachius pollachius*) in ICES divisions 8a, 8b, 8d and 8e (‘Bay of Biscay’) for the period from 1 January to 30 June 2024 at the level of 500 tonnes. That provisional TAC was set because more time was needed to assess the socio-economic impact of setting the definitive TAC for 2024 at the level advised by ICES in its scientific advice² for pollack in ICES subarea 8 and division 9a (Bay of Biscay and Iberian waters)³, i.e. 698 tonnes.*

The Commission requested that the Scientific, Technical and Economic Committee for Fisheries (STECF) assess such an impact. The Commission also asked STECF to indicate what would be the level of the definitive TAC for pollack in the Bay of Biscay needed to avoid

1 Council Regulation (EU) 2024/257 of 10 January 2024 fixing for 2024, 2025 and 2026 the fishing opportunities for certain fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, and amending Regulation (EU) 2023/194 (OJ L, 2024/257, 11.01.2024).

2 <https://doi.org/10.17895/ices.advice.21841014.v1>

3 Taking into account the distribution of fishing opportunities between the three TACs covered by that advice: (i) TAC for pollack in ICES divisions 8a, 8b, 8d and 8e (80%); TAC for pollack in ICES division 8c (9%); and (iii) TAC for pollack ICES subareas 9 and 10 and EU waters of CECAF division 34.1.1 (11%).

the phenomenon of ‘choke species’⁴ in the targeted fisheries of sole (Solea solea) and Norway lobster (Nephrops norvegicus). The Commission provided the STECF with an ad-hoc contract report providing an assessment of the socio-economic impact of setting the definitive TAC for pollack in the Bay of Biscay at the level advised by ICES compared to setting that TAC at other levels, as well as other documents submitted by France in March 2024, including a study by the French research institute for exploration of the sea (Ifremer)⁵. On 28 March 2024, the STECF published its assessment⁶ of the socio-economic impact of setting the definitive TAC for 2024 at the level advised by ICES in its scientific advice for pollack. In that assessment, STECF noted, inter alia, the following.

First, STECF concludes that “the studies [i.e. the ad-hoc contract report and the Ifremer study] are globally consistent in identifying potential choke situation and socioeconomic effects if the 53% TAC reduction would be applied to the pollack TAC, assuming full implementation of the landing obligation and closing of the fishery after exhaustion of the TAC.

Second, regarding the Ifremer study, STECF refers to the study’s finding that “stopping the fishery after the exhaustion of the ICES advised ... [TAC for] pollack would result in taking 43% of the Nephrops ... TAC ... and 50% of the sole ... TAC in 2024. The catches of smooth-hound ... and seabass also appear impacted, with 41% and 51% of their respective TACs”. STECF also considers that the study indicates that, if the definitive TAC for pollack in the Bay of Biscay were set at higher levels than that advised by ICES, this would still have a limiting effect on the fisheries for common sole (Solea solea) and Norway lobster (Nephrops norvegicus) and that “the pollack TAC would potentially choke the fleets fishing on sole and Nephrops with any reduction in TAC”. This is consistent with the ICES mixed fisheries considerations, which identified pollack as being the most limiting species for demersal fisheries in the Bay of Biscay.

Third, regarding the ad-hoc contract report, STECF refers to the report’s finding that, if the definitive TAC for pollack in the Bay of Biscay were set at the level advised by ICES, “the choke effect, which is simulated in the scenarios using the Minimum effort deployment level, may be very important. The activity of these fleets has been more intense in the first two quarters of the year and therefore, choke is simulated to occur in Q2 (TAC=500t), Q3 (TAC=698t) or Q4 using the lower catchability observed in 2022 and assuming swaps from Spain to France.” STECF also refers to the report’s conclusion that “the minimum annual TAC required to deploy the total effort simulated (...) ranges from 1209 tonnes ([assuming] no swaps and mean catchability) to 824 tonnes ([assuming] swaps and 2022 catchability).

4 As recital 8 of Regulation (EU) 2024/257 explains, ‘choke species’ are species with a lack of quota that can cause one or more fishing vessels to stop fishing even if they still have quota for other species.

5 <https://stecf.jrc.ec.europa.eu/documents/d/stecf/stecf-plen-24-01-background-docs>

6 https://stecf.jrc.ec.europa.eu/documents/d/stecf/stecf_plen_24-01

In addition to STECF's assessment, the Commission notes that the ad-hoc contract report, as reviewed by the STECF, considers that if the definitive TAC for pollack in the Bay of Biscay were set at the level advised by ICES, this would lead to a reduction of total income of concerned French fleets of EUR 48 million (-37%) compared to the average income in the period from 2020 to 2022 (assuming the lowest catchability, 2022). The Commission further notes that the ad-hoc contract report indicates that, in order to maintain fisheries at current effort until the end of 2024, the definitive TAC for pollack in the Bay of Biscay would need to be set at the level of 985 tonnes and that such a level would lead to a small reduction of total income of 1,6%. Finally, the Commission notes that France would be disproportionately affected by any reduction of that TAC as it currently depends on swaps and year-to-year flexibility. The use of those flexibilities would therefore become more difficult.

Based on the outcome of the STECF's assessment, the additional elements summarised in the previous paragraph and the difficulty of fishing all stocks at MSY at the same time, especially in situations where that would lead to a premature closure of one or more fisheries, it is proposed, pursuant to Article 5(3) of Regulation (EU) 2019/47210, to:

*– set the definitive TAC for pollack in ICES divisions 8a, 8b, 8d and 8e for 2024 at the level of 959 tonnes. According to the ICES advice, that level corresponds to the landings of that stock in 2022, i.e. the most recent year for which data is available. Setting the definitive TAC at 959 tonnes will ensure that the current fishing pressure on pollack in ICES subarea 8 and division 9a does not increase. Scientific advice by ICES11 estimates the fishing mortality for that stock to be currently below the level that gives the maximum sustainable yield (MSY). In addition, setting the definitive TAC at the level of 959 tonnes will, according to the Ifremer study, allow the TACs for European seabass (*Dicentrarchus labrax*), Norway lobster and common sole to be fished at respectively 56%, 47% and 55%. Moreover, while that level will decrease the total income of fleets, in particular of French fleets, fishers will be able to continue fishing the TACs for European seabass, Norway lobster and common sole until the fourth quarter of 2024; and*

*– increase the minimum conservation reference size for pollack in ICES divisions 8a, 8b, 8d and 8e for 2024 from 30 cm to 42 cm. According to the 2023 ICES benchmark for that stock and the relevant ICES working group report¹², 42 cm corresponds to the length-at-maturity for that stock. Consequently, this measure will ensure that immature individuals are protected to a greater extent and thus contribute to the recovery of the biomass of that stock, which scientific advice by ICES estimates to be currently below the biomass index trigger value (*I*_{trigger}). Moreover, without this measure, the level of the definitive TAC for pollack in ICES divisions 8a, 8b, 8d and 8e for 2024 would have to be reduced further to allow pollack in ICES subarea 8 and division 9a to recover. This measure should apply only until the adoption of a delegated act adopted in accordance with Article 15(2) of Regulation (EU) 2019/1241 of the European Parliament and of the Council¹³ and amending Annex VII, part A, of that Regulation by introducing a corresponding technical measure.”*

In June 2024, Spain informed that the TACs for pollack in ICES division 8c (Cantabrian Sea) and in ICES subareas 9 and 10, CECAF 34.1.1 (Atlantic Iberian waters), which were set for 2024 and 2025 at the level advised by ICES of 78 tonnes and 96 tonnes (with a footnote of 98 tonnes) respectively, are leading to a premature closure of mixed fisheries, and submitted data regarding the socio-economic impact of those TACs.

The Commission published a statement indicating that: *“The Commission takes note of the submission made by Spain on 7 and 10 June 2024 stating that the TACs set by the Council for the pollack stock in the Atlantic Iberian waters, in ICES divisions 8.c and 9.a, would result in the premature closure of mixed fisheries, leading to potentially serious socio-economic consequences. Considering the socio-economic data submitted by Spain to substantiate the choke effect for its fleet segments in the Atlantic Iberian waters, the Commission will request the STECF in its July plenary to carry out an assessment of the choke phenomenon and, based on that assessment, the Commission will consider submitting a proposal for an in-year amendment to adjust the TACs for pollack in the Atlantic Iberian waters (POL/08C. and POL/9/3411) for 2024.*

The same approach would be considered by the Commission for Portugal should they timely provide specific, reliable and verifiable socio-economic data regarding their TAC for pollack in the Atlantic Iberian waters (POL/9/3411) set for 2024.”

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

The STECF is requested to:

- Review the conclusions of the **ad-hoc report 2447** of 1 July 2024 and review the studies and data submitted by Spain and Portugal for this request, available in the background documents. This review should be made in order to present STECF opinion on the same questions raised in the March 2024 request (for area 8abde):
 - evaluate if the elements demonstrate that a 53% reduction of the TACs for pollack in ICES divisions 8c and 9-10 (compared to the 2023 TAC for those stocks) poses significant socio-economic difficulties
 - how and to what extent that difficulty is the result of a premature closure of certain fishery(ies) targeted under the Western Water MAP, i.e. choke situation, by demonstrating the premature cessation of operations of certain fleet segment(s) targeting certain species
 - which fleets in ICES divisions 8c and 9-10 would have to cease their targeted fishing and at what point in the year 2024 with a -53% reduction of the TACs for pollack
 - how that cessation of operations of fleet segments could result in significant socio-economic impacts compared to alternative scenarios of different lower pollack TACs decreases.

- Based on the above, STECF should indicate what is **the level of TACs strictly needed to avoid** that the pollack TACs in ICES divisions 8c and 9-10 would generate a choke effect in the relevant targeted fisheries for the last 6 months of 2024, taking into account the difficulty of fishing all stocks at MSY at the same time. Indicate if other targeted stocks can be chocked by the pollack TACs which are bycaught in targeted fisheries of the stocks listed in article 1(1) of the Western Waters Multiannual Plan, Regulation (EU) 2019/4727.
- To carry out such an analysis, STECF is requested to take into account the setting of a recreational allocation, in the Fishing Opportunities Regulation for 2024, of a 2 fish/day bag limit in ICES subareas 8, 9, 10.

STECF comments

Summary of the information provided to STECF

STECF was provided with four supporting documents:

- An ad-hoc contract report which provides a review and analysis of the socio-economic impacts following the outcome of the Fishing Opportunities for 2024, dated the 19th of January 2024.
- A note and data submitted by the Spanish authorities - “COMENTARIOS ESCRITOS ABADEJO ZONAS ICES 8 Y 9”, which explains the 2024 situation regarding pollack catches, fishing possibilities and management decisions adopted. In addition, a dataset of landings of pollack and total landings, both in weight and value, for the years 2020-2023.
- A report prepared by the IEO-CSIC submitted on the 5/07/2024 in where the likely effects of a change in the MCRS from 30cm to 42cm for pollack are described (regarding the metiers)
- A note prepared by the Commission, in which the historical catches of pollack by Portuguese fleets are described

Review of the ad-hoc contract supportive study

The study is based on datasets from the Fisheries Dependent Information (FDI) 2023 (STECF, 2023) and the Annual Economic Report on the EU Fishing Fleet (AER) 2023 (STECF, 2023b) and further averaged data over the 2020-2022 period. DG MARE also

7 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 (OJ L 83, 25.3.2019, p. 1).

provided the ad-hoc contractor with information on quota swaps between Spain and France on pollack (Cantabrian Sea) as well as the flexibilities used by the Member States (Cantabrian Sea and Atlantic Iberian waters).

The study extracted data for pollack catch volume and value and total value for other species per FDI DCF Métier. This was subsequently linked to AER fleet segments, with separate analyses for ICES Division 8c, and subareas 9, 10 and CECAF 34.1.1, to match the three management TACs of this stock (Division 8c, and subareas 9, 10 and CECAF 34.1.1 and - not included in this study- ICES divisions 8abde).

The study found 19 different Spanish métiers presenting a dependency in value to pollack in the Cantabrian Sea (division 8c) from 2020 to 2022. It also found 14 different Spanish métiers presenting a dependency in value to pollack in the Iberian waters (sub areas 9, 10 and CECAF 34.1.1) in the same period.

The study estimates what the quota uptake in 2020-2022 would have been if the 2024 TAC for pollack was applied to those years. The analysis assumed constant catchability and two effort scenarios: the "Status quo" effort and a "Min" scenario, corresponding to the effort up to the calendar date where the pollack TAC would be exhausted and would choke the fishery. The "min" scenario is not precisely the same as in ICES MIXFISH but follows a similar approach. The simulation also accounts for options in quota swapping (in tonnes) between France and Spain's putative initial TACs (Cantabrian Sea) and the intertemporal and spatial flexibilities applied by the MS (Cantabrian Sea and Iberian waters), and two assumptions for catchability (average 2020-22 or 2022 alone). The effect on socio-economic indicators (Income, GVA, Gross profit and Net profit) is then deduced from these alternative quota uptake scenarios by tabulating the AER data. The "min" assumption means that fleets would stop fishing once the first TAC is exhausted, thus simulating a potential choke situation. The "Status Quo" assumption means that the fleets are not constrained by the landing obligation.

STECF notes that the work simulates two TAC options for each area (78 and 108 tonnes for Cantabrian Sea, and 96 and 132 tonnes for the Atlantic Iberian waters). These two options correspond to a TAC set in line with ICES advice and the TAC set at level of recent catches (year 2022), respectively. STECF notes that these two options can be interpreted as the 53% reduction of the TACs for pollack in ICES divisions 8c and 9-10 (compared to the 2023) and as an alternative scenario of different lower pollack TACs decrease, respectively, as requested by the TORs.

STECF notes that according to the results of the ad-hoc contract, only the Spanish fleets, in both areas, would potentially be restricted in their activity by the reduction of pollack's TAC in 2024. It further notes that for the case of the Atlantic Iberian waters the additional quota of 98 tonnes (POL/93411P) for Portugal has been considered in the simulations performed.

STECF observes that the study does not provide elements to indicate if other targeted stocks can be chocked by the pollack TACs which are caught as bycatch in targeted fisheries of the

stocks listed in article 1(1) of the Western Waters Multiannual Plan, Regulation (EU) 2019/472. Furthermore, the study only provides elements to determine the level of TAC needed to avoid pollack "choking" for any of the métiers considered.

STECF observes that the study's main conclusion on the pollack TAC in division 8c (Cantabrian Sea) is that *"The choke effect, for Spanish fleets, which is simulated in the scenarios using the Minimum effort deployment level, may be significant. The activity of the Spanish fleets has been more intense in the last and first quarter of the past years. Choke is simulated to occur in Q4 (TAC=108 and 78), Q3 (TAC=108 and 78) or even in Q2 (TAC=78) using the higher catchability observed in 2022 and assuming no swaps from France to Spain"*

STECF observes that the study further concludes that *"The minimum annual TAC in division 8c (Cantabrian Sea) required to deploy the total effort simulated in the scenarios using the Minimum deployment effort option (...) ranges from 150 tonnes (swaps and mean catchability) to 169 tonnes (no swaps and 2022 catchability)."* This answers the DG MARE request to estimate the pollack TAC that would not choke the fleets in division 8c.

STECF observes that the study's main conclusion on the pollack TAC in 9-10 CECAF 34.1.1 (Atlantic Iberian waters) is that *"The activity of the Spanish fleets has been more intense in the last and first quarter of the past years. Choke is simulated to occur in Q4 (TAC=132 and 96 tonnes) or Q3 (TAC=96 tonnes) assuming that any of the available flexibilities are applied"*.

STECF observes that the study further concludes that *"The minimum annual TAC in TAC in 9-10 CECAF 34.1.1 (Atlantic Iberian waters) required to deploy the total effort simulated in the scenarios using the Minimum deployment effort option (...) ranges from 129 tonnes (swaps, flexibilities and mean catchability) to 142 tonnes (no swaps and 2022 catchability)."* This answers the DG MARE request to estimate the pollack TAC that would not choke the fleets in areas 9-10 CECAF 34.1.1 (Atlantic Iberian waters).

STECF observes that the ad-hoc study acknowledges uncertainties, including the possibility of higher prices due to lower supply (lower TAC) alongside potential price elasticities, likely mitigating the total effect of a reduced TAC in all the scenarios.

Review of the information provided by the Spanish authorities

The information provided by the Spanish authorities corresponds to the landings (in tonnes and value) by vessel of pollack and overall, from 2020 to 2023 for Cantabrian Sea and Atlantic Iberian waters. The information provided notes how for 2024 catch limits differentiated by modality have been established in Spain and that a swap from France has been received for pollack in 8c (8 tonnes). The information also notes how by June 7 of 2024, consumption reaches almost 59 tonnes, already finding a consumption level close to 85% of the quota assigned to Spain (70 tonnes). Finally, it also notes the dependency on pollack for the longline vessels (13% in value in 2023) and for the artisanal vessels (3.5% in value in 2023).

STECF notes that according to the data submitted by Spain, in 2023 two vessels of the artisanal fleet have a dependency to pollack above 50% (in value), while 3.2% of the small-scale vessels (678 vessels) have a dependency in value above 20%.

STECF notes that on the 5 July 2024 an additional report was submitted by the Spanish authorities as background document. This report describes the likely effects of a potential change (ICES, 2023d) in the MCRS for pollack from 30cm to 42cm, for Spanish fleets. STECF notes that this change in the MCRS responds to the consideration of length at maturity (both sexes together) for this species in division 9a and subarea 8 (42.3 cm) (ICES, 2023d).

The data description presented in the report shows that the métiers likely to be affected by this change in the MCRS is the those using the fishing gear “Beta” (GNS60) and up to a lower extent those using “Trasmallo” (GTR) in the division 8c.

STECF also observes that for “betas” more than the 80% of catches in weight correspond to fish below 42 cm. This report also reiterates the seasonality of pollack’s catches by Spanish fleets (both in divisions 8c and 9a), with landing’s peaks in Q1 and Q4 of the year. Finally, the report also concludes that currently the authors of the report are unable to assess the effect the changes in pollack’s TAC in a mixed fisheries bioeconomic model context, because pollack is not one of the species included in the Iberian Waters mixed-fisheries considerations (ICES, 2023c).

Review of the information provided for the Portuguese fleets (COM)

Information on landings in tonnes of Pollack and overall, for the years 2019 to 2023 has been provided to the STECF. It is noted how the importance of pollack in Portuguese landings is residual and mainly in the polyvalent fisheries. It also notes how Portugal is in the southern limit of the distribution of this species.

Comments on the anticipated quota uptake of Pollack in Cantabrian Sea (Division 8c) and Iberian Atlantic waters (Sub-areas 9-10 CECAF 34.1.1) for 2024

STECF observes that the ad-hoc report has assessed the socio-economic effects of the reduction in pollack TAC. The study has used DCF data and approved merging procedures (see STECF AER WG) to obtain estimates of catchability, income, GVA, gross and net profits, and affected FTE per fleet métier alongside assumptions on quota uptake levels changing the effort (if “min” scenario) or not (if “status quo effort” scenario).

STECF acknowledges that the stock of pollack in ICES areas 8, 9, 10 and CECAF 34.1.1 has changed category in the ICES procedure for advice in 2023, from a stock being advised following the data poor category 5 “Precautionary approach” to a trends based category 3 “MSY approach” stock assessment (ICES, 2023d). This has resulted in a change in how the Western Waters MAP applies to that stock.

STECF notes that in subarea 8 and division 9a, the stock assessments carried out for this stock have considered discards to be negligible (ICES, 2023a).

STECF acknowledges that in recent years, the TAC for the pollack stock has not been restrictive, being set largely above the actual catches, and substantially above the ICES advice (STECF Plen 24-01).

STECF acknowledges that setting the TAC in 2024 at the level advised by ICES is consistent with the MSY objectives of the CFP. STECF further notes that the future evolution of the pollack stock due to an increase in the TAC other than this advised by ICES has not been assessed, although it will be detrimental to it.

STECF observes that, as a general procedure, an estimate of the potential foregone landing value can be derived per fleet segment from the gap between the number of days at sea that would be required to catch the least restrictive quota (knowing the most recent species catchability and the average value per day of this segment for the first two quarters) and the days for exhausting the quota of the possible choke species. The savings on operating costs could also be deduced from this difference, as well as the resulting part of the affected GVA and impacted engaged crew using information from the AER dataset. STECF observes that this is the procedure that the ad hoc contractor followed for both areas.

STECF notes that the ad-hoc study provided as background information estimated the effect of a restrictive pollack TAC assuming a strict implementation of the landing obligation, (i.e. assuming that the fishery would be closed after the exhaustion of that TAC, i.e. “min”-like scenarios). STECF has repeatedly documented in previous advice that such closures and choke situations have not yet been observed and that discarding is likely to be still occurring. Therefore, STECF underlines that care be taken in the interpretation of the outcomes of the studies, which represent the “worst-case” estimates of economic impacts. STECF considers that the actual observed impacts may eventually prove to be less than these estimates even if the TAC is maintained at the level advised by ICES given discarding of pollack may occur.

STECF observes that the ad-hoc contract complemented the risk assessment of reducing the pollack TAC with some bio-economic estimates based on the AER fleet segment dataset.

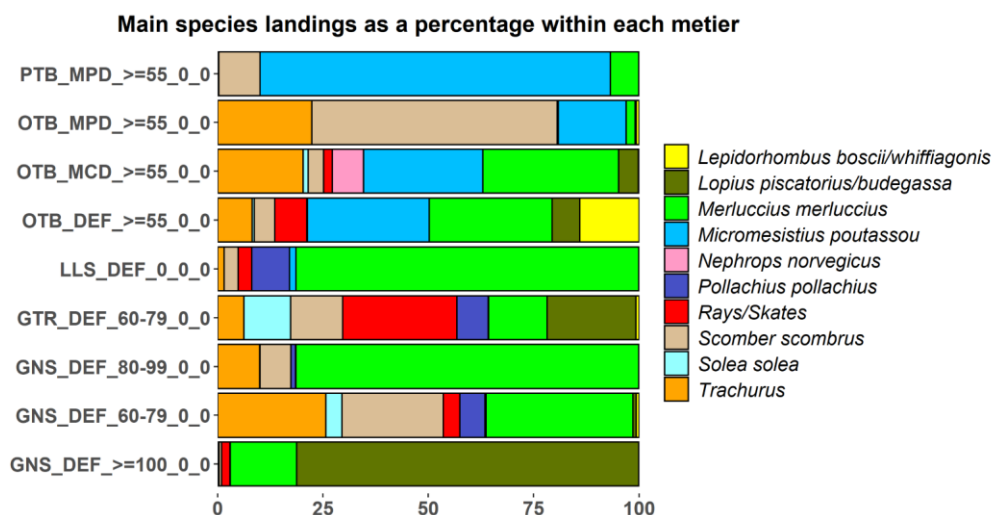
STECF notes that the study and the note from the Spanish administration are globally consistent in identifying potential choke situations and socio-economic effects for the Spanish fleets if the fishery would close after the exhaustion of the 53% TAC reduction. The ad-hoc contract also identifies how using swaps and flexibilities will alleviate this potential choke effect, moving further in the year the potential closure of the fishery.

STECF notes that none of documents provided as a background anticipates impacts on neither French fleets (in the Cantabrian Sea) nor on Portuguese fleets (Iberian Atlantic waters).

STECF also notes that the alternative TAC set in accordance with most recent catches has the same effect of moving further in the year the potential closure of the fishery and on reducing the economic impact on the Spanish fleets.

STECF notes how there is not a mixed fisheries bio-economic model in where the pollack stock is included. However, the STECF analysed the species composition for the main Spanish métiers catching pollack in divisions 8c and 9a based on the in ICES Fisheries Overview report (ICES, 2022). This analysis highlights the three métiers which have a technical interaction with pollack ("GNS_DEF_60-79_0_0", "GTR_DEF_60-79_0_0" and "LLS_DEF_0_0_0") in divisions 8c and 9a, all of which are mixed fisheries. These technical interactions may impact landings of hake and common sole which are target species within these fisheries that could be choked due to a lower TAC of pollack (Figure 6.1.1). STECF further notes that these stocks are listed in article 1(1) of the Western Waters Multiannual Plan, Regulation (EU) 2019/472.

Figure 6.1.1. Landings by stock in percentage by métier. Division 8c and 9a. Pollack is in dark blue.



Source: ICES (2022).

Other factors affecting the profitability of the Bay of Biscay fleets

STECF observes that in the Cantabrian Sea and Iberian waters, other factors may affect the profitability such as the setting of a recreational allocation, in the Fishing Opportunities Regulation for 2024, of a 2 fish/day bag limit in ICES subareas 8, 9, 10. STECF observes that Regulation (EU) 2024/257 refers to the recreational fisheries for Pollack and stipulates that: "According to scientific advice, recreational catches of pollack in ICES subareas 8, 9, 10 and Union waters of CECAF 34.1.1 (Bay of Biscay and Iberian waters) are non-negligible and it is therefore appropriate to introduce limits to its recreational fishery in those areas. In order to protect the spawning grounds and limit juvenile catches, no specimen of pollack may be caught and retained from 1 January to 30 April in recreational fisheries, while the maximum of two specimens could be allowed for the remaining part of the year." Considering that

recreational catches are not included in the ICES assessment (ICES, 2023a), STECF is unable to estimate the impact of that measure. Furthermore, since these catches are not included in the ICES advice for 2024, any changes or restrictions of recreational fisheries will not affect the calculation of the advised fishing opportunities for commercial fisheries.

STECF conclusions

STECF concludes that the various documents provided to STECF present different ways of assessing the expected magnitude of potential choke situations triggered by a reduced pollack TAC compared to the 2022 TAC and to the catches of pollack observed in that year. Hence, they provide different outcomes in their quantitative estimates of expected impacts.

STECF concludes that the studies and data provided are globally consistent in identifying potential choke situation and socio-economic effects for the Spanish fleets if the 53% TAC reduction would be applied to the pollack TAC in both areas (Cantabrian and Iberian Atlantic waters), assuming full implementation of the landing obligation and closing of the fishery after exhaustion of the TAC. STECF further concludes that this choke situation is unlikely to happen neither for French fleets in the Cantabrian Sea nor for Portuguese fleets in the Iberian Atlantic waters.

STECF is not able to quantitatively assess the true scale of impacts that will occur if the pollack TAC is maintained at the level advised by ICES. There are several confounding factors, such as doubts around the implementation of the landing obligation, no reporting of choke cases, and the effectiveness of measures applied in recreational fisheries which limit the accuracy of the assessment that can be provided.

STECF concludes that the ICES single-stock advice is based on the best available biological and ecological science and does not directly account for socioeconomic considerations nor mixed fisheries issues. However, exceeding the MSY advice in 2024 may lead to a further deterioration of this stock in the following years. Therefore, STECF cannot advise a catch level for pollack in ICES divisions 8c and 9-10 beyond the maximum fishing opportunities level advised by ICES for the full stock and allocated to the relevant management areas by the relative stability agreement.

STECF concludes that there will always be a risk of a choke in mixed fisheries managed by single stocks TACs. There are mechanisms within the CFP such as swapping and spatial and time flexibilities as well as through improvements in selectivity and reducing effort to adapt to changes in TACs that might alleviate some of that risk in the short term, but deteriorating conditions of stocks productivity may ultimately require longer term prospective to maintain the fisheries sustainable and resilient.

References

- ICES. 2022. Bay of Biscay and the Iberian Coast ecoregion – Fisheries Overview. In Report of the ICES Advisory Committee, 2022. ICES Advice 2022, section 6.2. <https://doi.org/10.17895/ices.advice.21641396>.
- ICES. 2023a. Pollack (*Pollachius pollachius*) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters). In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, pol.27.89a, <https://doi.org/10.17895/ices.advice.2184101>
- ICES. 2023b. Working Group on Mixed Fisheries Advice (WGMIXFISH-ADVICE). ICES Scientific Reports. 5:106. 272 pp. <https://doi.org/10.17895/ices.pub.24496237>.
- ICES. 2023c. Iberian Waters mixed-fisheries considerations. In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, <https://doi.org/10.17895/ices.advice.24212058> ICES. 2022b. Bay of Biscay mixed-fisheries considerations. In Report of the ICES Advisory Committee, 2022.
- ICES. 2023d. Benchmark workshop 2 on the development of MSY advice for category 3 stocks using SPiCT (WKBMSYSPiCT2). ICES Scientific Reports. 5:65. <https://doi.org/10.17895/ices.pub.23372990>.
- ICES Advice 2022, <http://doi.org/10.17895/ices.advice.21532932>
- 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 (OJ L 83, 25.3.2019, p. 1).

6.2 Assessment of Joint Recommendations on directed fisheries for squid

Background provided by the Commission

These joint recommendations (JRs) submitted by the Scheveningen Group and by the North Western Waters Member States Regional Group propose to increase the minimum mesh size applicable to vessels engaged in directed fishing for squids (Loliginidae, Ommastrephidae) in:

- the North Sea, by amending the Part B (“Mesh sizes”) of Annex V (“North Sea”); and
- the North Western Waters, by amending the Part B (“Mesh sizes”) of Annex VI (“North Western Waters”)

of the Technical Measures Regulation (EU) 2019/1241 that establishes a framework for technical measures for the conservation of fisheries resources and the protection of marine ecosystems.

The JR submitted by the Scheveningen Group proposes increasing the current mesh size for directed fishing for squid (at least 40 mm in the whole area) to at least 80 mm in the North Sea (ICES sub-area 4) and to at least 90 mm in the Skagerrak and Kattegat (ICES division 3a).

The JR submitted by the North Western Waters Member States Regional Group proposes increasing the current mesh size of towed gear in directed fishing for squid (at least 40 mm in the whole area) to at least 80 mm for bottom trawls and seines in ICES divisions 7a-e, 7g-h and 7k, while keeping the baseline mesh size of at least 40 mm for towed gear in ICES subareas 5 and 6, for pelagic otter trawl within the 12 nautical miles zone in ICES division 7e, and for bottom trawls and seines in ICES division 7j

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

The STECF is requested to assess the present JRs submitted by the Scheveningen Group and by the North Western Waters Member States Regional Group. Specifically, the STECF is requested to:

- Review and make any appropriate comments and recommendations to the measures proposed in the JRs;
- Assess the potential effects of the proposed increases in mesh sizes for directed fisheries targeting squids in the catches of both the target species (squids belonging to families Loliginidae and Ommastrephidae) and associated bycatch species.

Summary of the information provided to STECF

STECF was provided with two Joint Recommendations (JR):

1. Joint recommendation of the Scheveningen Group concerning technical measures for the conservation of fishery resources of the North Sea (26-04-2024).
The JR contains a description of the legal background, objectives and scope of the regulation, outcome from the consultations with Advisory Councils, mesh-size specification and the request. No scientific studies or data was submitted in support of the request.
2. Joint Recommendation of the North Western Waters High-Level Group Directed Fisheries for squid (28-06-2024).
The JR includes a description of the legal background, the outcome of the consultation with the NWWAC, the proposed measures and current fishing practices. No scientific studies or data was submitted in support of the request.

STECF comments

STECF notes that the submitted JR referring to the North Sea proposes to increase the minimum mesh size applicable to vessels engaged in a directed fishing for squid from at least 40 mm to at least 80 mm in ICES sub-area 4 and to at least 90 mm in Skagerrak and Kattegat (ICES division 3a).

STECF notes that the submitted JR regarding the North Western Waters proposes to increase the mesh-size to at least 80 mm for bottom trawls and seines in ICES divisions 7a-e, 7g-h and 7k, while keeping the baseline mesh size of at least 40 mm for towed gear in ICES subareas 5 and 6, for pelagic otter trawl within the 12 nautical miles zone in ICES division 7e, and for bottom trawls and seines in ICES division 7j.

STECF notes that the North Sea JR states that the objectives of increasing the mesh size are threefold: (1) to enhance enforcement of mesh size specification, (2) to optimise the exploitation patterns to provide protection for juveniles and spawning aggregations of marine biological resources, and (3) to reduce catches of marine species below the minimum conservation reference size (MCRS). STECF further notes that the North Western Waters JR states that the proposed modification of the derogation from the baseline mesh-size is expected to improve the selectivity in the area and to address control issues.

STECF notes that both JRs concern proposed measures for directed fishing for squid. STECF has previously extensively discussed the issues of directed fishing in its PLEN 20-02 Plenary (ToR 6.3), highlighting that (i) there is no simple, unique and practical indicator or (sets of) metric(s) that can be used to unequivocally define a directed fishery, and that (ii) Member States are responsible for providing careful data and information about the selectivity of the gears proposed for the directed fishery compared to the baseline and about

the conditions for granting the derogation to use the proposed gear(s) etc. These are conditions necessary to assess whether the derogation for directed fishing further or hinder the achievements of the objectives of the CFP and the Technical Measures Regulation No. 2019/1241 (TM).

STECF notes that the definition of directed fishing in the TM Regulation states: “fishing effort targeted at a specific species or group of species and may be further specified at regional level in delegated acts”. As the North Sea JR notes, without a clear definition of directed fishery this “potentially facilitates abuse of the derogation from the baseline mesh size. Where there are substantial volumes of bycatch (below MCRS) of commercial species by fishing vessels availing of this derogation there is no legal basis from a control and enforcement perspective to address this”. However, STECF notes that no proposal to further define directed fisheries is taken in either of the two JRs submitted. Given the elements discussed in PLEN 20-02, STECF reiterates that Member States are responsible to provide information on which criteria will be used to define which vessels will be considered to operate directed fishing.

STECF considers that in principle increasing mesh size is one way to improve selectivity of the fisheries. However, any assessment of the potential effects of the proposed increases in mesh sizes in target and bycatch species catch (as requested by the ToRs) requires specific fisheries information: number and characteristics of the vessels, gear description, catch data (landings, discards and length distributions) and effort data (fishing intensity and spatial distribution). As the JRs were not accompanied with any additional information or data, STECF is not able to assess the potential effects of the proposed increases in mesh size.

In addition, STECF notes that the effect of increasing mesh size is closely linked to towed speed, catch size, species composition or seasonal effects and may request additional measures such as escapement devices (Glaas et al., 1999; Kings et al. 2009; Manjarrés-Martínez, 2015; Bayse *et al.*, 2019).

In order to estimate catches of squid by area and Member State, STECF assessed whether landings data available in the Annual Economic Report (AER) 2023 could be used as a proxy. STECF notes that although it is not possible to distinguish targeted from bycatch landings, for 2022, reported catches of squids from 27.5 and 27.6 were very low (Table 6.2.1). From the JR it remains unclear to STECF what would be the reason for maintaining the derogation for directed fisheries for 40mm mesh size for these specific areas with such low catches of squid.

Table 6.2.1. Distribution of squid landings per sub area in 2022 for EU fleet segment.

Area	Landings (kg)
27.7.d	1 997 971
27.7.j	1 463 246
27.4.c	556 666
27.7.e	534 422
27.7.c	449 155
27.7.k	207 182
27.6.a	189 204
27.7.h	112 087
27.7.b	80 050
27.4.b	50 200
27.3.a	19 575
27.7.f	13 338
27.4.a	8 828
27.7.g	8 201
27.5.b.1.b	4 705
27.5.b	2 766
27.6.b	1 548
27.5.b.2	616
27.7.a	471

Source: - AER 2023 Data.

STECF notes that the United Kingdom has increased the mesh size of the directed fisheries targeting squids (belonging to families *Loliginidae* and *Ommastrephidae*) from 40 mm to 80 mm within the English zone of the United Kingdom waters since the 24th of October 2023 (The Sea Fisheries (Amendment) (England) Regulations 2023).

STECF conclusions

STECF concludes that in principle increasing the mesh size is one way to improve selectivity of the fisheries. However, STECF is not able to assess the potential effects of the proposed increases in mesh size (as requested by the ToRs) as no supporting information was provided to STECF.

STECF reiterates its conclusion from PLEN 20-02 that directed fishing is not and cannot be clearly defined scientifically. Member States are responsible to provide detailed justification on the underlying objectives and on the criteria used to define which vessels will be granted exemption. STECF concludes that the JRs provide insufficient information in this regard.

STECF concludes that the expected benefits of the North Western Waters in relation to optimising the exploitation patterns to protect juveniles and spawning aggregations of marine

biological resources and to reduce catches of marine species below the MCRS, are not clear in the JR.

References

- Bayse S., Pol H. , Walsh M., Walsh A., Bendiksen T., He P., 2017. Design and test of a grid to reduce bycatch in the longfin inshore squid (*Doryteuthis paelii*) trawl fishery. <https://doi.org/10.1111/jai.13381>
- Glass, W.; Sarno, B.; Morris, D.; Milliken, O.; Carr, A., 1999. Bycatch Reduction in Massachusetts Inshore Squid (*Loligo pealeii*) Trawl Fisheries. *Marine Technology Society Journal*, Volume 33, Number 2, 1999, pp. 35-42(8). Marine Technology Society. doi: <https://doi.org/10.4031/MTSJ.33.2.6>
- King, S. E., E. N. Powell, and E. A. Bochenek. 2009. Effect of an increase in codend mesh size on discarding in the *Loligo* squid-directed fishery: A commercial-scale test. *J. Northw. Atl. Fish. Sci.*, 40:41–58. doi:10.2960/J.v40.m631
- Manjarrés-Martínez L.M., J Gutiérrez-Estrada J.C., Hernando J.A., 2015. Effects of mesh size and towing speed on the multispecies catch rates of historical swept area surveys, *Fisheries Research*, Volume 164, Pages 143-152, ISSN 0165-7836, <https://doi.org/10.1016/j.fishres.2014.11.006>.

6.3 Evaluation of Joint Recommendation on mitigation measures to reduce incidental catches of common dolphin in the Bay of Biscay

Background provided by the Commission

Chronology of events:

- June 2019: The EU adopted Regulation (EU) 2019/1241) on the conservation of fisheries resources and the protection of marine ecosystems through technical measures. Its Article 3 specifies that technical measures shall contribute to ensure that incidental catches of sensitive marine species (including common dolphin) are minimised.
- May 2020: ICES published an evaluation of measures (combination of area closures with the use of pingers for certain trawlers in the Bay of Biscay). This evaluation was requested by NGOs who were concerned about the high number of stranded dolphins in the Bay of Biscay.
- March 2021: STECF assessed the first joint recommendation (JR) submitted by the South-Western Waters Member States Group. STECF considered that the measures proposed in the JR were insufficient to reduce incidental catches of common dolphin. Therefore, the European Commission (EC) did not adopt any delegated act.
- February 2023: The EC adopted the EU Action plan, which sets a deadline by end of 2023 to introduce mitigation measures to protect common dolphin in the Bay of Biscay.
- June 2023: ICES advised for the common dolphin in the Bay of Biscay and Iberian Coast a combination of temporal closures of all métiers of concern and the application of pingers on pair trawlers to mitigate bycatch outside of the periods of closure. Additionally, ICES recommended enhanced monitoring to assess the effectiveness of management measures (including pingers use) and to augment precision in bycatch mortality estimates of common dolphin.
- December 2023: STECF assessed the second JR submitted by the South-Western Waters Member States Group. The JR included spatio-temporal closures and technical measures to minimise incidental catches of common dolphin in the Bay of Biscay (ICES Subarea 8). STECF provided a negative opinion, as measures proposed in the JR were not adequate to reduce the by-catches. The EC did not adopt any delegated act.
- December 2023: Following a judgement from the French High Court, France adopted a spatio-temporal closure for 30 days (22/01/2024 to 20/02/2024).
- January 2024: France activated Article 13 of the CFP on emergency measures and extended the spatio-temporal closure for French vessels to all vessels from other Member States or third countries fishing with the same gears.
- June 2024: the South-Western Waters Members States Group submitted a third JR to the EC. The JR proposes for 2025 management measures for pelagic trawlers, demersal pair trawlers, purse seines, gillnets, trammel nets and set nets in ICES subdivision 8. The measures are divided in two types: to improve knowledge on bycatch and to reduce bycatch. The JR is complemented with a set of annexes that provide

results on the socio-economic data, monitoring programmes, outcomes of several research projects, technical reports from national research institutes, two poster communications and the list of pingers tested and used (see background documents).

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

The STECF is requested to review and make any appropriate comments and recommendations to the measures contained in the joint recommendation.

The STECF is requested to assess: (1) **if the proposed mitigation measures would contribute to improve the situation with respect to 2023** and with a view to reduce incidental catches of common dolphin in the Bay of Biscay and; (2) if they are an **improvement vis-a-vis previous JR**. STECF should consider the socio-economic information available. STECF is also requested to analyse the proposed **on-board observation program** and its impact on data collection.

Summary of the information provided to STECF

STECF was provided with the SWW joint recommendation (JR) text and background documents collated by DG MARE:

The SWW JR text ("2024.06.20 JR on cetaceans bycatch SWW HLG final rev.pdf")

The Joint Recommendation is a follow-up of the previous JR (October 2023) evaluated by PLEN 23-03 who raised important concerns. This JR aims to establish more stringent mitigation measures for 2025 than in the previous JR, after the Commission asked the SWW HLG to revise the initial October 2023 JR. The measures proposed in this Joint Recommendation would apply in 2025.

The current JR contains a new proposal regarding management measures to reduce incidental bycatches of small cetaceans in the Bay of Biscay (ICES area 8 only), consisting of:

1. Enforcing measures applicable in ICES subareas 8 including improving knowledge on bycatch by recording bycatch, estimating bycatch rates per fishing techniques, recording fishing techniques specificities and other environmental variables, and conducting scientific investigations to improve knowledge on the drifting of dead animals released in the water. At-risk vessels are encouraged to voluntarily equip themselves with on-board cameras to improve knowledge on interactions between small cetaceans and at-risk gear, conduct experimentation with innovative technical measures with the potential to reduce cetaceans' bycatches and transmit data to ICES

and national scientific bodies including camera data, and share data between Member States.

2. A time area closure with the following specifications: During 30 days, from the 22nd of January until the 20th of February 2025, vessels over 8 meters that use pelagic trawls (PTM, OTM), demersal pair trawls (PTB), purse seine (PS), gillnets (GNS) and trammel nets (GTR) are not allowed to fish within the French waters up to the outer limit of the economic exclusive zone within ICES subarea 8.

A row of annexes was provided alongside the JR, which are described below.

Annex 1 (in the JR document) providing tables with bycatch estimates

Tables with bycatch records are provided from observed trips with an observer onboard or with Electronic Monitoring in France, Spain, and Portugal. According to the table titles, STECF understands that the values given are the total number of bycaught cetaceans observed and the total number of trips observed for the three countries. However, STECF underlines that these tables are unclear as the tables from France include percentage values that do not match with the numbers provided in the table, while the tables from Spain and Portugal do not include any percentages or information on total number of trips. In the absence of unambiguous information on observation coverage STECF remains cautious in its interpretation of these tables.

Annex 2. “Summary of measures and available data of Cetacean strandings and interactions with the national fleet in the Bay of Biscay and the Iberian Coast”, Secretariat for Fisheries, SPAIN

In addition to the use of pingers on static net fisheries stated in the Annex to Commission Implementing Regulation (EU)2020/967 of 3 July 2020, the document recalls that Article 1^[66] establishes the obligation to use acoustic deterrent devices (pingers) for all Spanish bottom trawlers whose fishing activity is conducted in the national Cantabrian and Northwest fishing grounds and in the non-Spanish EU waters of the Bay of Biscay. STECF notes that gear codes are not specified in the APA/1200/2020 so it is assumed that both OTB and PTB gears are covered.

The document states that another mitigation measure included in Ministerial Order APA/1200/2020 is the “move-on” rule. Article 6 establishes that when more than three cetaceans are caught in the same fishing manoeuvre during fishing activities with bottom trawl gear, or one cetacean is caught in two consecutive hauls, fishing vessels shall change their position a minimum of 5 miles from the initial position to continue their fishing activities, at a high navigational speed.

The document recalls that in 2024, the Ministerial Order APA/1200/2020 was updated to include the spatial-temporal closure, in the waters of the French exclusive economic zone of

ICES zone 8, for fishing vessels with an overall length of more than 8 metres using bottom pair trawls, purse seines, gillnets and/or entangling gears, gillnets and dredges between 22 January and 20 February 2024.

Annexe 3, incl. “Annex 3a Presentatio Mitigation Device trials.pdf”, “Annex 3b Presentation DolphinFree.pdf”

Various recent scientific investigations report on the efficiency of pingers in mitigating bycatch events. STECF PLEN 23-03 had already screened these materials.

“Annex 3c Project synthesis note OBSCAMe2024.pdf”, “Annex 3c Project synthesis note OBSCAMe2024.pdf”, “Annex 3d OBSMER Program.pdf”

The OBSCAMe report describes a French monitoring program implemented on a voluntary basis since February 2024, with 44 gillnetters being equipped and collecting data with Electronic Monitoring systems. A tool for the automatic treatment of video sequences is currently being developed (Artificial Intelligence algorithm models) by IFREMER. The ObsMer report describes the onboard observer program, reporting that since the winter 2018-2019 the normal DCF onboard observers sampling program (ObsMer) has been increased specifically in the Bay of Biscay each winter, with 2 to 15% of the fishing effort of trawlers (PTM, OTM) and/or gillnetters (GTR, GNS) observed at sea from December 15 of year n to April 30 of year n+1.

Annex 4 Report Purse Seine Bycatch IEO.pdf

The bycatch rate (number of cetacean specimens by observed fishing day) of common dolphin resulted from the Spanish dedicated bycatch monitoring program in ICES Division 27.8.c, for purse seine fishery, between July 2021 and December 2023, was found to be 0.0488 animals per fishing day with the purse seine. The effort covered by observers was <0.5% of fishing days.

Annex 5 Report Gillnets Bycatch IEO.pdf

Bycatch rate (number of cetacean specimens by observed fishing day) of common dolphin and harbor porpoise resulted from the Spanish dedicated bycatch monitoring program in ICES Divisions 27.8.c and 27.8.d.2 for the gillnet fishery between October 2020 and December 2023 was found at maximum 0.0556 specimens per gillnet fishing day. The effort covered by observers was between 0.5 to 4% of fishing days depending on the fleet segment DCF Level 6.

Annex 6 Review Basque Purse Seine AZTI.pdf

Sampling coverage of the purse seine fleet in area 8c was 2% in 2024 (up to June), and the number of incidental catches of common dolphins was 0 incidental catches in all the fishing trips sampled. These zero incidences, based on the sampling carried out by scientific observers on these species listed as protected, have allowed this fleet to receive MSC certification.

Annex 7 Project EMS AZTI.pdf

The project to install electronic monitoring systems (EM) on board small-scale gillnet vessels aims to collect technical information on the operation of commercial fishing in gillnet fisheries and to characterise possible associated incidental cetacean capture. The information expected to be collected in 2024 is substantially higher than during the previous year, as both the time coverage of recordings and the number of vessels involved have been increased.

Annex 8 Poster Izquierdo et al. (1).pdf and Annex 9 Poster Izquierdo et al. (2).pdf

A study concluded that the technical characteristics of pingers vary, and in practice they may fit differently in a gillnet, making the fishing operations technically challenging. NetGuard pingers are accepted better by the fishers because they are stronger and easier to attach to the fishing net, but no accidental catches in a control experiment have been obtained to demonstrate the effectiveness of the pingers tested in mitigating the entanglement of dolphins.

Annex 10: List of pingers tested/use by countries

There are references to different pinger devices and a statement on their efficiency, including deterrent devices designed to scare away harbour porpoises.

STECF-PLN 23-03 previously commented on the relative efficiency of the devices listed. The LICADO project concluded that using the LICADO prototype pinger is still not easy in practice when operating gillnets and that it is still difficult to prove the effectiveness of pinger in reducing bycatch events. Such difficulty arises from the low number of recorded bycatch events in this study, preventing to provide statistically significant results. With the DOLPHINFREE project, the outcome of in-field testing has been published in Lehnhoff et al. (2022). Authors state that the DOLPHINFREE V3 pinger could effectively reduce bycatch events in gillnet fisheries because it could “provide promising means to signal the presence of fishing nets to common dolphins and potentially to limit by-catch”, but the magnitude of this reduction has not been robustly estimated yet. The authors also recall that this pinger would likely not fit pelagic trawlers since mobile fishing gears require the animals to be quicker to detect and avoid the fishing gears in movement.

“2023 Rapport LEMNA socioeco.pdf (in French)” for a socioeconomic impact assessment of closing fishing activities in the BoB for mitigating cetacean bycatches for the French Fleet

There are socioeconomic impact estimates provided for several hypothetical closure scenarios, from one month to several months, with reference years being 2018, 2019 and 2021 (excluding 2020 year when the COVID pandemic was active). STECF notes that none of the scenarios tested corresponds to the actual period of closure suggested in the JR (i.e. 22-Jan to 20-Feb). The scenarios tested consisted of closing French EEZ in the Bay of Biscay fisheries between 15-Jan to 20-Feb, from 15-Jan to 14-Mar, and from 1-Jan to 31-Mar, and 15-Jul to 14-Aug. The closest scenario, Scenario 5.1, is the one corresponding to one month closure (15 Jan 14 Feb) and for the concerned gear types i.e. PS PTM PTB OTM GTR GNS.

Estimates of change in annual income from landings for this scenario is reproduced below, for the various fleet segments, estimating a 7% revenue decrease overall. Besides this, the study further included possible indirect effects such an economic loss alongside the value chain when the fishing activity is limited during a month.

	sc5_eng1
Chaluts de fond à panneaux	0%
Chaluts de fond jumeaux à panneaux	0%
Chaluts pélagiques;-18m	-5%
Chaluts pélagiques;+18m	-2%
Filets maillants calés;-12m	-7%
Filets maillants calés;+12m	-12%
Filets maillants dérivants	0%
Filets maillants encerclants	-2%
Lignes	-3%
Casiers	-2%
Palangres	-2%
Sennes coulissantes	-5%
Trémails;-12m	-9%
Trémails;+12m	-15%
Polyvalents	-1%
Total	-7%

Informe propuesta cetáceos 3 meses cierre 17-06-2024 VDEF.pdf for a socioeconomic impact assessment of closing fishing activities in the BoB for mitigating cetacean bycatches for the Spanish Fleet

The theoretical scenario assessed in the study was a closure of the fleet activity, for the gears affected by the 30-day closure in 2024 in French waters, for three months, from January to March.

The study provides estimates on the value of Spanish landings, in euro average of 2022 and 2023, of the vessels affected by hypothetical closures, which are in Jan, 5.6 million euros in 8c and 5.7 million Euros in 9a, in Feb, 5,7 million euros in 8c and 5,4 million euros in 9a, in

March, 22,5 million euros in 8c and 5.4 million euros in 9a (extracted from Table 11 in the document). Hence, the study argues that seasonality likely influences the closure effect given the seasonal extraction of fisheries resources, considering that a significant increase in catches is observed in the month of March for zone 8c.

The study also tried to estimate the indirect effects on home harbour municipalities, assuming that the number of indirect jobs affected would be considered as a multiplier effect of 4 jobs for each job in the extractive sector.

STECF comments

In PLEN-23-03, STECF was requested to analyse the SWW JR submitted in 2023 in details, and to advise DG MARE on the contribution that the proposed measures to reduce accidental catches of the common dolphin in the Bay of Biscay, if implemented, would make to the achievement of objectives set out in Article 3, paragraphs 2(b) and 2(d) and the target set out in Article 4 Paragraph 1(b) of Regulation (EU) 2019/1241. STECF PLEN 23-03 was requested to review the proposed set of measures and their effectiveness to reduce the by-catch of common dolphins in the Bay of Biscay in line with the recommendations of the latest ICES advice. In particular, STECF was requested to assess whether the spatio-temporal closures can minimize or reduce by-catch of common dolphins to provide the required level of protection of common dolphin in the Bay of Biscay. Finally, STECF PLEN 23-03 was requested to comment on the controllability of the measures proposed.

STECF PLEN 23-03 had thus commented extensively on the 2023 JR. Therefore, in order to assess whether the 2024 JR is an improvement from the previous JR, as requested to PLEN 24-02, STECF comments hereafter on the same observations as PLEN 23-03, updated in the context of the present SWW JR. Improvements are to be analysed in the context of (i) effective bycatch reduction, (ii) achievements of Regulation (EU) 2019/1241 objectives and (iii) improved monitoring and control.

As a general comment, STECF acknowledges the level of details and the amount of information provided including many annexes, which has significantly increased compared to 2023.

1. **Mitigation devices (pingers)**

STECF acknowledges the extensive ongoing research effort to test the efficiency of existing or innovative mitigation devices cited by the supported studies, including, for example, the LICADO French project on pingers testing in gillnet fisheries of the Bay of Biscay, or the DOLPHINFREE French project that has also developed common dolphin-specific pingers to be deployed by netters.

PLEN 23-03 had earlier commented on the outcomes of the LICADO and DOLPHINFREE projects, acknowledging that trials results are still inconclusive on the effectiveness of the devices to reduce bycatch. In addition to these two projects, STECF notes that several new

research projects on mitigation devices projects have been mentioned either in the JR or in the ICES WGBYC 2023 report.

The French project PECHDAUPHIR (Interactions between the common dolphin and fishing activity in the Natural Park “Iroise” and the Bay of Audierne; 2021 to end 2023), cited in WGBYC 2023, aims to better understand the behaviour of fixed gears beneath the sea surface to gain insight into the conditions and/or types of gear most likely to cause accidental catches in common dolphins. To achieve this, sensors (pressure, temperature) are integrated into several gears for which accidental captures have been recorded (sole trammel nets, hake nets, monkfish trammel nets, etc).

The project DELMOGES (“Delphinus Mouvements Gestion”; 2022 to 2025) will use passive acoustic triangulation to track the sub-surface movements of common dolphins around different vessels and fishing gears (gillnets) to gain insight into fine-scale interactions between dolphins and fisheries.

The Spanish MITICET project started in 2022, aims to test acoustic active deterrent devices (pingers) for dolphins, with the main objective of comparing the incidental bycatch of dolphins by implementing an alternate hauls experimental design (with and without pingers) on a pair trawl unit. Both vessels were equipped with Electronic Monitoring systems (EM) to record the incidental bycatches, which allows for visualising any cetacean bycatch onboard in all fishing hauls. Results in 2022 showed a reduction of 92.2% in the proportion of hauls with bycatch of common dolphins and 95% in the number of specimens per haul with bycatch.

ICES WGBYC 2023 reported that, in Portugal, during 2022, mitigation trials using DDD’s and DiD’s (Dolphin deterrent devices, STM Industrial Electronics, Italy) continued within one specific task in the CetAMBICion project, coordinated by the University of Algarve and the Center of Marine Sciences (CCMAR). Testing occurred in gillnets (GNS) and was monitored by at-sea observers and vessel crew observers (trained skippers) who filled information in paper logbooks. Overall, 107 hauls for DiD testing (61 control and 46 with alarms) and 47 hauls for DDD-03N testing (24 control and 23 with alarms) were analysed for boats larger or smaller than 12 m. The study concluded that the use of acoustic deterrent devices showed a significant bycatch reduction, especially in gears targeting European hake and red mullet.

Several bycatch mitigation studies took place or were completed in the UK during 2022 for a range of sensitive taxa. For cetaceans (mainly common dolphins), trials of lights, pingers (two models) and combinations of lights and pingers were undertaken in a small-scale inshore net fishery under the Clean Catch UK program managed by CEFAS. Results so far are inconclusive. Participating fishers found the experimental design challenging to implement in the field, and some reliability issues were encountered with the lights and one of the pinger models.

Since 2019, Clean Catch UK has been developing a passive acoustic reflector (PAR) device. A prototype that can replace standard gillnet floats has been manufactured. The final PAR prototype will be tested by local net riggers to identify best practices for deployment on commercial gill nets, after which practicality and efficacy trials will be undertaken.

See also literature listed in Table 3.1 Small cetaceans, in ICES WGBYC 2023. Out of this list, STECF acknowledges the effort made by the various Member States, and the UK as well, to fund mitigation research projects. STECF notes that many projects are still ongoing, some results seem promising but obtaining statistically significant results seems to remain a hurdle for most projects, due to the variability in the occurrence of bycatch events. STECF acknowledges that ICES WGBYC monitors the development of these projects and provides updated information on achievements.

2. Effectiveness of the 2024 and potential 2025 time-area closure to reduce bycatch

STECF observes that, given that the closure occurred only recently (22 Jan to 20 Feb 2024), there is not yet a robust collection of evidence to evaluate its performance in achieving the mitigation of bycatch down to ICES-advised reference level (number of captured and then dead animals below the PBR). The only information publicly available so far relates to stranding events during the closure, which shows that the stranded animals marked with signs of capture by fishing gear were significantly less than average (Figure 6.3.1 below).

Figure 6.3.1. Rate of stranded small cetaceans showing perceived signs of interactions with fishing gears south of 48°N between 22/01 and 22/02 from 2010 to 2024 (provisional data for 2024).



Source: RNE at Bilan des échouages durant la fermeture de la pêche à risque – PELAGIS (cnrs.fr)

In this regard, STECF observes that the achievement of bycatch reduction must be evaluated over a longer period (before, during and after the closure), and be put in perspective of the entire year (or winter season) of bycatch. As this information is not yet available for 2024, STECF notes that while the renewal of this closure for 2025 might help reduce incidental catches of common dolphins in the Bay of Biscay during the closed period, STECF is not in a position to determine whether the closure is likely to be sufficient to reduce the total annual dolphin mortality below the Potential Biomass Removal (PBR) threshold.

ICES advice (ICES Special Request published on June 2023) for the 'EU request on mitigation measures to reduce bycatches of common dolphin (*Delphinus delphis*) in the Bay of Biscay (ICES Subarea 8)' provides an evaluation of a series of management measures to reduce bycatch analysed by ICES WGBYC 2022 (ICES 2022). The ICES advice built upon the ICES Working Group on Marine Mammal Ecology (WGMME) and the ICES Working Group on Bycatch of Protected Species (WGBYC). Based on 2019–2021 bycatch estimates derived from either at-sea monitoring programs data or estimates derived from a drift model

parameterized on the number of stranded animals, the ICES advice identified Scenario (“L”) of a two-month closure [mid-Jan–mid-Mar] for all métiers, with pingers on PTM/PTB the rest of the year as the most adequate to meet the objective with a minimal risk of failure.

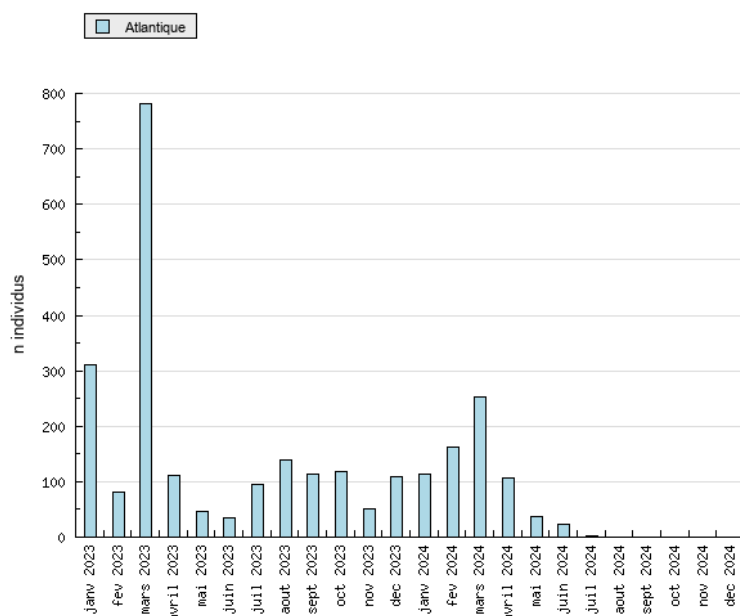
The SWW Joint Recommendation partially based its proposal on this ICES Special Request Advice. STECF observes, however, that the one-month time-area closure proposed in the SWW 2024 JR to reduce the bycatch is still not aligned with any of the six ICES scenarios, and the extent to which the bycatch might be reduced cannot be determined at this time.

STECF observes that the peak of interaction in 2023 could have occurred in March and less likely in February (see figure 6.3.2 below). The SWW JR does not comment on such a mismatch in setting the closure period for 2024. The observed average time between carcass drop-off from the fishing vessel and the date a stranding (based on mark recapture experiments) was 12.6 ± 5.3 days, whereas the average drift duration estimated by the inverse drift model was 9.7 ± 6.1 days (Peltier et al. 2012). Hence, a delay can be expected between strandings peaks and potential bycatch peaks, but that delay can be variable. Besides, it is also still unclear whether such a monthly peak is linked to more effort deployed during a month or to environmental factors (e.g. westwind intensity). As such, STECF observes that some flexibility or an extended period (e.g. 2 months, which would align with the ICES advice) may be beneficial to avoid missing the bycatch peak where the interaction occurs the most, although it is likely to vary from year to year depending on various environmental factors. On the other hand, STECF acknowledges that extending the closure period from one to two months will likely significantly affect socioeconomics (see the section on socioeconomics below).

Figure 6.3.2. The French stranding network (RNE) recorded stranded animals on the French coast in the Bay of Biscay since 1969. Here is shown 2023 and 2024 records (data up to July 2024).

Echouages des : Delphinidae - facade(s) : Atlantique - année(s) : 2023-2024

Echouage des Delphinidae : 2023-2024



Source: <http://pelagis.in2p3.fr/public/histo-carto/index.php> consulted on the 9 of July 2024).

STECF observes that unlike bottom pair trawlers (PTB), vessels deploying bottom otter trawl nets (OTB) would not be affected by the one-month closure defined in the SWW JR. OTB is not generally considered to generate high levels of cetacean bycatch, particularly when fishing in deeper water close to the continental slope (Peltier et al. 2020). Nevertheless, STECF understands that the bottom trawl gear category includes several types of trawls, including High Vertical Opening and Very High Vertical Opening trawls. This method of fishing has increased in the Bay of Biscay in recent years (ICES, 2017b). Because the trawl operates in contact with the seabed, the gear is classified as otter bottom trawl (OTB). Still, the very high vertical opening (VHVO) of the trawl creates a risk of cetacean bycatch, particularly when targeting European hake (Peltier et al., 2016)². Indeed, STECF notes that ICES advice (2023) estimates that total bycatches of dolphins by OTB gears in 2019-2021 were almost the lowest among all gears, but still slightly higher than those estimated for PTM_DEF gears (103 [0-256] vs 69 [50-89] animals, respectively), with high uncertainty based on few observations. The estimated bycatch rate for OTB is the lowest across all gears, but the total fishing effort deployed by OTB remains important. STECF wonders as well whether authorising OTB as the only gear during the closure could trigger an incentive to misreport gear declaration in logbook, e.g. from PTB or OTM to OTB.

STECF points out that animal strandings records are low on the Spanish coast due to geographical features, given that sea currents and wind pushing carcasses toward the French coast. However, this does not necessarily mean that the bycatch events induced by the Spanish fleet in the Spanish EEZ are also low. Despite this, STECF observes that the time-area closure in this 2024 JR targets the French EEZ only.

3. **Monitoring the effectiveness and controllability of proposed measures**

STECF gathered some information from published reports about time-area closure, deterrent devices, and electronic monitoring, to assess the effectiveness and the controllability of the measures proposed in the JR.

From the best available science collected so far on the bycatch issue of marine mammals by ICES (ICES WKEMBYC2 2023), STECF observes that associating a seasonal closure covering the peak of interaction to the use of pingers over the rest of the season and with EM onboard fishing vessels is expected to deliver the best combination of effectiveness and controllability, as also as concluded in STECF PLEN-21-01 and the ICES Special request of June 2023.

STECF notes that time-area closures are usually implemented to avoid interactions between fishing activities and specific ecosystem components that need to be protected (marine mammals, birds, turtles, other sensitive species or certain fish life stages such as juveniles). STECF observes that static or flexible area-based management tools and input controls on the number and time-of-day of fishing operations can be monitored with a vessel monitoring system (VMS, AIS, etc.), provided that the ping frequency is adequate. However, if real-time flexible closures (or “move-on” rules) are to be implemented instead of fixed seasonal closures, the vessel monitoring system alone is insufficient, and would need to be associated with electronic monitoring (including cameras) to effectively adapt to the observed start of a peak of interaction. Delay in detecting an increase in bycatch would, however, impair the effectiveness of such real-time management.

Concerning pingers, STECF notes from previous and recent supporting studies that the effectiveness of pingers varies for different species (STECF PLEN 21-01). In its review of the implementation of the EU Regulation on the incidental catches of cetaceans (STECF 19-07), STECF had noted that the specifications for the pingers/acoustic deterrent devices (ADDs) prescribed in Reg (EU) 812/2004 mainly mitigate the bycatch of harbour porpoise. For other species, including dolphins, results were less conclusive and might depend on the kind of ADDs used. Furthermore, using pingers in fishing operations may present significant operational problems, with pinger failure rates exceeding 50% in some cases (STECF 20-02). As already stated in PLEN 23-03, it is not clear to STECF to what extent significant technological progress has been achieved to address these operational shortcomings.

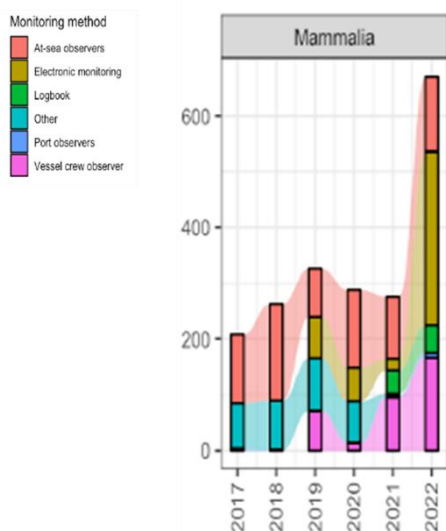
More recently, STECF PLEN 23-03 observed that Puente et al. (2023) have tested fully charged dolphin deterrent devices (DDD@03H03H) over 467 hauls of the pair bottom trawl fishery in the south Bay of Biscay to assess their effectiveness. Among these hauls, 26

common dolphins were caught in 15 hauls, 25 of which were caught in hauls without DDDs (1–4 individuals per haul). Results show a statistically significant lower proportion of hauls with bycatch and a lower number of individuals bycaught per haul when DDDs are deployed, even if the bycatch events captured by the study were rare (26 animals bycaught).

Finally, STECF observes that besides the use of time-area closure and deterrent acoustic devices such as pingers, previous scientific works have reviewed possible changes in gear designs and fishing methods with various mechanisms for reducing bycatch, or, if caught, for reducing the probability of mortality (e.g., Gilman et al., 2022).

STECF notes that EM systems have the potential to provide more representative coverage of the fleet than observer programs and are generally more cost-efficient, particularly for rare events. They also provide continuous coverage of the location and activity of fishing operations (see Table 2, Murphy et al., 2022), which can lead to better compliance with interaction avoidance and mortality reduction (handling) measures.

Figure 6.3.3. Number of bycatch incidents recorded by different monitoring methods provided in 2023 WGBYC data.



Source: ICES WGBYC 2023 (page 21).

STECF notes that France has recently experimented with EM onboard gillnetters for monitoring cetaceans bycatch in the Bay of Biscay (OBSCAME program). The final report describes that up to 4 times more captures of marine mammals are reported from the EM data analysis than with onboard observers. STECF notes that the monitoring program has estimated that 20% of bycaught dolphins fall from the gear before reaching the board (Cloâtre et al. 2023).

Overall, STECF notes that the effectiveness of pingers in reducing bycatch is still uncertain. Additionally, it is challenging to regulate the functioning of pingers and to fit them to different

fishing techniques. Electronic monitoring is thus the most effective method for the controllability of the regulation, as it can enhance coverage and bycatch estimates, thereby improving the efficacy of management.

4. **Socioeconomic analysis**

STECF observes that the assessments of possible economic value and the number of jobs and households affected by various settings for time-area closures have been provided for French and Spanish cases. France provided estimates relevant to the French EEZ in the Bay of Biscay, while Spain provided socioeconomic information relevant to the scale of the entire Bay of Biscay and the Iberian Seas.

Regarding socioeconomic studies, STECF observes a lack of method description in the French study, making it difficult to fully assess the representativeness of the results presented. In particular, it remains unclear to STECF whether the catch seasonality is accounted for in the closure scenarios or not (i.e. considering the differences landings in January, February or March respectively, as highlighted in the Spanish economic study, or dividing the full year catches in 12 equal months). Given the importance of the LEMNA model to support socio-economic analyses provided by France across different ToRs of different STECF plenaries, STECF would welcome a proper methodological background document describing the key features, assumptions and data behind that model.

It is stated in the LEMNA report that French data were derived from the economic return loss declaration by the sector itself. Hence, STECF understands that these are self-declared data which were not audited. As said in the supportive document sent by the French contractor in charge of the evaluation, "the economic losses in value and volume have been communicated by the professional organisations on the basis of the data submitted by their members. [The study participants] do not have much more information on the methodology used.". STECF cannot thus assess to which extent the data used is fully representative of the true situation.

STECF also observes that the French socioeconomic study assumed no effort redistribution; the affected vessels were assumed to stay on the quayside during the various closure periods tested and there was no assumption of a possible increase of fishing effort before and after the closure to compensate for the lost effort during closure has been made. Hence, the socioeconomic evaluation is based on the fishing sector's declaration and has not accounted for possible fishing effort redistribution both during the closure (redistribution toward other fisheries outside the closed area, or towards other unaffected gears) and outside the closure (seasonal effort redistribution toward catching unaffected quotas over the opened months before and after the closure). Fisheries limited by TACs could realise the exact total allowed catch within the year but outside the closure period as soon as the capacity is not physically limited; STECF can thus not fully assess the actual level of expected socio-economics impacts, given no documentation on effort allocation, fishing opportunities and seasonality is described. As such, STECF notes that the results provided

may represent the most pessimistic socio-economic outcomes, disregarding any adaptation behaviour from the fishing fleets affected.

STECF acknowledges the effort to account for socioeconomic effects in the entire value chain and not limited to the fishing sector only. However, when evaluating the indirect effect on the value chain and processing industry in ports, there was also no information on possible product substitution effects or imports that would compensate for the shortage in local product delivery to the seafood processing sector and no documentation on how important domestic landings are to this sector. These two aspects bear the potential to overestimate the possible economic loss for the value chain.

STECF observes that the period (a 3-month closure) and area extents tested for evaluating the socioeconomic impact in Spain are larger than needed to judge the effect of the present SWW JR one-month proposal. The areas considered in the Spanish case are Spanish waters in 8c and 9a, which do not correspond to the 2024 SWW JR specifications restricted to French EEZ in area 8. Furthermore, STECF lacks documentation to judge the importance of the three months compared to the entire year's income from landings. Consequently, this study cannot inform on the actual impact of the 2024 closure or the expected impact of the 2025 closure.

5. **Other considerations on ecological drivers and implications of the unwanted interaction**

As stated in STECF PLEN 23-03, STECF recalls that the aerial survey was renewed in 2023 and showed that common dolphin abundance estimates in the wider area of the European Atlantic did not vary much among the three sets of surveys SCANS-II/CODA, SCANS-III/ObSERVE and SCANS-IV (SCANS-IV 2023). STECF notes that several observations would suggest an increase in common dolphin abundance in the Bay of Biscay over recent years. However, this increase has likely resulted from an influx of dolphins into the Bay of Biscay, potentially from oceanic/southern waters, rather than a population increase in the entire North-East Atlantic (the ICES Assessment Unit in SCANS-IV) per se (Murphy et al., 2022). The distribution of common dolphins appears to be strongly concentrated in shelf waters. The common dolphins may prefer shallower waters, as also shown in Lacey et al. (2022) where the spatial model for common dolphins estimates a negative relationship with increasing depth.

ICES noted that ongoing issues with data availability and quality, are contributing to high levels of uncertainty in estimating population abundance, distribution, bycatch, and other major threats for small cetaceans (Murphy et al. 2022). Notably, ICES (2023) showed that the percentage of observer coverage has increased in the trawl fisheries between the 2016-2018 and the 2019-2021 periods; but that the percentage remains nevertheless very low in the gillnet and trammel nets fisheries (<3% and <1% respectively). In this regard, STECF acknowledges the proposal in the 2023 and 2024 SWW JRs to increase the coverage of monitoring of fishing operations.

Finally, STECF is aware of and acknowledges the extensive ongoing efforts to understand the drivers of the interaction between fishing activities and the common dolphin, which may help in the future to design fit-for-purpose management measures that would minimise negative economic impacts on fishing operations. In particular, by anticipating, possibly in real-time, the period for the peak of interaction between the fisheries activities and the dolphins. Such peak likely depends on the distribution and the quality of the fish preyed both by the common dolphins and fisher (small pelagic species).

STECF conclusions

STECF concludes that compared to the JR submitted in 2023, the measures proposed in the 2024 SWW JR represent a step forward in attempting to reduce incidental catches of common dolphins in fisheries in the Bay of Biscay. Nevertheless, they remain less stringent than the measures advised by ICES to reduce bycatches to the level that the Potential Biomass Removal threshold (PBR) is unlikely to be exceeded. ICES noted that a two-month closure would minimize the risk of missing the peak of interaction, while STECF observed such a mismatch would have occurred in 2023, when the peak was recorded in March 2023. STECF concludes that the duration of the proposed closure is too short to minimise the risk of not covering the peak of bycatch activity.

STECF concludes that, while the number of strandings of common dolphins with apparent mark of capture during the one-month closure of the French EEZ for certain fishing operations in 2024 was observed to be much lower than in the same month in 2023, it is too early to draw firm conclusions on the effectiveness of the measures implemented in 2024 to reduce bycatch over the entire winter season 2023/2024. Full analyses of strandings drift models and observers' data will need to be completed before the bycatch estimates for the entire winter season can be estimated.

The JR proposes that fishing with bottom otter trawls (OTB) will be permitted during the proposed closure period. STECF concludes that based on by-catch data and the effort deployed in the area, including the OTB as a prohibited gear during the closure period may further reduce the risk of dolphin bycatch.

STECF concludes that the socio-economic effect of the 2024 one-month closure still needs to be examined in a longer period, to understand how fishers have reacted and potentially modified their fishing patterns before, during (if they have moved to a different fishery or area) and after the closure. Without such post-hoc evaluation, STECF concludes that the ex-ante socioeconomic impact provided in support of the 2024 SWW JR, as currently estimated based on reference years in the past, may represent a worse case estimate of possible economic costs, given the shortcomings raised.

STECF concludes that including in the socioeconomic evaluation the indirect effects on the full value chain for beyond the extractive sector only, is an important step forward to understanding the overall socioeconomic impact of the JR. However, indirect effects are by

nature difficult to anticipate but larger effects are likely to occur whenever the closure is extended to more than one month period.

STECF acknowledges that extensive ongoing research projects will shortly deliver results on the performance of management measures as an alternative to closure, which are monitored by ICES WGBYC. Such research project outcomes will hopefully help identifying long-term solutions such as pingers, electronic monitoring, spatial or temporal avoidance, modified gear geometry, and best practices in handling unwanted catches.

STECF concludes that the JR suggestion to make mandatory for all mid-water pelagic trawls (OTM, PTM, TM) and demersal pair trawls (PTB) active in ICES area 8 to be equipped with acoustic deterrent devices is new compared to the 2023 JR. However, since pingers have already been made mandatory for several mobile gears in the Bay of Biscay since 2020, the JR encouraging the use of pingers for all trawlers all year round would not affect these fisheries any more than they already are. As such, it remains unclear to STECF which categories of mobile gears will be newly imposed with pingers, or with different categories of pingers, in 2025 compared to the current situation. This point could have been made more explicit in the JR.

Regarding the use of pingers with nets encouraged in the JR, STECF concludes that investigations must continue before firm outcomes are concluded on their usefulness in helping to achieve the mitigation goals.

STECF concludes that EM is effective for monitoring bycatch events and collecting data that will inform the bycatch rates and acknowledges recent monitoring increases in all Member States with both EM deployment and increased observers' coverage.

Finally, STECF concludes that the issue of bycatch of small cetaceans including common dolphins needs to be addressed in the long term, as it is likely to continue beyond 2025 while the closure is only specified for 2025. STECF concludes that research effort in France, Spain and Portugal are ongoing to identify such long-term measures.

References

- Cloâtre T., Authier M., Brevet M., Dubroca L., Demaneche S. (2023). Analyse des données de captures accidentelles de petits cétacés dans le Golfe de Gascogne en période hivernale et préparation de la campagne 2023-2024. DGAMPA - Direction Générale des Affaires Maritimes, de la Pêche et de l'Aquaculture et DEB - Direction de l'Eau et de la Biodiversité, Ref. DG 2023 - 1275 et 1475/ P9-23-052 - Saisine DGAMPA - DEB du 16 juin 2023, <https://archimer.ifremer.fr/doc/00860/97197/>
- EC, 2004. Regulation (EU) 812/2004. Council Regulation (EC) No 812/2004 of 26.4.2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98
- Gilman, Eric, Martin Hall, Hollie Booth, Trisha Gupta, Milani Chaloupka, Hannah Fennell, Michel J. Kaiser, Divya Karnad, and E. J. Milner-Gulland. "A Decision Support Tool for

Integrated Fisheries Bycatch Management.” *Reviews in Fish Biology and Fisheries* 32, no. 2 (June 1, 2022): 441–72. <https://doi.org/10.1007/s11160-021-09693-5>.

- ICES 2020a. EU request on emergency measures to prevent bycatch of common dolphin (*Delphinus delphis*) and Baltic Proper harbour porpoise (*Phocoena phocoena*) in the Northeast Atlantic. ICES Special Request Advice. Published 26 May 202
- ICES. 2020b. Workshop on fisheries Emergency Measures to minimize BYCatch of short-beaked common dolphins in the Bay of Biscay and harbour porpoise in the Baltic Sea (WKEMBYC). *ICES Scientific Reports*. 2:43. 354 pp. <http://doi.org/10.17895/ices.pub.7472>
- ICES. 2020c. Workshop on fisheries Emergency Measures to minimize BYCatch of short-beaked common dolphins in the Bay of Biscay and harbour porpoise in the Baltic Se
- ICES WKEMBYC 2023. *ICES Scientific Reports*. 2:43. 354 pp. <http://doi.org/10.17895/ices.pub.7472>
- ICES. (WKEMBYC2) 2023. Workshop on mitigation measures to reduce bycatch of short-beaked common dolphins in the Bay of Biscay. *ICES Scientific Reports*. 5:3. 66 pp. <https://doi.org/10.17895/ices.pub.2194033>
- ICES. 2020d. Working Group on Marine Mammal Ecology (WGMME). *ICES Scientific Reports*. 2:39. 85 pp. <http://doi.org/10.17895/ices.pub.5975>
- ICES. 2023. EU additional request on mitigation measures to reduce by-catches of common dolphin (*Delphinus delphis*) in the Bay of Biscay (ICES Subarea 8). In Report of the ICES Advisory Committee, 2023. *ICES Advice 2023*, sr.2023.01b. <https://doi.org/10.17895/ices.advice.23515176>
- ICES WGBYC 2023. I Working Group on Bycatch of Protected Species (WGBYC). *ICES Scientific Reports*. 5:111. 334 pp. <https://doi.org/10.17895/ices.pub.24659484>
- Murphy, S., Borges, L., Tasker, M. 2022. External report on the review of monitoring PETS bycatch of mammals, birds, turtles and fish for ICES under the service of EC DG Environment *ICES Scientific Reports*. 4:17. 69 pp. <http://doi.org/10.17895/ices.pub.10075>
- Puente, Esteban, Leire Citores, Elsa Cuende, Iñigo Krug, and Mikel Basterretxea. “Bycatch of Short-Beaked Common Dolphin (*Delphinus Delphis*) in the Pair Bottom Trawl Fishery of the Bay of Biscay and Its Mitigation with an Active Acoustic Deterrent Device (Pinger).” *Fisheries Research* 267 (November 1, 2023): 106819. <https://doi.org/10.1016/j.fishres.2023.106819>.
- Peltier, H., Dabin, W., Daniel, P., Van Canneyt, O., Dorémus, G., Huon, M., & Ridoux, V. (2012). The significance of stranding data as indicators of cetacean populations at sea: Modelling the drift of cetacean carcasses. *Ecological Indicators*, 18, 278-290.

- Peltier H, Authier M, Deaville R, Dabin W, Jepson PD, Van Canneyt O, Daniel P, Ridoux V. (2016). Small cetacean bycatch as estimated from stranding schemes: The common dolphin case in the northeast Atlantic. *Environmental Science & Policy*, 63, 7-18.
- Peltier, H., Authier, M., Dabin, W., Dars, C., Demaret, F., Doremus, G., Canneyt, O. V., Laran, S., Mendez-Fernandez, P., Spitz, J., Daniel, P., & Ridoux, V. (2020). Can modelling the drift of bycaught dolphin stranded carcasses help identify involved fisheries? An exploratory study. *Global Ecology and Conservation*, 21, e00843. <https://doi.org/10.1016/j.gecco.2019.e00843>
- SCANS-III. 2017. Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys. <https://synergy.st-andrews.ac.uk/scans3/2017/05/01/first-results-are-in/>
- SCANS-IV 2023. Gilles, A, Authier, M, Ramirez -Martinez, NC, Araújo, H, Blanchard, A, Carlström, J, Eira, C, Dorémus, G, Fernández-Maldonado, C, Geelhoed, SCV, Kyhn, L, Laran, S, Nachtsheim, D, Panigada, S, Pigeault, R, Sequeira, M, Sveegaard, S, Taylor, NL, Owen, K, Saavedra, C, Vázquez-Bonales, JA, Unger, B, Hammond, PS (2023). Estimates of cetacean abundance in European Atlantic waters in summer 2022 from the SCANS-IV aerial and shipboard surveys. Final report published 29 September 2023. 64 pp. <https://tinyurl.com/3ynt6swa>
- STECF 2019. Scientific, Technical and Economic Committee for Fisheries (STECF) –Review of the implementation of the EU regulation on the incidental catches of cetaceans (STECF-19-07). Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-11228-0, doi:10.2760/64091JRC117515
- Wade, P. R., Watters, G. M., Gerrodette, T., and Reilly, S. B. (2007). Depletion of spotted and spinner dolphins in the eastern tropical Pacific: modeling hypotheses for their lack of recovery. *Mar. Ecol. Prog. Ser.* 343, 1–14. doi: 10.3354/meps07069

6.4 Future involvement of STECF in the follow-up of the FishGenome Project

Background provided by the Commission

The Tender contract “FishGenome: Improving cost-efficiency of fisheries research surveys and fish stocks assessments using next-generation genetic sequencing methods” aimed to investigate whether next-generation DNA sequencing methods can:

- 1) Reduce the need for conventional trawl-based fishing surveys for demersal or benthic fish stocks in EU waters;
- 2) Support faster and cheaper fish stock’s assessments and biodiversity analyses of marine species assemblages.

FishGenome assessed the suitability of the genomic data to provide key parameters for fisheries stock assessment such as:

- o Stock absolute abundance and survival from Close Kin Mark Recapture (CKMR) data,
- o Age from epigenetic DNA methylation (DNAm) data,
- o Biomass (relative abundance) from environmental DNA (eDNA) data,
- o Stock structure, connectivity and sexing from restriction site Associated DNA Sequencing (RAD-Seq) data.

Accordingly, FishGenome performed six reviews on these genomic tools which were used as the foundation to design Pilot studies to test these tools in a relevant context. Following the reviews and the pilot studies, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was performed and resulted in a proposed timeline for the short, medium- and long-term application of these genomic methods, presented in the FishGenome Roadmap. The roadmap identifies the implementation needs, actions and objectives, appropriate strategic pillars (genomic techniques, survey and logistics, scientific advice and stock assessment, financial and economic aspects, governance and other policies), time frame and potential outcomes.

This roadmap provides key information on whether and how genomics could become part of the methodological tools applied to samples from regular research surveys, describing the potential steps, the pathway and the timeline for a progressive implementation of the genomic methods in stock assessment.

Background documents including the FishGenome report and the roadmap were shared with STECF after the STECF PLEN 23-02 and after the STECF PLEN 23-03.

The outputs and final report of the FishGenome project are published on: [Improving the cost-efficiency of fisheries research surveys and fish stocks assessment using next-generation genetic sequencing methods \(europa.eu\)](#)

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

During the STECF PLEN 23-02, DG MARE presented the FishGenome project results and introduced the roadmap to the STECF committee. During the STECF PLEN 23-03, DG MARE initiated a discussion on the FishGenome roadmap, presenting those aspects of the roadmap of relevance to STECF, and where the consortium considered STECF to play a role. Drafting ToR for FishGenome follow up was highlighted as one of the next steps.

In first instance, STECF is requested to consider and propose possible ways to follow up the relevant actions described in the FishGenome Roadmap and the role that STECF would play in this process. Based on the actions proposed in the roadmap, this could take the form:

- of a genomics task force within or including the STECF committee;
- workshops with other end-users, experts and stakeholders to discuss FishGenome outcomes and next steps to better understand the application of genomic tools in fisheries stock assessment;
- regular ToRs in certain assessment and/or data collection EWGs, or any other ways forward.

Secondly, following the discussion on possible ways to follow up the roadmap, STECF is requested to consider if, how and by when an opinion on the following points can be provided. More specifically on the use, benefits and challenges of the genomic data used in FishGenome for stock assessment:

1. Rad-sequencing data for stock structure and connectivity,
2. CKMR data for absolute abundance and survival estimations,
3. eDNA data for biomass (relative abundance),
4. epigenetic data for age estimation.

In addition, if time allows and/or is considered to be relevant, STECF is requested to provide an opinion on the following points, which are taken directly from the Fishgenome roadmap mentioning STECF involvement:

- STECF is requested to review and provide recommendations on the steps that aims to test the final results and robustness of the genomic data mentioned above.
- STECF is requested to review and provide appropriate comments and recommendations on implementation guidelines of the four types of genomic data based on the impact in assessment and advice of these approaches.
- STECF is requested to provide appropriate comments and recommendations in the protocolization and standardization of methods across laboratories. Recommendations

are particularly required on the number of tissue and data Biobanks requires for successful implementation in fisheries stock assessment.

- STECF is requested to provide appropriate comments and recommendations on the potential alternative use of genomic data in scientific advice.
- STECF is requested to provide comments and recommendations on the feasibility and assumptions for the analysis, and implementation of these genomics data in the Data Collection Framework contract. As an end-user, STECF is requested to participate in the setting up of a data policy and data management plan working with the DCF team and the Member States.

STECF discussion and proposals will help shape the follow up of the Fishgenome roadmap, which includes many different actors and stakeholders and covers different thematic areas, including a governance model that is currently lacking.

STECF observations

STECF notes that the overall objective of the FishGenome project is to assess whether the cost-efficiency of fisheries research surveys and fish stocks assessments can be improved by using next-generation genetic sequencing methods.

STECF notes that in the first instance, STECF is requested to consider and propose possible ways to follow up the relevant actions described in the FishGenome Roadmap and the role that STECF would play in this process. Secondly STECF is requested to consider if, how and by when an opinion on the use, benefits and challenges of the genomic data used in FishGenome for stock assessment can be delivered by STECF.

STECF conclusions

STECF currently lacks the expertise to address and respond to the issues raised in the ToRs in relation to the FishGenome project. Consequently, STECF proposes that an ad-hoc contract is launched prior to PLEN 24-03 under which the potential future role of STECF as regards the follow-up of the relevant actions described in the FishGenome Roadmap is proposed for further discussion.

6.5 Review of national management plans for boat seines in the Gulf of Manfredonia (Apulia, Italy)

Background provided by the Commission

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

TOR 1.

Advise and assess whether the updated management plan boat seines targeting transparent goby in the waters of the Gulf of Manfredonia (Apulia, Italy) contains adequate elements in terms of:

1.1. The description of the fisheries

- Biological characteristics and state of the exploited resources with reference in particular to long-term yields.
- Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.
- Data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).
- Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/124113.
- Information on the social and economic impact of the measures proposed.
- Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. seagrass bed, coralligenous habitat and maërl bed);

1.2. Objectives, safeguards and conservation/technical measures

- Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of CFP14 Regulation and quantifiable targets, such as fishing mortality rates and total biomass.
- Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.
- 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 deteriorating quality of data or nonavailability places the sustainability of the main stocks of the fishery at risk.
- Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to 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.

TOR 2.

Evaluate whether the following conditions set by the MEDREG are fulfilled:

2.1 Derogation to the distance from the coast (Article 13 – Paragraphs 5, 9 and 10)

- There are particular geographical constraints, such as the limited size of the continental shelf along the entire coastline;
- The fisheries have any significant impact on the marine environment; - The fisheries involve a limited number of vessels 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 vessels concerned have a track record of more than 5 years;
- The fisheries do not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets.

Summary of the information provided to STECF

STECF examined the following background documents:

1. Joint Recommendation of the Italian Member State Management plan on Transparent goby fisheries in certain Italian territorial water, Gulf of Manfredonia.
2. National Management Plan for derogation to mesh size and distance from the coast (reg EU 1241/2019 annex ix, part b and reg (EC) 1967/2006, art 13) regarding the fishing of transparent goby (*Aphia minuta*) by boat seines in the Manfredonia fishing district, June 2024 (Updated management plan).

In the submitted Joint Recommendation (JR) Italy is proposing a renewal of the management plan for transparent goby fisheries (*Aphia minuta*) in the Gulf of Manfredonia, in accordance with Article 18 of Regulation (EU) No 1380/2013 (document 1). The updated management plan applies only to the Italian fleet.

Document 2 is the updated management plan which is attached as Annex to the JR. This specific plan is proposed to have a duration of three years, ending on the 31st of May 2027. STECF notes that the current submission is the 6th submission of a Management Plan for this fishery. Previous plans were examined by STECF during PLEN-14-03, PLEN-16-02, PLEN-21-01, PLEN-21-02 and PLEN-21-03.

STECF notes that until 2010, fishing for transparent goby was carried out during late autumn to spring in coastal waters, including the area within 3 NM from the coast, at depths between 3 and 40m, using bottom trawl nets with small mesh size. The updated management plan contains information related to fishing activities of the trawl fisheries from 1996-2010 (number of vessels authorised, fishing days, landings, prices etc.), which has been repeatedly reviewed and summarized in previous meetings (e.g., STECF PLEN-16-02, PLEN-21-01).

Following the implementation of the Med Reg (Regulation (EC) No 1967/2006), fishing of transparent goby with bottom trawls was stopped in 2010. This had a large economic impact on the small-scale fleet (LOA<15 m) in the Manfredonia area that lost an important source of income. Consequently, national pilot projects were initiated 2011-2012 to determine the feasibility of using seines as an alternative capture method. Specifically, these trials (2012-2014) aimed at training the local fishermen (those involved in the previous trawl fisheries) and at conducting experimental fishing using boat seine nets like those utilized, under a management plan, in GSA 9 (Ligurian Sea and Northern Tyrrhenian Sea). The updated management plan contains information related to these training/experimental fishing activities of 2012-2014 (number of vessels, fishing days, landings, prices etc.), which has also been reviewed and summarized in previous STECF plenary meetings (STECF PLEN-16-02, PLEN-21-01).

In 2018-2020, the seine fishery was conducted under an adopted management plan applying to 100 vessels. The information presented for the 2018-2020 period has also been reviewed in STECF PLEN 21-01, PLEN 21-02 and PLEN 21-03.

The only new information contained in document 2 (the updated management plan), compared to previous submissions, concerns the 2022-2024 fishing seasons. Three tables (Tables 35-37) are presented reporting, for each calendar day and vessel, the catch/day of transparent goby in the fishing seasons of 2022, 2022-2023 and 2023-2024 (i.e., raw CPUE data). The row labels of Tables 35-37 include authorised vessels and the column labels are calendar days within the fishing season. According to these tables, the vessels that participated in the fishery (i.e., those vessels that used their authorisation and fished for transparent goby at least for one day during the fishing season) were 42, 29 and 45 in 2022, 2022-2023 and 2023-2024. In 2018, 2019, and 2000, the number of participating vessels were 23, 34 and 26, respectively (i.e., much lower than in 2022 –2024).

The information reported in the updated management plan for the last six fishing seasons (2018-2024) regarding catches of transparent goby and fishing effort is summarized in Table 6.5.1. STECF notes the significant increase in the duration of the fishing season, the fishing effort and the landings during the last two fishing seasons, which is accompanied by a large increase in average CPUE (kg/day/vessel).

Table 6.5.1. Summarized effort and catch data reported in the MP for the last six fishing seasons of the transparent goby fishery (Table compiled by STECF).

Year	Number of authorized vessels	Fishing season	Number of calendar days with seine fishing	Total number of days -at-sea	Mean CPUE	Goby landings (tonnes)
2018	100	9 April - 30 May	29	330	64.7	22.065
2019	100	18 March - 30 May	24	234	57.6	13.428
2020	100	7 January - 20 May	38	301	58.2	15.819
2022	60	14 February - 18 May	40	490	44.4	21.754
2022-2023	60	5 December - 24 May	75	504	105.6	53.216
2023-2024	60	13 November - 20 May	102	520	87.5	45.515

Source: own elaboration.

The submitted updated management plan for 2024-2027 contains several measures that are essentially the same as those in the previous management plan (2022-2024). Yet, some small changes have been introduced. For example, the number of authorized vessels has been reduced from 60 to 55. Table 6.5.2 summarizes the effort restriction measures included in the two MPs.

Table 6.5.2. Effort restriction measures contained in the previous and future MP. This table was compiled by STECF to facilitate comparisons of the changes made.

Effort restrictions	Previous plan (2022 - 2024)	New plan (2024 - 2027)
Number of authorized vessels	60	55

Maximum number of vessels operating daily	30	
Fishing season	7 months (November – May)	
Maximum fishing days per vessel per season	60	
Maximum fishing days per season for the boat seine fleet	600	
Weekly limitation	4 days per week (Monday - Thursday)	
Working time limitation	06:00 - 18:00	<u>November to February:</u> from 5:00 to 18:00 <u>March to May:</u> from 5:00 to 17:00

Source: own elaboration.

In the previous version of the plan, a Limit Reference Point (LRP) CPUE trigger was set at the 35-percentile of the raw catch/day/vessel data of the 2018-2000 period. The average CPUE for this period was 60 kg/day/vessel. In the updated management plan, an analysis of CPUE data from the broader 2018-2024 period (six fishing seasons) shows that the average CPUE is higher (72 kg/day/vessel) but the 35-percentile is almost the same (35.1 kg/day/vessel). Consequently, the value set as LRP as well as the harvest control rules of the previous plan remained unchanged (see below).

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

STECF agreed to respond to the ToRs in a point-by-point manner referring to the period 2018-2024 in which the seine fishery for transparent goby has been carried out under management plans. As mentioned above, the information presented in document 2 concerning the past bottom trawl fishery (until 2010) and the experimental seine fishery of 2012-2014 (pages 12-84) has been repeatedly reviewed and evaluated in previous STECF meetings (e.g., STECF PLEN-16-02, PLEN-21-01).

TOR 1. Advice and assess whether the updated Management Plan contains adequate elements in terms of:

1.1. The description of the fisheries

- Biological characteristics and state of the exploited resources with reference in particular to long-term yields.

STECF notes that there is no information regarding the current stock status or any analysis that can be used to determine the long-term yield that would be consistent with CFP objectives. STECF also notes that the recent time series of data from the boat seine fishery (2018-2024) is short, which represents an impediment to assessing the status of the transparent goby stock in the Gulf of Manfredonia.

- Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.

Data provided on fishing effort are tabulated in Table 6.5.1. The effort restriction measures contained in the plan are summarized in Table 6.5.2.

The updated management plan proposes to reduce the number of boat seines authorizations from 60 to 55 in the period 2024-2027. Again, only 30 vessels will be authorised daily, through a weekly turnover mechanism. The fishery will be open from 1st November to 31st May. Each vessel will operate for a maximum of 60 days during each fishing season. Fishing will be allowed up to 4 days per week, from Monday to Thursday, and during daytime (6:00-18:00 or 5:00-17:00 depending on the season). A ceiling is imposed on the maximum number of days-at-sea permitted for the fishing fleet during the fishing season (600 days).

The updated management plan proposes that a management trigger based on a minimum CPUE ($35 \text{ kg day}^{-1} \text{ vessel}^{-1}$) is used to enact measures to reduce fishing effort (see below).

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

Data on transparent goby landings, CPUEs (catch/day/vessel) and fishing effort provided in the plan are summarized in Table 6.5.1.

A detailed analysis is also presented in the updated plan of the daily CPUEs, daily effort (number of vessels) and daily landings data for the last six fishing seasons (2018-2024) aimed at identifying interannual and seasonal trends. Plots of CPUEs, mean daily CPUE, landings and effort are shown in relation to calendar day and the relationships between total daily catches against the fishing effort are also provided.

For the period 2018-2022, three tables (Tables 29-30-31) showing total by-catch weight (kg) per fishing day of each fishing vessel are provided as well as an Annex (Annex 3) with numerous Tables showing, for each individual fishing vessel and year, the catch weight (kg) of five species, namely, *Loligo vulgaris*, *Trachurus* spp., *Boops boops*, *Merluccius merluccius* and *Parapenaeus longirostris*.

For the period 2022-2024, total by-catch weight (kg) per fishing day of each fishing vessel is provided in numerous tables in Annexes 4, 5 and 6. By-catch composition (%) for the concerned fishing periods are presented in three pie charts and is summarized below:

Fishing season	Mullidae	<i>Boops boops</i>	<i>Trisopterus minutus</i>	<i>Alloteuthis</i> sp.	Mugilidae	<i>Trachurus</i> spp.	Other
2022	30%	16%	14%	10%	7%	3%	20%
2022-2023	28%	27%	3%	7%	2%	25%	8%
2023-2024	62%	4%		10%		15%	9%

For both the 2018-2020 and 2020-2024 periods, the by-catch was lower than 10% of the landed fish. No data on discards is provided.

- *Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/1241.*

The length frequency distribution of transparent goby is only provided for 2020. No other size compositions are provided. The size compositions of by-catches and discards are not presented, particularly with regards to species mentioned in Annex IX of Regulation (EU) 2019/1241.

For the 2022-2024 period, it is stated (p. 115) that, with regards to by-catch, “*the share of juveniles is insignificant*”.

- *Information on the social and economic impact of the measures proposed.*

No study is presented on the social and economic impact of the updated management plan. It is mentioned that it was not possible to conduct a survey in 2018-2020, but that it is planned for the next period. STECF notes however that no such study is presented for the 2022-2024 period.

For 2018-2020, three tables (tables 32-33-34) are submitted showing the revenue per vessel for 2018, 2019 and 2020.

For the period 2022-2024, the evolution of daily prices is presented. The price of transparent goby ranged from 10-34, 6-26 and 9-20 €/kg during the 2022, 2022-2023 and 2023-2024 fishing seasons. It is stated that “*there is a strong inverse relationship between quantity landed and prices*”. It is also stated that “*the number employees directly involved into the fishing operations (from November to May, indeed) is around 160 persons, while the indirect activities involve about other 180 people, cooperatives workers, transportation and sales staffs etc.*”

- *Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e., seagrass bed, coralligenous habitat and maërl bed).*

The updated management plan explicitly prohibits to fish above protected habitats. STECF recalls that existing scientific information suggests that *Posidonia* meadows are absent from the Gulf of Manfredonia (see STECF PLEN 21-01).

1.2. Objectives, safeguards and conservation/technical measures

- *Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of CFP Regulation and quantifiable targets, such as fishing mortality rates and total biomass.*

STECF notes that there are no quantitative stock assessments and thus no quantifiable targets, such as fishing mortality rates and total biomass. There are thus no biological or exploitation reference points currently available for transparent goby. The proposed management plan includes trigger values based on observed CPUE which would be used to enact more restrictive management actions, e.g., effort limits (see below).

- *Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.*

STECF notes that the plan in place for the period 2022-2024 stipulated that the by-catch of juveniles of other species should be under 5% of the catches in weight. Furthermore, live catches should be released. These requirements are not now included in the plan for 2024-2027.

The updated management plan only stipulates that the total by-catch shall be under 10% of the catches. They shall be reported in the logbook or record form. The species with an established minimum size will be landed and not sold for human consumption.

STECF notes that the updated Management Plan does not specify what actions will be taken if the specified by-catch thresholds would be exceeded.

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

A CPUE trigger is proposed that would initiate management responses once the CPUE observed in the fishery dropped below 35 kg day⁻¹ vessel⁻¹ (see also below).

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

The updated Management Plan specifies that the appropriate catch and effort data will be collected daily and will be continuously monitored by scientists which will immediately convene the management committee in case of alarm.

Two “alert” situations are defined:

1. The daily average CPUE falls below 35 kg/vessel/day for 3 consecutive days.
2. The daily average CPUE falls, four times within 2 consecutive weeks, below 35 kg/vessel/day.

As the fishery is allowed from Monday to Thursday, each week’s CPUE data will be processed on Friday and:

-In case 1 (daily average CPUE below the LRP for 3 consecutive days) → the fishery will be suspended for one week.

-In case 2 (daily average CPUE below the LRP for 4 times within 2 consecutive weeks days) → the fishery will be allowed only for 2 days, Monday and Wednesday, in the following 2 weeks.

Additionally, it is mentioned that further corrective actions can be taken, “concerning the fishing period, the number of vessels effectively in operation, the value of the daily average CPUE recorded, and the other biological parameters considered as important for the general evaluation. Where necessary, the Control entity can decide for the temporary suspension of the activities or, if necessary, an early closure”.

- *Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.*

The seine net cannot be longer than 300 meters and must be equipped with neutral buoyancy in order to avoid or reduce to the minimum level the impact with the seabed.

1.3. Other aspects

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

A CPUE of 35 kg day⁻¹ vessel⁻¹ estimated from the raw CPUE values of 2018-2024 is proposed as reference value which will be used to trigger management intervention in circumstances when the observed CPUE falls below 35 kg/day/vessel (see above).

Monitoring of the plan include (a) surveys on board the fishing fleet by scientific personnel; (b) Filling a record form or logbook daily with data on all catches (fishing area, number of fishing operations, goby catch, bycatch etc), (c) collection of socio-economic data (income, employment etc).

An annual report will be written by the scientific responsible focusing in particular on the catch per unit effort statistics, the length frequency distributions, and on all the necessary information to assess the exploitation level of the resource.

ToR 2.1. Derogation to the distance from the coast (Article 13 – Paragraphs 5, 9 and 10)

- *There are particular geographical constraints, such as the limited size of the continental shelf along the entire coastline*

There are specific geographical constraints given the spatial distribution of the target species, which is mainly found in coastal areas at depths <50 m. The fishing grounds are therefore limited.

- *The fisheries have any significant impact on the marine environment*

The updated management plan explicitly prohibits to fish above protected habitats. Existing scientific information suggests that Posidonia meadows is absent from the Gulf of Manfredonia (see STECF PLEN 21-01).

Information provided regarding species/size compositions of by-catches and discards for 2018-2024 is very limited or is lacking on board scientific evidence (see above) and STECF is therefore unable to assess the full impact of the seine fisheries.

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

The derogation requested for the updated management plan (2024-2027) affects a total of 55 vessels (100 vessels were authorised in 2018-2020 and 60 vessels in 2022-2024). Only 30 vessels will be authorised daily, through a weekly turnover mechanism. Each vessel will operate for a maximum of 60 days during each fishing season. Maximum fishing days per season is set at 600.

STECF notes that the fishing effort during 2022-2023 and 2023-2024 has increased significantly in comparison to 2018-2020 when the total days-at-sea were about 300 (see Table 6.5.1). During the last fishing period (2023-2024) the total number of days-at-sea was 520 which is close to the maximum fishing days allowed for the boat seine fleet during a single fishing period (600). Therefore, there is not much room for much future increase of the fishing effort.

- The fisheries cannot be undertaken with another gear

Boat seines fishing for transparent goby is carried out in shallow depths with a small mesh size (3-5 mm). The nature of this type of fishery is such that it cannot be undertaken with any other gear, except from the previous used bottom trawls which were forbidden.

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

The plan includes measures for the monitoring of fishing activities (see above). Although the plans in force for 2018-2020 and 2022-2024 stipulated the collection of similar information (onboard sampling, catch and bycatch data, socioeconomic), the data reported are very limited and restricted to information mainly provided by the skippers (daily catch of transparent goby and bycatches of other species, daily prices of transparent goby). No onboard samplings or socioeconomic surveys have been conducted during the 2018-2024 period.

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

Yes. The seine fishery has been operating since 2018.

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

The fishing activities concerned take place at a short distance from the coast and tow durations are very short (e.g., see Table 21 in document 2). Therefore, they are not expected to interfere to a large extent with the activities of other vessels.

Recent increase in fishing effort, catches and CPUEs

STECF notes that during the recent years the fishing effort of the transparent goby fishery increased substantially (from about 300 days-at-sea in 2018-2020 to about 500 in 2022-2024). STECF recalls that STECF PLEN 21-03 noted that "*the ceiling imposed to the days-at-sea (600) still allows for an increase of fishing effort (theoretically up to two times) in relation to the number of fishing days realized in the period 2018-2020 by the authorized fleet (approximately 300)*". Furthermore, the CPUE data for 2022-2023 and 2023-2024 show numerous, very high values (e.g., 400 kg/day/vessel) and exceptionally high averages compared to previous years (Table 6.5.1). The unusually high catch rates of gobies with seines by the former small-scale trawlers in the Manfredonia region (when compared to any other transparent goby and boat seines fisheries in the Mediterranean, e.g., GSA 9, Murcia, Balearic Islands, Catalonia, etc.) has already been pointed out in previous STECF meetings.

STECF recalls its comments from STECF PLEN 21-01 and PLEN 21-03:

"...technical changes seem to have been brought to the 'traditional' transparent goby seine net (used in GSA 9) in order to adapt it to the operational requirements of the trawlers now engaged in the seine fishery. These changes are likely to have increased the catch efficiency of the net and should be duly documented." ... "no technical specifications regarding changes made to the net and to the vessels (e.g., winch, engine, propeller pitch, ecosounder) had been provided in the plan".... "Images and videos recorded during the fishing operations (following the example of the Sonsera fishery MP in Catalonia) could provide a helpful picture of the transparent goby fishery in the Manfredonia Gulf." However, in a resubmission of the plan to PLEN-21-03, no additional gear information was provided except from simple descriptions and explanations supporting that the gear and fishing method used in Manfredonia is similar to the one in GSA 9. STECF PLEN 21-03 noted again that "*the catch rates (CPUEs) of boat seiners in GSA 9 are much lower...For example, in Tuscany, mean annual CPUEs for the period 1991-2020 ranged from 9.9 to 35.3 kg/vessel/day with an average of 20.3 kg/vessel/day (see ToR 6.10 in STECF PLEN-21-01). In order to fully understand the reasons for these differences and distinguish between natural and technical factors affecting catch rates, STECF still considers that information regarding the current gear and its use in the Manfredonia Gulf shall be updated and detailed. Additional evidence such as images and videos recorded during the fishing operations would be highly useful."*

CPUE trigger

STECF notes that average CPUE values lower than the LRP (35 kg/day/vessel) have never been recorded either for three consecutive days in the same fishing week or for four days during two consecutive weeks (i.e., no “alarm” situations happened) during the 2018-2024 fishing seasons. Therefore, there was no need to initiate the management responses prescribed in the plan during the last six fishing periods.

STECF reiterates its observation from PLEN 21-03 that “case 1” alarm refers to “consecutive” days. Considering that the fishery does not operate every day, STECF considers that the meaning of “consecutive” should be fully clarified, i.e., whether it is meant consecutive calendar days regardless of the number of vessels fishing, or consecutive fishing days with at least one vessel fishing.

STECF also reiterates another comment from PLEN 21-03: The MP foresees a “real-time” data collection. “*The Organizzazione dei Produttori Ittici Sud Adriatico (O.P.) shall collect daily the logbooks or the record forms compiled by the fishermen and forward them to the scientific body, within 48 hours from the landing*”. STECF notes though that this time frame (48 hours) is not well aligned with the intention to compute alert values every Friday, as it is unclear whether CPUE data collected on Wednesday and Thursday will be available to calculate the average CPUEs.

By-catches and discards

STECF notes that, according to the updated Management Plan, the monitoring of the plan will include:

- surveys on board the fishing fleet by scientific personnel;
- filling a catch data form or logbook daily with data on all catches (fishing area, number of fishing operations, goby catch, bycatch etc.);
- spatial monitoring (i.e., vessels equipped with GPS);
- collection of socio-economic data (income, employment etc.).

STECF notes that although the plans in force for 2018-2020 and 2022-2024 already stipulated the onboard collection of by-catch and discards data as well as the collection of socio-economic data, no such surveys have been carried out. Therefore, the monitoring of the plan seems to rely exclusively on what is declared by skippers in the catch data forms or logbook. STECF reiterates that all catches should be properly monitored, including size compositions and discards.

STECF notes that the information on bycatch reported in previous submissions (e.g., STECF PLEN 21-01, PLEN 21-02, PLEN 21-03), as well as in the present submission, is scarce and often contradictory. For example, in the management plan submitted to PLEN-21-02, it was stated that, for the period 2018-2020, there was “*lack of data on discards and by-catch*”. However, in subsequent submissions, information on by-catches of 2018-2020 was indeed presented, particularly with regards to five species: *Loligo vulgaris*, *Trachurus* spp., *Boops boops*, *Merluccius merluccius* and *Parapenaeus longirostris*. STECF notes that the by-catch composition for the period 2022-2024, which is now presented in the updated plan, is quite different from the one reported for 2018-2020, consisting mainly of *Mullus* spp., *Boops boops*, *Trisopterus capelanus*, *Alloteuthis* sp., Mugilidae and *Trachurus* spp. STECF also notes that the species *Merluccius merluccius*, *Parapenaeus longirostris*, and *Trisopterus capelanus* are unlikely to consist main by-catch species of the boat seine fishery: These species are typically distributed in deeper waters (e.g., see Fishbase) and may rarely be found in the coastal fishing grounds of the transparent goby fishery. By-catch and discards information available for all other boat seine MPs across the Mediterranean Sea indicates the presence of coastal species in the catch (e.g., sparids, labrids, etc.).

As pointed out above, the size composition of by-catch is not provided in the updated Management Plan, particularly with regards to species mentioned in Annex IX of Regulation (EU) 2019/1241 (e.g., red mullets). For the 2022-2024 period, it is stated (p. 115), presumably according to fishers’ evaluation, that, with regards to bycatch, “*the share of juveniles is insignificant*”.

STECF conclusions

STECF concludes that the updated Management Plan contains several elements necessary for limiting the level of exploitation of transparent goby in the Manfredonia Gulf, including limits on authorisations, fishing period, fishing effort and a CPUE threshold below which the fishery shall be limited following predefined management rules.

STECF acknowledges the detailed analysis of catch/day data and the updated estimation of the Limit Reference Point for the transparent goby fishery.

STECF however notes that the reported catch rates of transparent goby in the Manfredonia Gulf are much higher than those reported in other areas and have increased even more in recent years (e.g., average CPUE: 105.6 kg/day/vessel in 2022-2023). In Tuscany and Liguria, during the 2020-2024 fishing seasons, the mean CPUE value of the transparent goby fishery was 26.4 kg/day/vessel and 5 kg/day/vessel, respectively (see ToR 6.6. Management plans for boat seines in the Ligurian Sea -GSA 09). The mean CPUE of the transparent goby fishery in Murcia was 27.6 kg/day/vessel during the last fishing season (see ToR 6.8. Management plan for transparent goby in certain territorial waters of Spain -Murcia).

STECF therefore reiterates its conclusion from PLEN 21-03 that, in order to fully understand the reasons for the high catch rates of transparent goby in the Manfredonia Gulf and distinguish between natural and technical factors affecting catch rates, information regarding the current gear and its use in the Manfredonia Gulf should be updated and detailed. Additional evidence such as images and videos recorded during the fishing operations should be provided. Information from the spatial monitoring of fishing operations foreseen under the previous and updated Management Plan would be also helpful, i.e., maps with locations of hauls.

STECF considers that the implementation of the boat seine management plan in the Manfredonia Gulf for the period 2018-2024 does not meet all the conditions upon which the derogation regarding minimum distance from the coast and depth has been granted. The fishery is subject to a management plan however its monitoring is not adequate as it is only based on information declared by the skippers in catch forms or logbooks and there is lack of any proper scientific monitoring (on board biological survey, spatial monitoring, socio-economic survey). Consequently, there is no scientific evidence on where and how the fishing operations are carried out, on the actual catch and bycatch volumes and size compositions (particularly with regards to species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/1241) as well as on discards rates. Therefore, STECF concludes that the plan does not contain all elements required to fully assess the fishery and to confirm that it does not have any significant impact on the marine environment.

STECF concludes that there are several cases of transparent goby management plans in the Mediterranean which can be considered 'effective', as those examined in this Plenary (ToR 6.6. Management plans for boat seines in the Ligurian Sea (GSA 09) and ToR 6.8. Management plan for transparent goby in certain territorial waters of Spain, Murcia). These plans collect and provide adequate and up-to-date scientific information to fully assess the impact of the respective transparent goby fisheries (including the mapping of fishing locations, the onboard enumeration and measurement of catches, bycatches and discards, biological sampling for the determination of the reproductive period which is used for the definition of seasonal closures/size at maturity, and the collection of socioeconomic data through questionnaires). STECF considers that these management plans can be taken as examples in order to revise and improve the plan for the transparent goby in the Manfredonia Gulf.

STECF reiterates its conclusion from PLEN 21-03 that all data foreseen to be collected under the Management Plan (catch of all species, size compositions, discards and socioeconomic data) should be clearly described (e.g., the design of the monitoring including the onboard sampling), and the data should be consistently collected, analysed and reported in order to adequately monitor the effectiveness of the management plan.

6.6 Review of national management plans for boat seines in the Ligurian Sea (GSA 09)

Background provided by the Commission

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

TOR 1. Advice and assess whether the management plan boat seines targeting transparent goby in the waters of Tuscany and Liguria contains adequate elements in terms of:

1.1. The description of the fisheries

- Biological characteristics and state of the exploited resources with reference in particular to long-term yields.
- Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.
- Data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).
- Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex III of the MEDREG^[2].
- Information on the social and economic impact of the measures proposed.
- Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. seagrass bed, coralligenous habitat and maërl bed);

1.2. Objectives, safeguards and conservation/technical measures

- Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of CFP^[3] Regulation and quantifiable targets, such as fishing mortality rates and total biomass.
- Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.
- 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 deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk.

- Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to 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.

TOR 2. Evaluate whether the following conditions set by the MEDREG:

2.1 Derogation to the distance from the coast (Article 13 – Paragraphs 5, 9 and 10)

- There are particular geographical constraints, such as the limited size of the continental shelf along the entire coastline;
- The fisheries have any significant impact on the marine environment;
- The fisheries involve a limited number of vessels 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 vessels concerned have a track record of more than 5 years;
- 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) 2019/12418 with the exception of mollusc bivalves, are minimal

^[1] Commission Implementing Regulation (EU) 2018/1634 of 30 October 2018 renewing the derogation from Council Regulation (EC) No 1967/2006 as regards the minimum distance from coast and the minimum sea depth for boat seines fishing for transparent goby (*Aphia minuta*) in certain territorial waters of Italy

C/2018/7036 http://data.europa.eu/eli/reg_impl/2018/1634/oj

^[2] Council Regulation (EC) No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea, amending Regulation (EEC) No 2847/93 and repealing Regulation (EC) No 1626/94.

^[3] Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC.

^[4] 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

- The fisheries do not target cephalopods.

2.2 Derogation to the minimum mesh size (Article 9, paragraph 7)

- The fisheries are highly selective and have a negligible effect on the marine environment; and
- The fisheries do not operate above seagrass beds of, in particular, *Posidonia oceanica* or other marine phanerogams.

Summary of the information provided to STECF

STECF was provided with the following information:

- Joint Recommendation of the Italian Member State on the Management plan on Transparent goby fisheries in the Italian territorial water (GSA 9).

This is a joint recommendation (JR) of the Italian Member State for a renewal of the Management Plan (MP) on transparent goby fisheries in the Italian territorial water (GSA 9). It first recalls that this MP is a renewal which follows previous plans approved and in place over the years. Then, it states the objectives, the duration, the geographical scope and the fisheries covered in the MP and it lists the management measures included in the MP. These consist of measures to limit fishing capacity, measures for the limitation of the fishing activity, restrictive technical measures, measures for monitoring catches and species caught and other management measures such as limit reference points (LRP) or fishery closures (when needed). Finally, the JR contains two annexes. The first one (Annex A) is the management plan and the second one (Annex B) is the MEDAC advice (Prot. 138/2024) on the management plan answering a request by Italy.

- National Management Plan regarding the use of boat seines for transparent goby (*Aphia minuta*) fishing in the GSA9 for derogation to mesh size and distance from the coast (Reg. (EC) n. 1967/2006, art. 9 and 13) and application of the EC Reg. (EC) n. 1241/2109 (art. 15 par. 1 letter e) and Annex IX, part B, point 4.

This is the English version of the MP for the use of boat seines for the fishing of the transparent goby (*Aphia minuta*) in GSA 9 that is referred to as Annex A in the joint recommendation. This MP was first adopted by Ministerial Decree in 2011 for a period of three years and, since then, it has been reviewed regularly introducing corrective mechanisms whenever they were necessary. If approved, the MP will be applied for three fishing seasons (2024-2025, 2025-2026 and 2026-27) and it will constitute the fourth update of the MP. Previous MPs were implemented for the fishing seasons 2011-12 to 2013-14; 2015-16 to 2017-18, 2018-19 to 2020-21 and 2021-22 to 2023-24.

The MP involves only the Liguria region and the Tuscany region. Given that the fishery takes place mainly within the 3-miles area off the coast and the gear is a net characterized by a very small mesh size, the continuation of the activity requires a derogation to the distance

from the coast, and a derogation to the minimum mesh size. Given the high historical value of this fishery in these regions, the MP aims at providing significant scientific elements to demonstrate that the fishing activity is conducted in a sustainable manner, with a limited impact on the coastal marine ecosystem.

The document provides information on: 1) the most recent Italian legislative measures concerning the fishing of transparent goby, 2) biology of the transparent goby (classification, geographical distribution, life cycle and growth), 3) description of the transparent goby fishery in GSA 09 (gear and fishing techniques, fleet composition, catches, catch per unit effort, by-catch, exploitation rates, position of fishing hauls in relation to vulnerable habitats) based on data for the 2020-21, 2021-22, 2022-23 and 2023-24 fishing seasons for the Liguria and Tuscany regions, 4) socio-economic monitoring in 2020-2024 for the Liguria and Tuscany regions through a specific questionnaire, 5) management measures of the management plan and 6) derogation requests to the distance from the coast and for the minimum mesh size.

In addition, the MP contains the following annexes:

- Annex A: List of boats-Liguria Region
- Annex B: List of boats-Tuscany Region
- Annex C: Socio-economic monitoring Questionnaire 2021-24
- Annex D: Geographical localization of the hauls in relation to vulnerable habitat (*Posidonia oceanica* meadows) in the area subject to MP
- Piano di Gestione Nazionale per la pesca del rossetto (*Aphia minuta*) con la sciabica da natante nella GSA 9 in deroga agli artt. 9 e 13 del Reg. (CE) n. 1967/2006 ed in applicazione del Reg. (UE) n. 1241/2019 art. 15 par. 1 lettera e) e relativo allegato IX Parte B punto 4.

This is the Italian version of the MP that is referred to as Annex A in the joint recommendation.

- MEDAC Advice (Prot. 138/2024): “Richiesta di parere in merito alla proposta di Piano di gestione per la pesca del “rossetto” (*Aphia minuta*) nella GSA 9

In order to involve MEDAC in the MP process, Italy requested MEDAC to evaluate the documentation presented to the STECF and provide its advice on the management plan (Prot. 0328145 dated 28 May 2024). The document provided as Annex B to the Joint Recommendation is the reply letter from MEDAC to Italy (Prot. 138/2024) expressing its favorable opinion on the MP.

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

STECF notes that this MP for the period 2024-2027 constitutes the fourth update of a MP first implemented in 2011. Previous MPs have also been assessed by STECF, with the latest evaluation being carried out by STECF PLEN 21-01 for the MP for the period 2021-2024.

STECF PLEN 21-01 concluded that the MP contained several elements for the monitoring and management of activities of the boat seine fishery in Liguria Sea and that included the main elements supporting the requests for derogations to the distance from the coast and for the minimum mesh size. However, STECF asked for further clarifications on whether Limit Reference Points (LRPs) and annual Catch per Unit Effort (CPUE) indices were calculated in the same way and suggested to map a larger number of hauls to provide more robust evidence on the absence of impact of the fishery on seagrass meadows, especially *Posidonia oceanica*.

STECF observes that, based on the comments provided by PLEN 21-01, the LRPs calculated in 2012 and presented to PLEN 21-01 were updated in the implemented MP 2021-2024. The LRP was increased from 8.5 to 10 kg/day/boat in Tuscany. The same calculations for Liguria suggested that the LRP in this region could be revised to 2 kg/day/boat. However, it was decided to maintain the LRP in Liguria at the previous level of 3.6 kg/day/boat.

STECF notes that the main elements of the MP for 2024-2027 are the same as the MP for 2021-2024. The main difference is that the updated version contains new data corresponding to the previous MP (2021-2024) for the fishing seasons 2021-22, 2022-23, 2023-24 and for the fishing season 2020-21 that was not reported in the MP 2018-2021. In addition, the MP 2024-2027 has a new subsection in the “description of the fishery” section regarding the geographic position of the fishing hauls in relation to vulnerable habitats (*Posidonia oceanica* meadows). This information used to be provided as a separate report.

Below, STECF comments in relation to each of the elements outlined in the ToRs are given.

TOR 1.1. The description of the fisheries

- Biological characteristics and state of the exploited resources with reference in particular to long-term yields.

The species biology is well known and described in the MP (geographical and bathymetric distribution, life cycle, reproduction, age, growth). The life cycle is short, lasting only one year, and ends shortly after reproduction. Transparent goby can grow up to 60 mm TL and gonadal maturation takes place at 35-40 mm TL. The species presents different bathymetric and spatial distribution according to the lifecycle phases: a planktonic larval phase, an aggregate juvenile phase and a benthonic adult phase. The reproduction period lasts around 6 months (March-April to August-September). Changes in the reproductive peaks result in the presence of different cohorts, and consequently, in a variable availability to the fishery along the fishing season.

The success of recruitment and the amount of catches each year do not appear to be exclusively dependent on the previous year's catch and the size of the spawning stock, but also linked to other factors, such as environmental conditions. In support of the lack of a

direct relationship between the exploitation of the resource and the biomass available in the following year, it is shown that after the closure of the 2010-11 fishing season in Tuscany the annual CPUE in 2011-12 did not increase but decreased.

STECF observes that no analytical stock assessment is available. Stock status is based on the seasonal CPUE, which is assumed to be an acceptable abundance index according to the MP. STECF notes that due to the different recruitment pulses along the fishing season, monthly CPUE values are very variable in relation to the annual value of the CPUE. Therefore, monthly CPUE values alone are not useful for management purposes.

- Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.

The number of authorized fishing boats has reduced from 117 (76 boats in Liguria and 41 in Tuscany) in the MP 2021-2024 to 116 (75 boats in Liguria and 41 in Tuscany) in the MP 2024-2027. Fishing effort in terms of gross tonnage (GT) and engine power (kW) has also been reduced in both regions. It is noted that if the list of authorized boats changes during the 2024-2027 period, fishing effort in terms of cumulated number of boats, gross tonnage and engine power cannot exceed that authorized in the previous three-year period (MP 2021-2024). STECF notes that the number of authorizations is higher than the number of active boats (<30 in Tuscany and <20 in Liguria in 2020-2024). While in Liguria the gross tonnage and engine power of the authorized boats are well below the limits established in the MP (boats not exceeding 15 GT and 120 kW), in Tuscany there are a few authorized boats with engine power > 120 kW but gross tonnage < 15 GT.

STECF observes that the MP includes a variety of measures to accomplish a sustainable exploitation: a) measures to limit the fishing capacity in terms of number of boats, gross tonnage and engine power, b) measures to limit the fishing activity regarding the fishing season, the time at sea and prohibition to catch sand eel and sardine juveniles, and c) restrictive technical measures regarding the size of the fishing gear, mesh size, fishing areas, protected habitats and by-catch and accidental species. These measures are combined with corrective measures such as fishery closures when the average CPUEs are below the LRPs of each of the regions. In addition, the MP includes data collection and scientific monitoring by a scientific committee appointed for each region and a governance system to implement measures of control and surveillance.

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

The MP provides detailed data on the fishing seasons in the previous MP (2021-22, 2022-23 and 2023-24) and the fishing season 2020-21 not reported before. The data consist of descriptive statistics of catches, fishing days and CPUEs by month for each fishing season and region. In addition, for Tuscany time series of total catches, number of fishing days, number of active vessels and seasonal CPUE statistics (average, median, 25% and 75%

percentiles and standard error) from 1991-92 to 2023-24 are provided, while for Liguria time series of number of fishing days, number of active vessels and seasonal CPUE statistics (average and standard error) from 2011-12 to 2023-24 are given. Additional summary statistics of the seasonal CPUEs provided for Liguria include data collected in the early 90's.

During the 2020-2024 fishing seasons, the fleets operated 3,297 days with an average of 30.8 days per boat in Tuscany and 471 fishing days with an average of 9 days per boat in Liguria. In the same period total catches have been around 86.9 tons with a mean CPUE value of 26.4 kg/day/boat in Tuscany and around 2.4 tons with a mean CPUE value of 5 kg/day/boat in Liguria. During the 2022-2023 fishing season the CPUE in Liguria reached the lowest value of the time series (2.8 kg/day/boat), being lower than the LRP (3.6 kg/day/boat). This was mainly due to the absence of activity of the Camogli fishing fleet and limited activity of other six boats dedicated to the scientific fishing of sardine fry in February-March 2023. A preventive check of the CPUE in January 2024 showed an increase of the CPUE again above the LRP.

The analysis of the CPUE time series showed statistically not significant trends in Tuscany (1991-92 to 2023-2024) and Liguria (2011-12 to 2023-24). Regarding fishing effort, the number of active boats decreased and fishing days increased in Tuscany, although none of them being statistically significant. In contrast, the number of active boats and fishing days decreased significantly in Liguria. Beyond the influence of the 2022-23 fishing season, this decrease can also be attributed to other factors already identified in the previous MP, like the high average age of fishers due to a lack of generation renewal, and the ageing of vessels, which makes operations at sea more hazardous.

- Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex III of the MEDREG.

STECF notes that monthly size distribution of the catches of the target species have been collected in each region for the fishing seasons 2020-21, 2021-22, 2022-23 and 2023-24. The average size of the catches in this period was 27.9 mm in Liguria and 27.0 mm in Tuscany. For illustrative purposes, the MP shows monthly size distribution plots for the fishing season 2020-21 in Tuscany and the fishing season 2021-22 in Liguria. These size distributions show that the fishing activity impacts almost exclusively on the juvenile phase of the species, when it has a gregarious and demersal behavior.

The MP provides information on the by-catch species collected in each fishing season and region. In Tuscany, the presence of other species is occasional. According to the logbooks, by-catch is only 0.1% in weight of the total catches. The composition of the by-catch changes substantially from year to year. The most important by-catch species by weight were the common octopus, *Octopus vulgaris* (17%), the common dentex, *Dentex dentex* (16%), the Mediterranean starry ray *Raja asterias* (14%), the European squid *Loligo vulgaris* (11%), the

red mullet *Mullus barbatus* (10%), the king bream *Diplodus sargus* (7%), the common cuttlefish *Sepia officinalis* (5%) and the sea bream *Serranus scriba* (4%). In Tuscany, by-catch analysis is based on data collected onboard. The percentage by-catch was about 10.8% of the total catch in weight. The most important by-catch species was the common dentex (*Dentex dentex*) representing almost 50% of the by-catch. The other species, in order of importance, were red mullet (*M. barbatus*), the European squid (*L. vulgaris*), the flying gurnard (*Dactylopterus volitans*), the common cuttlefish (*S. officinalis*) and the starry weever (*T. radiatus*). Catches of juveniles were not recorded for any of the species. From the by-species found in both regions only red mullet and king bream are included in Annex IX of the technical measures regulation, being thus subject to minimum sizes. According to the descriptions in the MP for both regions, most part of individuals arrive on board alive and can be released without apparent damage.

- Information on the social and economic impact of the measures proposed.

The indicators used to assess the economic and social impact are income variation of fishermen involved by the MP; profitability variation of small enterprises affected by the MP; impact of the MP on employment; and improvement of competition conditions emerging from the implementation of the MP. More specifically, the economic indicators were gross profit/boat and added value/employee and the social indicators were production value/employee, total number of employees and average salary per employee. A specific questionnaire (annex C) was designed to collect this information.

Information for the socio-economic monitoring of the MP in Tuscany was obtained by the survey carried out in April-May 2024. In Tuscany, the activity of transparent goby fishing is practiced mainly by fishers who are members of cooperatives, and use other fishing gear when not using boat seines for transparent goby. Transparent goby fishing accounts for 60% of the income from fishing. Fishers have an average age of 61 years and have been fishing for 38 years. The average gross profit per vessel is 26,019€, with an incidence of intermediate costs and maintenance costs of 19% and 9.5% respectively. The gross profit per employee amounts to 11,827€ and the added value to 9,590€. Fishers highlighted a drop in prices in the 2023-24 fishing season, that resulted in a decline in the profitability.

In Liguria, data collection through the dedicated questionnaire was temporarily suspended. Information was based on logbook submitted to the Port Authorities and supplemented where necessary with information from MASAF. The 2022-23 fishing season recorded the worst values across all parameters for the entire period. Revenue, value added and profit were significantly negatively affected by the decline in catch. While the price of the catch was maintained, fuel prices increased progressively. In addition, the fleet faced a decline of the fishing industry due to the ageing of active fishermen (66% of fisher in the over-65 range) and the lack of substantial demographic renewal. In 2022-2023, the cooperative in Camogli went into voluntary liquidation and the fishing activity was stopped. In 2024, fishers were able to resume fishing activity as new individual firms or merged into other enterprises. However, this

supposed a major change in the region, as the Camogli fishing fleet is particularly representative of the transparent goby fisheries.

- Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. seagrass bed, coralligenous habitat and maërl bed);

The MP contains maps of hauls' distribution in relation to *Posidonia oceanica* meadows in 15 fishing areas in the Ligurian side and 5 on the Tuscan side. Georeferenced hauls were obtained from official logbooks in 2021-2024, from on-board observations during scientific monitoring of the fishery and from questionnaires and interviews to fishers. To estimate the area of overlap with the *Posidonia oceanica* meadows, a buffer zone of 100 m radius around each haul was implemented.

In Liguria *Posidonia oceanica* meadows cover an area of 49.2 km² and the area of overlap from 252 geolocated fishing hauls was estimated at 4.9 km². In Tuscany *Posidonia oceanica* meadows cover an area of 269.24 km² and the area of overlap from 903 geolocated fishing hauls was estimated at 16 km². Overall, the area overlap is 20.9 km², which represents 6.6% of the whole area covered by *Posidonia oceanica*.

STECF notes that the number of geolocated fishing hauls has increased significantly with respect to the hauls provided to PLEN 21-01 and considers that 903 hauls in 2563 fishing days in Tuscany and 252 hauls in 314 fishing days in Liguria in the period 2021-2024 may constitute a good sample size. However, no explanation is provided on the procedure for the selection of the hauls that are shown in the maps, and therefore, STECF reiterates that it cannot fully assess whether the spatial data presented are representative of the distribution of the entire fishery.

STECF observes that the MP now includes a recommendation to implement a monitoring plan for the verification and update of the existing mapping of *Posidonia oceanica* beds and for a detailed mapping to verify the effective overlap of the fishing activity with the *Posidonia oceanica* beds.

TOR 1.2. Objectives, safeguards and conservation/technical measures

- Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of CFP Regulation and quantifiable targets, such as fishing mortality rates and total biomass.

The objectives stated in the MP are the same as in previous plans: to maintain the historic artisanal fishing activity and to adopt appropriate management measures to ensure its continuation; to monitor the exploitation status and the respect of fishery parameters through the collection of data of catches, fishing effort, impact on the ecosystem and the monitoring of

biological and economic parameters; to identify the necessary indicators to verify the exploitation status and the effectiveness of adopted management measures.

Since no analytical assessment is available and quantifiable targets such as fishing mortality rates and total biomass are not defined, STECF cannot assess whether The MP objectives are consistent with the objectives stated in Articles 2 and 6 of Regulation (EU) 1342/2013.

STECF notes that the MP uses commercial CPUEs time series as an indicator for stock biomass and have defined CPUEs thresholds under which management actions are triggered. In this case the LRPs in each region are based on the 25% percentile of historical CPUEs, which is a common used threshold in several MPs in the Mediterranean Sea. There is usually not enough independent information available to monitor the actual trends in the biomass and fully assess the robustness of the CPUE threshold to guarantee the sustainable use of these resources in the long term; but based on generic knowledge on stock assessment and seine fishery dynamics, STECF reiterates that a 25% quantile threshold is unlikely to be fully in line with the MSY objective of the CFP. A more detailed discussion is given in section 4.1 in the STECF PLEN 21-01 report.

STECF notes that the LRPs currently in force are lower than the annual CPUEs values observed both in Tuscany and Liguria and therefore, do not match with the 25% percentile of the annual CPUEs calculated by STECF according to the data provided in the MP. STECF reiterates that clarification is needed on how LRP and annual CPUEs were calculated. Should these not have been calculated in the same way, the values cannot be compared and the given LRP should not be used as a basis for management.

- Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.

Restrictive measures combined with the limit expressed as a CPUE index are foreseen. These include: no increase in the number of vessels authorized under the MP; limitation of fishing season (November - March); limitation of fishing time (daytime); maximum number of fishing days per vessel (60 days); limitation of gear usage and features; limitation of fishing area (marine compartment and protected habitats); limitation of fishing capacity (vessels <15GT and/or <120 kW).

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

The management plan is based on annual CPUE that has to be maintained above the LRPs set for Tuscany and Liguria. STECF notes that to address all the objectives, the MP also includes measures for monitoring the fishery, assessing its impact on the ecosystem and evaluating the effectiveness of the management measures.

- 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.

The LRP set for each single fishing season is 8.5 kg/day/boat for Tuscany and 3.65 kg/day/boat for Liguria. When the seasonal CPUEs drop below the LRPs, the MP includes the following pre-negotiated management measures:

- Early closure of the fishing season: In the event that the annual average CPUE drop below the LRPs, during the following fishing season the average CPUE is checked by February at the latest to ensure that it remains above the limit values and, where appropriate, consideration is given to the early closure of the fishing season by one month.
- Corrective measures: If the annual average CPUE drops below the LRPs for two consecutive fishing seasons, before the beginning of the following season, measures must be adopted. These measures include a reduction of the duration of the fishing season. STECF notes that this reduction is not pre-specified.
- Suspension of transparent goby fishery: If the annual average CPUE remains below the LRPs for three consecutive years, the fishery is closed for the entire fishing season.

- Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.

According to the monitoring carried out in the recent period, the fishery is quite selective. In Tuscany the target species represented 99% in weight of the whole catches, while in Liguria by-catch was about 10.8% of the total catch.

According to the information provided in the MP, this fishery does not generally operate over *Posidonia oceanica* meadows. The area overlap between the fishing hauls and *Posidonia oceanica* meadows is 20.9 km², which represents 6.6% of the whole area covered by *P. oceanica*. As explained above, the number of geolocated fishing hauls has increased significantly and may constitute a sufficient sample size, STECF is unable to fully assess their representativeness.

TOR 1.3. Other aspects

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

CPUE are monitored during the fishing season and compared to the Limit Reference Point.

TOR 2.1 Derogation to the distance from the coast (Article 13 – Paragraphs 5, 9 and 10)

- There are particular geographical constraints, such as the limited size of the continental shelf along the entire coastline;

The continental shelf is limited in width, particularly in the Central-Western Ligurian Sea and the fishery is carried out mainly within a short distance from the coast (10-100 meters), where the transparent goby is more concentrated during the winter season. Therefore, STECF observes the fishery is geographical constrained.

- The fisheries have any significant impact on the marine environment;

The fishing gear is very selective and transparent goby fishing is forbidden over *P. oceanica* meadows. The area overlap between the fishing hauls and *P. oceanica* meadows is estimated at 20.9 km², which represents 6.6% of the whole area covered by *P. oceanica*.

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

The MP does not allow to increase the number of authorized vessels. However, STECF notes that the number of authorized vessels is much higher than that of active vessels, and this measure is currently not restrictive. The maximum number of fishing days per vessel is 60.

- The fisheries cannot be undertaken with another gear;

The fishing gear is specific for fishing transparent goby. This fishing takes place very close to the shore and cannot be undertaken with another gear. In addition, the MP includes a limitation on the fishing gear: during the transparent goby fishing activity it is forbidden to maintain on board gears other than the one authorized for transparent goby fishing.

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

In 2021 a management plan for the transparent goby fishery was adopted (M.D. of 14/10/2021 – Adoption of a management plan on the fishing of the transparent goby (*Aphia minuta*) using boat seines in the GSA9 by derogation from art 9 (minimum mesh size) and

art.13 (distance from the coast) of the Reg. EC n.1967/2006. Published on Gazzetta Ufficiale della Repubblica Italiana 297, 15.12.2021.

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

The fleet is limited to a total of 116 vessels, with a track record of more than five years. STECF notes this is included in the MP.

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

Fishing is carried out at very short distance from the coast and therefore do not interfere with the activities with vessels using gears other than trawls, seines or similar towed nets. STECF notes there is no evidence of the fishery conflicting with other fisheries.

- The fisheries are regulated in order to ensure that catches of species mentioned in Annex IX of Regulation (EU) 2019/1241 with the exception of mollusc bivalves, are minimal

The fishing gear is very selective, and the catch of species mentioned in Annex IX of Regulation (EU) 2019/1241 are minimal. Therefore, based on the information provided STECF agrees that the catches of species of species mentioned in Annex IX of Regulation (EU) 2019/1241 with the exception of mollusc bivalves, are minimal.

- The fisheries do not target cephalopods.

Based on the information provided, the transparent goby fishery does not target cephalopods.

TOR 2.2 Derogation to the minimum mesh size (Article 9, paragraph 7)

- The fisheries are highly selective and have a negligible effect on the marine environment;

STECF agrees that the boat-seine fishing targeting transparent goby is highly selective.

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

This fishery does not generally operate over *P. oceanica* meadows. The area overlap between the fishing hauls and *P. oceanica* meadows is estimated at 20.9 km², which represents 6.6% of the whole area covered by *P. oceanica*. In spite of the fact that the number of fishing hauls geolocated has increased significantly, STECF is unable to fully assess their representativeness.

STECF conclusions

STECF concludes that the MP for boat seines targeting transparent goby in the waters of Tuscany and Liguria contains adequate elements in terms of the description of the fisheries, objectives, safeguards and conservation/technical measures and quantifiable indicators for periodic monitoring and assessment. Since no analytical assessment is available, STECF concludes that it is not possible to assess if the MP objectives are aligned with the CFP objectives.

STECF concludes that the MP meets the conditions set by the MEDREG for the derogations to the distance from the coast and to the minimum mesh size.

STECF concludes that the number of authorizations for the fishing of transparent goby is much higher than the number of active vessels and is therefore not restrictive.

STECF concludes that the observed CPUE time series, both in Tuscany and Liguria, do not display any significant trends and are well above the LRPs, the only exception being the CPUE in Liguria for the fishing season 2022-23, after which the preventive checks described in the MP were applied.

STECF observes that the LRP used for Tuscany is much lower than the 25% percentile calculated based on data provided in the MP. STECF reiterates the conclusion from PLEN 21-01 that a clarification is needed on whether LRPs and annual CPUEs were calculated in the same way. If this is not the case, then the values cannot be compared.

STECF concludes that the data and maps provided show that the fishery does not generally operate on protected habitats (6.6% of the *Posidonia oceanica* distribution overlap with fishing hauls). While the number of hauls being mapped may be sufficiently large, their representativeness cannot be fully assessed. STECF acknowledges that the MP now includes further recommendations to implement a monitoring plan to confirm the overlap of the fishing activity with the *Posidonia oceanica* meadows and evaluate their condition.

STECF recalls the generic considerations on the use of CPUE 25th percentile as limit reference point provided in PLEN 21-01 and suggests that in the absence of additional

fishery-independent information, a higher threshold would be considered more precautionary and more in line with the CFP objectives.

6.7 Review of the monitoring report for mechanised dredges and the derogation for boat seines in certain territorial waters of Spain (Catalunia)

Background provided by the Commission

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

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

- the conservation status of the stock or stocks;
- the biological characteristics of the stock or stocks;
- the characteristics of the fisheries in which the stocks are caught;
- the economic impact of the measures on the fisheries concerned.

On 24 September 2021, the Commission adopted Implementing Regulation (EU) 2021/1713 establishing a derogation from Article 13 of Council Regulation (EC) No 1967/2006 as regards the minimum distance from coast and depth for shore seines fishing in certain territorial waters of Spain (Catalunia).

This derogation is established in the framework of the management plan for sand eels (*Gymnammodytes cicerelus* and *G. semisquamatus*) and gobies (*Aphia minuta* and *Crystallogobius linearis*) adopted by Catalonia^[1], which is in force until July 2026.

In February 2024, the Spanish Administration has expressed its intention to renew the derogation from EC 1967/2006 article 9/13 in terms of distance and minimum depth from the coast in waters of Spain (Catalunia). The current derogation will expire on 2 July 2024.

In addition, in January 2024, the Spanish Administration provided elements on the monitoring of the management plan for mechanised dredges in the Mediterranean Coast of the Autonomous Community of Catalonia, that was adopted by the regional Order ARP/122/2020. The management plan concerns fishing activity targeting bivalves using mechanised dredges in the framework of the provisions of Article 19 of the Mediterranean Regulation (EU Reg 1967/2006). Point 14.8 of the management plan establishes that 3 years after entry into force, the results of the monitoring should be evaluated.

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

ToR 1: The STECF is requested to review the implementation report of the boat seines fishery provided to support the Spanish request to renew the derogation. The STECF is also requested to present its findings and make appropriate comments with respect to the conservation and management requirements/objectives stipulated by Council Regulation (EC) No 1967/2006 ("MedReg") and by the Regulation (EU) No 1380/2013.

STECF is requested to:

- Advise and assess whether the documents transmitted by Spain contain adequate elements in terms of:
 - o The description of the fisheries
 - Biological characteristics and state of the exploited resources with reference in particular to long-term yields.
 - Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.
 - Data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).
 - Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/1241.
 - Information on the social and economic impact of the measures proposed.
 - Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e., seagrass bed, coralligenous habitat and maërl bed).
 - o Objectives, safeguards and conservation/technical measures
 - Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of Regulation (EU) No 1380/2013 and quantifiable targets, such as fishing mortality rates and total biomass.
 - Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.
 - 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 deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk.

- Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.
 - Other aspects
 - Quantifiable indicators for periodic monitoring and assessment of progress in achieving the objectives of a management plan.
- Suggest additional recommendation to improve the monitoring of this fishery.

More specifically, STECF is requested to advise and comment on whether the documents provided contain adequate and up-to date scientific and technical justifications ensuring that the conditions of the MedReg are still fulfilled, in particular that:

- There are particular geographical constraints, such as the limited size of the continental shelf along the entire coastline;
- The fishery has no significant impact on the marine environment;
- The fishery involves a limited number of vessels and does not contain any increase in the fishing effort with respect to what is already authorized by Member States;
- The fishery cannot be undertaken with another gear;
- The fishery is subject to a management plan and carry out a monitoring of catches as requested in Article 23;
- The vessels concerned have a track record of more than 5 years;
- The fishery does not interfere with the activities of vessels using gears other than trawls, seines or similar towed nets;
- The fishery is regulated in order to ensure that catches of species mentioned in Annex IX of Regulation (EU) 2019/1241 with the exception of mollusc bivalves, are minimal
- The fishery does not target cephalopods.
- The fisheries are highly selective and have a negligible effect on the marine environment; and
- The fisheries do not operate above seagrass beds of, in particular, *Posidonia oceanica* or other marine phanerogams

ToR 2: STECF is requested to review the monitoring elements provided and, if necessary, advise and assess whether the management plan for mechanised dredges catching bivalves in the waters of Catalonia contains adequate elements in terms of:

The description of the fisheries

- Biological characteristics and state of the exploited resources with reference in particular to long-term yields.
- Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.
- Data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).

- Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex III of the MEDREG^[2].
- Information on the social and economic impact of the measures proposed.
- Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. seagrass bed, coralligenous habitat and maërl bed);

Objectives, safeguards and conservation/technical measures

- Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of CFP^[3] Regulation and quantifiable targets, such as fishing mortality rates and total biomass.
- Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.
- 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 deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk.
- Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.

Other aspects

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

Summary of the information provided to STECF

TOR 1. Review the implementation report of the boat seines fishery provided to support the Spanish request to renew the derogation.

The information submitted by Spain consists of a technical and scientific report on the third year of implementation of the management plan for the “sonsera” including two Annexes:

- Annex I is a Scientific Report supporting the management plan for boat seine

The report by the Catalan Research Institute for Marine Governance (ICATMAR) outlines the implementation of the management plan for artisanal fishing with boat seines, known locally as "sonsera," in Catalonia from 2020 to 2023.

The plan, including contributions from by ICATMAR, fishers, scientists, NGOs, and the fisheries administration, was monitored using data from official statistics, fishermen's daily reports, and monthly onboard sampling. The fishery, which involves 26 boats and is operating

from 6 ports, targets sand eels and gobids. Landings from this fishery are used for direct human consumption.

The report focuses on the biology of targeted species such as sand eels (*Gymnammodytes cicerelus* and *G. semisquamatus*) and gobids (*Aphia minuta*, *Crystallogobius linearis*). It notes that fishing over Posidonia meadows is prohibited. The current strategy of the management plan will continue for the next two years.

The report indicates that the fishing for crystal goby has been minimal or non-existent since 2019, reinforcing the decision to suspend this activity. Overall, the report details the adaptive management and continuous monitoring efforts to ensure the sustainability of the artisanal fishery and its environmental impact.

- Annex II is the Order ACC/155/2021 of 20 July approving the management plan for the mode of sonsera on the Catalan coast (2021-2026)

This is an order that approves the management plan for boat seines, known as “sonsera” fishing, conducted in the coastal waters of the Catalan Sea. The fishing resource managed under this order adheres to an ecosystem approach and Fmsy principles.

The species authorized for this fishery include sand eels (*G. cicerelus* and *G. semisquamatus*) and two gobids (*A. minuta* and *C. linearis*). The use of the “sonsera” must exclusively target these species, allowing a discharge tolerance of about 3% by weight of non-target species, not exceeding 5 kg. For species subject to MCRS listed in Annex IX to Regulation (EU) 2019/1241, the tolerance is limited to 1% of the catch weight.

Fishing with “sonsera” cannot be conducted alongside any other fishing activity during the special fishing permit's validity. Annual quotas are set at 819 tonnes for sand eels, 1.8 tonnes for *A. minuta*, and 3.8 tonnes for *C. linearis*. At the end of each fishing season, assessments will determine biomass, catch per unit effort (CPUE), fishing mortality, and stock exploitation status relative to F0.1 (as a proxy of FMSY). Based on these results, the total quota, fishing period, and monthly quota distribution for the next season are set by the Directorate-General for Marine and Sustainable Fisheries Policy.

TOR 2. Review of the monitoring report for mechanised dredges management plan catching bivalves in the waters of Catalonia

The information submitted by Spain consists of a Monitoring Report assessing the implementation of the Management plan (MP) for mechanised dredges catching bivalves in the waters of Catalonia: Evaluation report on the implementation of the plan for the management of mechanised dredges (“gabies”) on the Catalan coast, including five Annexes.

The Directorate-General for Maritime Policy and Sustainable Fisheries (DGMPSPF) has drawn up this report. It recalls that from the original four fishing areas of clams with mechanised dredges in Catalonia, the two northern zonas are closed to fishing (the Northern Catalonia-

Rosas Bay- and the Central north-north of Barcelona or Meresme area), while the Central South (south of Barcelona) and southern zone (the Ebro delta zone) remain open to the fishing but only of Wedge clam (coquina, *Donax* spp.). Other main commercial species which used to be target by this fishery are currently banned to fishing because of the poor status: stripped Venus clams (chirla) (*Chamelea gallina*) & smooth clams (almejón, *Callista chione*).

The report contains the main results of technical/administrative monitoring. This includes the details of the fleet activity (number of boats, fishing days, catches and CPUEs) by regions and years (2021-23); evolution of prizes; monthly activity of the fleet by regions and description of the share of different fishing activities of the boats dedicated to mechanised dredges in the Ebro delta, with short description of this different fisheries they are involved with. Besides this, the report summaries a sampling campaign carried out in 2023 in the in the Central South area to assess the recovery of the *C. gallina* which have pointed out by fishers. The recovery shown by the study make the DGMPFS to set up a pilot exploitation plan (detailed in Annex 5).

In addition, the report contains a summary of four of the studies launched to make the Monitoring and scientific studies associated with the Management Plan which were contracted by the Directorate-General for Maritime Policy and Sustainable Fisheries with the University of Barcelona. The first (BIVALCAT) focused on continuing the regular monitoring of the Management Plan, with biomass and density analysis as the main parameters for defining the conservation status of the natural bank. The others expand the studies as detailed below for every Annex.

- Annex 1 is the Assessment of the clam dredge fisheries on the Catalan coast BIVALCAT 2019-2021

The primary goals of the project were to assess the health and status of commercially exploited sea clams on the Catalan coast (wedge clam, venus clam, smooth clam) and to enhance the understanding of their ecology. Historical data from 1989 to 2020 shows a significant decline in clam landings, with wedge clam peaking in 1993 but dropping to a historical minimum by 2020. Quarterly sampling from winter 2019 to spring 2021 in open fishing areas studied the smooth clam, revealing overexploitation and the presence of a parasitic organism impacting wedge clam populations.

The only commercially viable stock, wedge clam (*D. trunculus*), showed low densities but a notable increase in 2021, especially in the Ebro Delta. A specific management plan is suggested for this species, considering both mechanized and hand-operated dredge fishers in that area. A study on the effect of a fishing closure in North Barcelona indicated no recovery for the smooth clam stock, with a significant density decrease between 2005 and 2020. The project also included a genetic study of wedge clams from various regions.

Overall, the BIVALCAT project highlighted the critical status of Catalan shellfish fisheries, similar to other Mediterranean regions in Spain. Continuous monitoring is essential for

sustainable management, particularly for wedge clams, to avoid collapse and ensure future commercial exploitation.

- Annex 2 is the REINVENTA'T project to relaunch and revitalising economic activity of artisanal fishing with "gàbies" in Catalonia (2020-2021)

The project aims to revive small-scale fishing with 'gàbies' in Catalonia, restoring economic activity and jobs lost in recent years. The primary objectives include detecting and assessing commercial bivalve banks, providing scientific knowledge on potentially exploitable species, mainly white clam (*Macra stultorum*), conducting a feasibility study for 'gàbies' fishing along the Catalan coast, and promoting this fishing method to recover employment.

Quarterly sampling was conducted in three shellfishing zones, targeting each species with four samples. Two transects, each with two stations, were defined in the Delta Ebro, Central South, and Central North areas. Studies focused on densities, size distributions, growth, and biometry.

The results showed high densities of white clam in the Ebro Delta and Central South areas, indicating viable commercial exploitation with potential prices around 5-6 euro/kg. In the Central South, white clam accompanies the coquina (wedge clam) bench, while in the Ebro Delta, it could be the primary catch at certain depths. The average size of the white clam exceeded 25 mm. Although there is no current legislation on the legal minimum size or literature on the size of first sexual maturity, the minimum legal size for coquina and Venus shells is 25 mm.

- Annex 3 is the DELTA-VIU: Advice to promote the sustainable development of cochinella fisheries (*Donax trunculus*) in the Ebre Delta (2021)

This project was aimed to improve the competitiveness of fishers using hand (foot based) and mechanized (vessel-based) dredges ("gàbies") to catch coquina (wedge clam) (*Donax trunculus*) in the Ebro Delta area and to promote sustainable fishing for this species. The method involved closing two areas within the bivalve production area of the Ebro Delta to assess the impact of the shellfish farm on the clam bank. Pre-closure sampling was conducted using both foot and vessel-based mechanised dredging, determining densities, size structure, sex, and the presence of the trematode parasite *Bacciger bacciger*. Granulometry and recruitment were also analyzed using Van Veen dredger sampling.

During the closure period, three additional samplings were conducted using the same methodology and compared with results from the two actively exploited areas. The main results showed that larger individuals were found at greater depths, and the density and biomass of coquina per square meter were inversely proportional to depth. Higher densities and smaller specimens were found in shallow areas between 0.2 and 0.7 meters, indicating that any fisheries management improvements should focus on this bathymetric strip.

Both density and biomass decreased in all areas, closed or open to fishing, due to the natural coquina cycle. However, the decrease was significantly less in shallow, closed areas. Larger individuals, about 0.5 cm longer on average, were found in these closed areas, along with greater density and abundance. These findings support the usefulness of closures as a tool for improving coquina management in the Ebro Delta, particularly in areas where hand dredges operate.

The results demonstrate the effectiveness of spatial and temporal biological closures in enhancing coquina fisheries management in the Ebro Delta, improving both catch volume and fish size.

- Annex 4 is Donax project: coquina bank assessment (*Donax trunculus*) of the southern hemidelta of the Ebro Delta

The objective of this study was to assess the commercial bivalve shellfish (coquina, wedge clam) banks in the southern hemidelta of the Ebro Delta. It focused on evaluating the state of the natural coquina bank at various depths and mapping the density and abundance in the region, which is the largest production area for the species. To achieve this, 36 transects parallel to the coast were designed, and sediment samples and the total catch of shellfish gatherers on foot were analyzed.

Results showed that the size of the specimens, the density of individuals, and the biomass caught exhibited a marked spatial distribution, with smaller parameters observed in the northern and eastern areas. The average density was 4.3 individuals per square meter, but there was high variability, with the maximum density recorded at 55.4 individuals per square meter. Depth influenced density, with an average of 6.50 individuals per square meter at 0.2 meters depth and 1.63 individuals per square meter at 0.5 meters depth. The density and biomass of coquina declined towards the north (Latitude) and east (Longitude) in the southern hemidelta area. The average total length of the coquina caught was 22.83 mm.

The coquina-associated community had low species diversity, with crayfish *P. latipes* (59.91%) and the lesser measure *L. depurator* (5.99%) being the most common, both potential predators of coquina. The impact of hand-tracked fishing on the Ebro Delta was low, with 61.93% of captured specimens showing no impact. This percentage is much lower than that of mechanised dredges. Species most affected by severe or fatal impacts included the bivalve *M. sutorum* (48.01%), hermit crab (33.33%), purifying crab *L. depurator* (28.60%), and *P. latipes* (15.74%).

The presence of the trematode parasite *Bacciger bacciger* in the coquina population of the Ebro Delta was 21.33%. No spatial pattern was found in the incidence of this parasite on the coquina bank of the southern hemidelta of the Ebro Delta.

- Annex 5 is the Proposal to reopen the banks of chirla (*Chamelea gallina*) in the Catalan litoral

The annex details recent developments concerning the Venus clam (*Chamelea gallina*) fishery. On March 30, 2023, operators using dredges and mechanised dredges requested that the Directorate-General for Maritime Policy and Sustainable Fisheries (DGPMP) implement a monitoring program to confirm their observations of a significant increase in Venus clam density. This increase was leading to a high number of discards, despite the current ban on fishing for this species. In response, the DGPMP organized a sampling campaign in areas where recovery had been detected, specifically the Delta del Ebro, where the Venus clam is caught with boat dredges, and the Southern Central Coast of Catalonia, where mechanised dredging is used. The results from 2023 were compared to monitoring studies from 2017 and 2018, conducted before the fishery was closed.

The data from the Ebro delta in 2023 showed abundances over 100 times higher than in 2017. Similarly, an increase in abundance was observed on the central coast of Catalonia, with figures five times higher than those recorded in 2018. As a result of these findings, and in accordance with Article 7 of Regulation (EC) No. 1224/2009, which allows for scientific activities by Community vessels operating in Community waters, the DGPMP initiated two pilot exploitation programs: 1) Pilot exploitation of the natural bank of Venus clam (*Chamelea gallina*) in the Ebro Delta using boat dredges, and 2) Pilot exploitation of the natural bank of Venus clam (*C. gallina*) on the Southern Central Coast of Catalonia using mechanised dredges. These pilot exploitation plans are detailed in Annex 5.

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

TOR 1. Review the implementation report of the boat seines fishery provided to support the Spanish request to renew the derogation

The description of the fishery:

- *Biological characteristics and state of the exploited resources with reference in particular to long-term yields.*

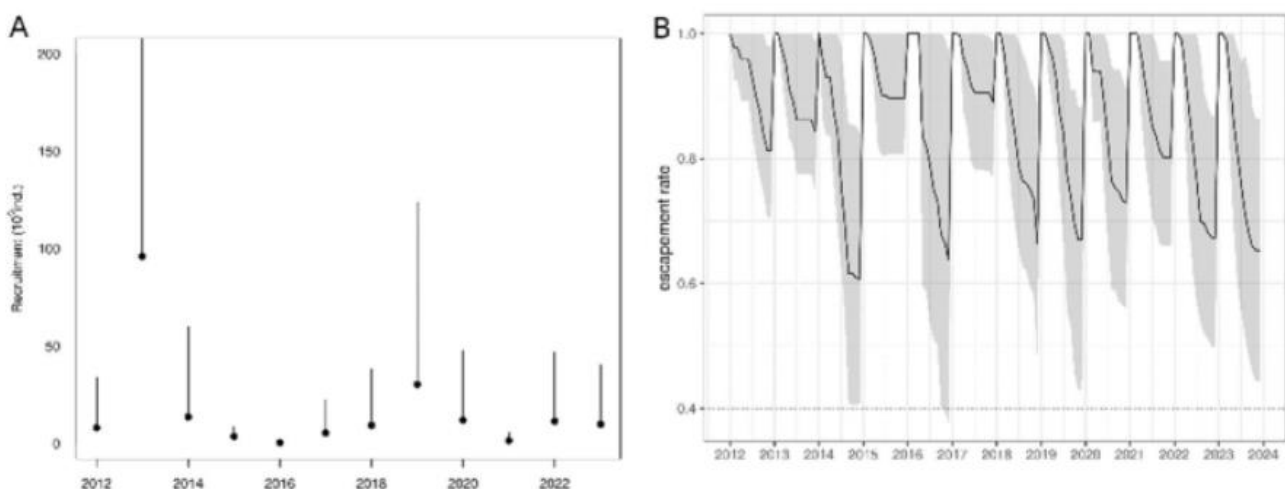
The scientific report produced by ICATMAR provides exhaustive information on the taxonomy and biology of sand eels, *Gymnammodytes cicerelus* and *G. semisquamatus*, and gobids, *Aphia minuta*, *Crystallogobius linearis*, and *Pseudaphya ferreri* including length-weight relationship and length frequency distributions.

A study on the reproductive biology (i.e., analysis of gonads, size at first maturity and spawning season through Gonadosomatic Index, GSI) has been carried out for *G. cicerelus* and *G. semisquamatus*. The highest values of GSI were found between December and March for *G. cicerelus* and between December and April for *G. semisquamatus*. Size at first maturity ranged between 7.9 cm (2020) and 10.0 cm (2021) Total Length (TL) for *G. cicerelus* and between 6.4 cm (2020) and 8.7 cm (2021) TL for *G. semisquamatus*.

An assessment of *G. cicerelus* stock was performed using a Multi-Annual Generalized Depletion (MAGD) model (Maynou et al., 2021). Analysis shows a strong fluctuating pattern of recruitment, with the lowest values in the period 2015-2017, which were followed by an increase in 2019 and by a decrease in 2021 (Figure 6.7.1.A). Considering the overall data

series (2012-2023), the last two values (2022 and 2023) represent a slight increase. The results of this assessment suggest that the exploitation of the sand eel stock could continue to be carried out sustainably if fishing mortality is kept at low levels (instantaneous exploitation rate <0.04 or annual harvest rates not exceeding 60% of the unfished population) because natural mortality is very high (estimated here at $M = 1.73 \text{ yr}^{-1}$). Figure 6.7.1.B shows that the escapement rates (i.e., cumulative proportion of removals from fishing) has been achieved in most years. The fluctuating population dynamics of this stock, whose year class strength depends mostly on recruitment, might explain the alternation of periods of high abundance followed by similar periods of very low abundance, when fishing mortality (or harvest rate) should be kept to a minimum. Moreover, Maynou et al. (2021) found that the sand eel fishery is characterized by hyperstability of CPUEs, i.e. catches can be maintained at high levels despite shrinking stock. That is, relatively small increases of fishing effort (i.e. fishing days or high increase of catches) could rapidly increase the rate of removals from the fishery, but the corresponding decrease in population numbers would be difficult to detect from CPUE statistics due to hyperstability.

Figure 6.7.1 – A: annual recruitment estimated by the Multi-Annual General Depletion model for the sand eel fishery with upper 95% confidence interval. B: escapement rates (cumulative proportion of removals from fishing).



Source: own elaboration.

No assessment is available for *G. semisquamatus* and for gobids. For gobids, depletion models could not be applied as in most years the largest landings and CPUEs were observed at the end of the fishing season (March-April).

- *Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.*

The description of the fishing fleet includes the number of vessels involved, their daily, weekly, and annual activity, as well as changes over time and throughout the year. Currently, a maximum of 26 vessels are involved in the fishery, operating out of six fishing ports. The MP permits the use of Sonsera vessels smaller than 10 meters in length overall (LOA) and with engine power less than 75 kW. Fishing activity regulated by this MP is confined to the Catalan coastline, between the coast off Barcelona and the northern Gulf of Roses. The Sonsera fishery primarily targets sand eel for most of the year, with a smaller number of vessels targeting gobies, mainly in winter.

The MP sets catch quotas aimed at ensuring the sustainable exploitation of the fishery's target stocks, based on historical landings that have not shown significant declines over the available time series. While this can be considered an indicator of sustainability, it is not backed by robust scientific evidence for all target stocks. An assessment has been performed only for the Mediterranean sand eel (*G. cicereus*), based on a multi-annual generalized depletion model.

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

For sand eels, data on yearly catches (in tons), fishing days, and CPUE (kg/day/vessel) are provided for the period 2002-2023. Additionally, monthly catch data (in tons) and CPUE are available for the period 2020-2023. The CPUE shows a fluctuating trend; however, in the last three years (2021-2023), it has decreased to the lowest levels in the entire data series (2002-2023).

For gobies, data refer exclusively to *A. minuta*. Yearly catches (in tons), fishing days, and CPUE (kg/day/vessel) are provided for the period 2001-2023. Additionally, monthly catch data (in kg) and CPUE are available for the period 2019-2023. The CPUE fluctuates significantly without showing any particular trend.

- *Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/1241.*

For sand eels, monthly length-frequency distributions (LFDs) are provided for the period 2020-2023. It can be observed that the mean size increases throughout the fishing season. However, in some months, a portion of the catches includes specimens below the size at first maturity.

For *A. minuta* and *P. ferreri* annual LFDs are available for the period 2020-2023 and no evident trend can be observed.

- *Information on the social and economic impact of the measures proposed.*

Annual income for this fishery and the average price of sand eel (euro per kg) have been provided for the period 2002-2023. Additionally, monthly income data are available for the period 2020-2023. No data are available for the gobies. The Management Plan does not include other quantitative information on the social and economic characteristics of the fishery or the likely socio-economic impact of the new measures.

- *Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. seagrass bed, coralligenous habitat and maërl bed).*

The maps comparing the spatial distribution of fishing activity (geographical position of 1,108 hauls from logbooks during 2020-2022) and seagrass meadows locations along the coast indicate that the “Sonsera” fishery does not significantly impact seagrass meadows, particularly *Posidonia oceanica*, and other vulnerable habitats such as coralligenous habitats and maërl beds. According to the scientific report by ICATMAR, the hauls performed by the vessels involved in the “Sonsera” fishery occur in very shallow waters near the coast (from 4 m to 15 m for the fleets of Arenys de Mar and Blanes, and from 5 m to 30 m for the fleets of Sant Feliu de Guíxols, Palamós, and L’Estartit), on sandy bottoms. In some cases, hauls are conducted close to seagrass meadows but not directly over them.

Objectives, safeguards and conservation/technical measures:

- *Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of CFP Regulation and quantifiable targets, such as fishing mortality rates and total biomass.*

The management plan aims to ensure the conservation and sustainable exploitation of target stocks. TACs for sand eels and gobies are established at the start of each season based on the results from the previous fishing season. At the end of each fishing season, assessments are conducted to estimate population biomass, trends in CPUEs, fishing mortality, and the stock's exploitation status relative to reference points. Based on these evaluations, the MP Committee sets the TACs for the following year. The annual TACs are then divided into monthly quotas, which are allocated equally among the authorized boats.

- *Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.*

Article 5.3 of the management plan stipulates that bycatch of species other than the targets of the “Sonsera” fisheries must be less than 3% of the total catch by weight (1% for species with a minimum conservation reference size (MCRS) listed in Annex IX to Regulation (EU) 2019/1241), and in any case, bycatch shall not exceed 5 kg per fishing trip.

During the period from 2020 to 2023, bycatch in the fishery targeting sand eels ranged from 0.55% (2023) to 3.13% (2022). The number of bycatch species per haul was generally low,

typically below five species. Overall, nearly 50 species/taxa were recorded in the bycatch, including several species listed in Annex IX of Regulation (EU) 2019/1241.

Analysis of the average biomass of bycatch species from 2020 to 2023 showed the highest contributions in biomass were from *Pagellus erythrinus* (18%), followed by *Scomber colias* (13%) and *Trachurus* spp. (10%). Cephalopods were represented by *Loligo vulgaris* (0.24%), *Octopus vulgaris* (0.3%), *Sepia officinalis* (2%), and some species from the Sepiolidae family (0.003%).

For the following bycatch species, the fraction of individuals below the MCRS has been also provided: *Scomber* spp., *Trachurus* spp., *Engraulis encrasicolus*, *Pagellus erythrinus*, *Pagellus acarne*, and *Mullus* spp. For these species the individuals caught were mostly below MCRS, with the exception of *Scomber* spp, which consisted almost exclusively of specimens larger than 18 cm TL.

The bycatch from the fishery targeting transparent goby, *A. minuta*, represents 6.6% of the catches by weight. The most abundant bycatch species include *Mullus barbatus* (29%), *Sphyræna sphyraena* (20%), *Trachurus* spp. (18%), *Pagellus erythrinus* (9%), and *Engraulis encrasicolus* (6%). LFDs of regulated species (*M. barbatus*, *Trachurus* spp., *P. erythrinus*, and *E. encrasicolus*) caught as bycatch in the transparent goby fishery are provided.

No data on bycatch has been provided for crystal goby fishery.

STECF notes that transparent goby and crystal goby fisheries have marginal interest in the MP as the TACs set up are less than 2 and 4 tonnes per fishing season, respectively, against around 800 tonnes for sand eels. Therefore, also the contribution on by catch is lower in absolute values.

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

The management plan establishes catch quotas aimed at achieving sustainable exploitation of the fishery's target stocks, relying on historical landings that have shown no significant declines over the available time series. This can be viewed as an indicator aligned with the plans' objectives and targets. However, robust scientific evidence supporting sustainability is only available for sand eel, *G. cicerelus*. For this species, STECF has observed declining CPUEs in the last three years (2021-2023), which necessitates ongoing monitoring in the coming years.

- *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.*

Landings are monitored monthly, analyzing the daily landings of each vessel. If the monthly landings of the fleet fall below 75% of the defined quota, the collective quota for the following month is reduced by 50%. Failure to meet this threshold results in the closure of the fishery for the following month.

- *Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.*

STECF observes that the management plan prohibits fishing over seagrass meadows and rocky bottoms, restricting the use of "Sonsera" to sandy and muddy bottoms exclusively. The plan does not include any additional conservation measures aimed at progressively reducing discards.

Other aspects:

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

The landings are monitored on a monthly basis analysing information of landings per boat per day. If the monthly landings of the fleet are less than 75% of the defined quota, the collective quota for the following month is reduced by 50%. If the threshold is not reached in that following month, the fishery is closed.

In its previous assessment (STECF 21-01), STECF raised concerns that implementing a target threshold per vessel could incentivize increased fishing intensity and efficiency to maintain high catches and avoid reductions even when stock biomass is low. Moreover, as only the most efficient vessels might remain in the fishery, their catch rates would no longer be directly comparable to the historical baseline used for setting TAC thresholds. It is suggested that the baseline should be defined individually for each vessel to account for these efficiency differences.

STECF observes that the MP does not specifically address this concern. However, Maynou et al. (2021) emphasize that the fishing capacity of this fishery remains high and that stringent controls on fishing effort must continue under the MP. Additionally, STECF acknowledges that the primary target stock (*G. cicereus*) is now monitored through scientific stock assessments, which enhances the management's resilience against biases in fisheries CPUEs.

Suggestions for additional recommendation to improve the monitoring of this fishery

STECF recommends extending the assessment and monitoring efforts currently applied to the Mediterranean sand eel, *G. cicereus*, to include other target species, despite these species being caught in lower quantities.

STECF recommends maintaining control of fishing efforts and strictly monitoring of CPUE trend to ensure sustainable harvesting and prevent undetected declines in population.

Derogation to the distance from the coast (Article 13, Paragraphs 5, 9 and 10):

- *There are particular geographical constraints, such as the limited size of the continental shelf along the entire coastline*

The species targeted by the “Sonsera” fishery exclusively inhabit shallow waters, typically within 3 nautical miles from the coast. Vessels belonging to this fishery must operate within this distance when targeting *G. cicereus* and *A. minuta*. Sand eel species inhabit sandy habitats along the Catalan coast at depths ranging from 6 to 16 meters, where they are typically fished. Gobies species are found over muddy-sandy bottoms, with *A. minuta* primarily exploited at depths between 7 and 12 meters in the Southern fishing grounds.

- *The fishery has no significant impact on the marine environment*

The evidence provided (fishing activity maps vs seagrass meadows) supports the fact that the “Sonsera” fishery does not impact seagrass meadows, in particular *Posidonia oceanica*, and other vulnerable habitat, such as coralligenous habitat and maërl bed.

The evidence presented in the ICATMAR report, by comparing fishing activity maps with the locations of seagrass meadows, indicates that the "Sonsera" fishery does not adversely impact seagrass meadows, particularly *P. oceanica*, nor other vulnerable habitats such as coralligenous habitats and maërl beds.

- *The fishery involves a limited number of vessels and does not contain any increase in the fishing effort with respect to what is already authorized by Member States*

The maximum number of authorized vessels using Sonsera is 26. This limit and the list of authorized vessels are included in the MP.

- *The fishery cannot be undertaken with another gear*

The fisheries cannot be undertaken with another gear and operations need to be carried out very close to the coast, in shallow waters within the 3 nm distance from the coastline.

- *The fishery is subject to a management plan and carry out a monitoring of catches as requested in Article 23*

The MP adheres to standard monitoring practices and the precautionary approach. This includes daily reporting of catches to the co-management committee, exclusive sale of catches through official auction channels at home ports, and adjusting quotas or closing the fishery during the season if CPUEs decline excessively.

The co-management committee, consisting of representatives from industry, scientists, NGOs, and fisheries administrations of both the Autonomous and Central Governments, manages fishing activities. This committee is responsible for monitoring the sustainability and profitability of the fishery by implementing effort limitations on the number of authorized boats,

fleet activity, and setting annual catch limits. It also reviews TAC levels annually based on the previous season's results and imposes new TACs as necessary at the start of the following season.

Additionally, the committee coordinates scientific monitoring and assesses compliance with management measures, suggesting appropriate sanctions in cases of non-compliance. It defines the schedule and locations for sampling, both on board boat seiners and upon vessel arrival at port. The committee also organizes regular inspections at sea, fish auctions, and retail markets, and checks all landings against the recorded daily catches.

- *The vessels concerned have a track record of more than 5 years*

To be authorized for this fishery, vessels had to demonstrate that they had operated with this gear for more than five years during the period from 2000 to 2010.

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

The operation area of the “Sonsera” fishery can overlap with those of other small-scale fisheries using passive gears. However, interactions between “Sonsera” vessels and other fleets are limited due to the lack of competition for target species. Additionally, the use of “Sonsera” does not damage other gears set in the same area.

STECF notes that bycatch of “Sonsera” fishery may include some species (e.g., sparids, red mullet) that are generally targeted by set trammel nets, gill nets, or longlines. Nevertheless, the impact of the “Sonsera” fishery on the abundance of these resources is considered negligible due to the small number of individuals caught per fishing operation and the limited number of vessels involved in this fishery.

- *The fishery is regulated in order to ensure that catches of species mentioned in Annex IX of Regulation (EU) 2019/1241 with the exception of mollusc bivalves, are minimal*

The Art. 5.3 of the MP establishes that the by catch of species other than the targets of the Sonsera fisheries shall be less than 3% of the total catch in weight (1% in the case of regulated species), and in any case they shall not be larger than 5 kg for fishing trip.

As described above, in the period 2020-2023 the overall bycatch fraction represented less than 3.2% in weight of the total catches in the fishery targeting sand eels, and 6.6% in the bycatch targeting transparent goby.

STECF notes that no experiments were conducted to assess post-release survival rates on bycatch species.

- *The fishery does not target cephalopods*

A few cephalopod species have been observed as bycatch in the sand eel fishery: *Loligo vulgaris* (0.24% in weight), *Octopus vulgaris* (0.30%), *Sepia officinalis* (2.00%), and some species from the Sepiolidae family (0.003%).

No cephalopod species were reported as a by catch in the transparent goby fishery.

Considering the limited by catch of cephalopods species and the generally low quantity of bycatch overall, it can be concluded that the Sonsera fishery does not target cephalopods.

Derogation to the minimum mesh size (Article 9, Paragraph 7)

- *The fishery is highly selective and have a negligible effect on the marine environment*

As previously mentioned, the bycatch in the "Sonsera" fishery is very low, accounting for less than 6% of the total catch in weight.

Additionally, no other adverse effects on the marine environment have been reported for this fishery. It operates in sandy and muddy bottoms, avoiding sensitive habitats such as seagrass meadows, coralligenous habitats, and maërl beds, which further minimizes environmental impact.

- *The fishery does not operate above seagrass beds of, in particular, Posidonia oceanica or other marine phanerogams*

The MP prohibits conducting the "Sonsera" fishery over seagrass meadows. As demonstrated by maps generated from logbook data, this fishery is not carried out on sea bottoms characterized by the presence of seagrass meadows, particularly *Posidonia oceanica*.

TOR 2. Review of the monitoring report for mechanised dredges management plan catching bivalves in the waters of Catalonia

Description of the fisheries:

The monitoring report contains main elements to assess the evolution of the fishery and the monitoring requested for the management:

- *Biological characteristics and state of the exploited resources with reference in particular to long-term yields.*

The project BIVALCAT 2019-2021 (in Annex 1 of the report) describes two studies reporting on the recent status of the main target stocks of the mechanized dredge fisheries. The first one analysed the status of mechanized clam fisheries, in each fishing area (only in open areas Ebro Delta area and South Barcelona area) through a quarterly sampling conducted from winter 2019 to spring 2021. In each clam fishing area, two transects perpendicular to the coastline were defined. Each transect had two stations: 1) at 1 meter depth (to target the

wedge clam) and 2) at 3 meters depth (to target the striped venus clam). The results have determined the size distribution, growth, abundance and recruitment processes of the target species, their state of sexual maturity, the presence of parasites and the presence or otherwise of different populations. The total composition of the catch has also been determined, characterised by taxonomic groups. Bivalve species were the most abundant taxonomic group in discards from the wedge clam fisheries in both clam fishing areas. Finally, some assessment of exploitation rates based on length methods is also presented, indicating some overexploitation.

In the Ebro delta zone, the commercial fraction of the total catch (while targeting *Donax Trunculus*) was 42.81% at 1 m, while it was only 4.92% at 3 m. This fraction was highly variable depending on the season. The most abundant clam species at 1 m depth were the bivalves *D. trunculus* and *Macrura stultorum*, while at 3 m were *M. stultorum*, *Acanthocardia tuberculata*, and *D. trunculus*. South of Barcelona, the commercial catch (while targeting *D. trunculus*) was 57.80% at 1 m depth, while it was the 4.92% at 3 m. In this zone the most abundant species at 1 m depth were the bivalves *D. trunculus* and *M. stultorum*, whereas at 3 m were *D. trunculus*, *M. stultorum*, *Ensis. minor* and *A. tuberculata*. In the two areas, the abundance of venus clam *C. gallina* was very low, close to 0.

Those results confirm that wedge clam (*D. trunculus*) is the most abundant clam allowing commercial exploitation. While densities of commercial individuals of *D. trunculus* were low during the study period, however, in 2021, there was a significant increase in densities particularly in the Ebro Delta. The commercial catch in the *D. trunculus* fisheries was 58.8 % of the total catch in each Tow in South Barcelona and the 42.8 % in the Ebro Delta. The authors suggest a specific management plan for *D. trunculus* in Ebro Delta including the mechanized clam dredge fleet and the hand-operated dredge fishers, as both target on the same stock. STECF endorses such a suggestion.

Currently, a complementary study based on the project DONAX in 2022 (Annex 4) further assessed the abundances of the wedge clam (*D. trunculus*, coquina) in the Ebro delta particularly at depths between 0.2 m and 1m, showing that the density and biomass is inversely proportional to the depth, the slightly smaller individuals are located in the northwards and east areas.

Another study analyses the effect of fishing closure in the North Barcelona fishing (Baeta et al., 2021). The study was based on experimental design of samplings conducted in July, October and December during two different survey periods (2005 and 2020) in this region (2 parallel transects separated by 6 km, perpendicular to the coastline were made using commercial clam dredges). Abundances, densities and sizes distributions of the smooth clam are reported, including the study of the accompanying Benthic community. The study concludes that the closure of the clam fishing has not helped in the recovery of the smooth clam (*C. chione*) stock. The density of the smooth clam decreased considerably between 2005 and 2020 ($T(17)=4.15$ $P < 0.001$). The maximum density recorded in 2005 was 10.07 ind/m²; while in 2020, it was 0.71 ind/m². The authors suggested that active management could be essayed (restocking) to recover the smooth clam. STECF notes that this is a

practice already applied in other areas of the Mediterranean Sea (in the Italian hydraulic dredge venus clam fishery for instance).

The high occurrence of the white clam (*M. stultorum*) has been the object of a more recent study in the project REINVENTAT (2020-2021) (Annex 2) aiming at restoring the economic activity of the fishery by studying the commercial bivalve banks and to provide scientific knowledge of the species that may potentially be commercially exploited. This was made by quarterly sampling and carried out in three shellfishing zones and for each target species (4 samples). Two transects were defined, with two stations each in Delta Ebro, Central South & Central North. The main result was that high densities of white clam were found, both in the Ebro Delta and in the Central South area, which could make their commercial exploitation viable, special given the potential price of white clam of around 5-6 euro/kg. Even though in the Central South area, white clam could be an accompanying species while fishing for wedge clam, in the Ebro Delta area, it could be caught as a primary species in certain depths. There is no legislation in force on the legal minimum size and there is also no literature on the size of first sex maturity. The average size of the white clam was greater than 25 mm, which is the minimum (landing?) legal size of the coquina and the Venus shells.

STECF notes that all these studies provided a systematic evaluation of the most common clam resources in the fishing areas (except for the Northern Zone). Confirm the poor situation of the venus and smooth clam in these regions, and the healthier situation of the wedge clam (*D. trunculus*). In addition, the relevant densities of white clam (*M. stultorum*) as for commercial exploitation. This information constitutes valuable references for assessing the evolution of these resources in the future.

Despite the little occurrence of striped venus clam (*C. gallina*) being detected in the project BIVALCAT 2019-2021, a new sampling campaign was carried out during May, June and July 2023 in the Delta del Ebro and southern central coast area to assess the potential recovery of the species which was noted by fishermen. The remarkable recovery shown by the study push the DGMPSF to set up a pilot exploitation plans for the two fishing zones (detailed in Annex 5). In the Ebro delta the Pilot plan affects to 14 vessels with a special permit for shellfishing with dredging for boats, allowing just fishing a single day per week to each vessel (as a single dredge haul of 20 mn), while the Pilot plan for the central southern zone affects to the single boat permit for shellfishing with mechanised dredging, with has maximum weekly catch of 50 kg. Both plans stablished a closure during the breeding period of the species, corresponding to the months of March – April – May. The results of the Pilot plans were not yet available. STECF note that these pilot fishing plans are designed for allowing specific direct fishing, which for the mechanized dredge allows daily quotas very similar to those permitted for the fishing of wedge clam (*D. trunculus*) in the same area (which at the beginning of the MP 2020 were set at 9kg per day).

Overall, the monitoring report argues that stocks have been subject to low fishing pressure in both clam fishing areas during the 2019-2020 period. This low fishing pressure was due to two different factors: 1) the low productivity of the fishing stocks did not affect the price of the wedge clam in the fish markets (the price remained low due to imports from other countries); 2) targeting other species with other fishing gears was more profitable, i.e., blue crab

(*Callinectes sapidus*) in the Ebro Delta and common octopus (*Octopus vulgaris*) in South Barcelona. STECF notes that beyond the reduced fishing effort there are other undetermined factors which can have been affecting the wedge clam stocks for decades (environmental and anthropogenic factors, such as sand extraction or reduction of flow of nutrients towards the sea, etc.). In addition, the project highlights the presence of a parasitic organism, which was detected in the collected samples of *D. trunculus*. Sporocysts of the trematode from the family Fellodistomidae *Bacciger bacciger* were identified. The presence of *B. bacciger* was detected in 51.79% of the population in South Barcelona clam fishing area, while in 24.18% of the Ebro Delta clam fishing area. The infected individuals were slightly larger than the uninfected in both fishing areas. This parasite has had a negative impact on the recovery of the species in both areas.

- *Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks. Data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).*

Table 6.7.1. The results of technical/administrative monitoring include the details of the fleet activity (number of boats, fishing days, catches of wedge clam and CPUEs) by regions and years (2021-2023).

	PREVIOUS MP			CURRENT MANAGEMENT PLAN											
	2017-2018			2021			2022			2023			2021-2023		
Central South	days	catch	CPUE	days	catch	CPUE	days	catch	CPUE	days	catch	CPUE	days	catch	CPUE
Vessel 1	333	3743	11.2	49	452	9	63	551	9	38	232	6	150	1235	8.2
Vessel 2	167	1079	6.5												
Delta															
Vessel 1	51	622	12.2	2	13	7							2	13	6.5
Vessel 2	47	2411	51.3	41	1163	28	56	1273	23	55	1302	24	152	3738	24.6
Vessel 3	232	5640	24.3	3	55	18	6	299	50	1	12	12	10	366	36.6
Vessel 4	112	3938	35.2	32	1412	44	41	1369	33	39	1398	36	112	4179	37.3
Vessel 5	20	648	32.4	4	62	15	2	15	8				6	77	12.8
Vessel 6	182	3770	20.7												
CENTRAL SOUTH TOTAL	500	4822	9.6	49	452	9	63	551	9	38	232	6	150	1235	8.2
TOTAL DELTA	644	18252	28.3	82	2704	33	105	2956	28	95	2712	29	282	8373	29.7

Source: Background documentation provided by the Commission.

The plan allows a total fleet of 19 vessels, but there is a reduction of the active fleet from 8 boats in 2018 to 6 in 2021 and to 3 in 2023 (2 in Delta Ebro and 1 in Central Southern Zone). There has been a reduction of 58% of landed catches (2016-18 compared to 2021-23) and a similar reduction of effort (fishing days). This implies a rather similar CPUEs (around 28-33 kg/day) in the Ebro Delta. The CPUE of the only fishing vessel operating in the Central South reduced between 2021 and 2023 from 9 kg/day/vessel to 6 kg/day/vessel. The reason is

reported to be related to the Venus clam Pilot Plan and to a larger focus on the octopus fishery in comparison with the 2016-2018 monitoring period.

The descriptions about the monthly activity of the fleets by regions allows understanding the reduction in the active number of boats involved in this fishery occurring in the Ebro delta. The report states that the parallel reduction of effort and catches is not due to poor state of the Wedge clams, but to alternate this fishery with more profitable ones during the cold months in the delta area, particularly with the fishing of gilt-head bream (*Sparus aurata*) with trammels in October November and to fishing for shrimps with dredge for boats from December to mid spring period. Some of the vessels in the Ebro delta which have ceased their activity with mechanized dredge have moved to the exploitation of the non-indigenous species blue crab (*Callinectes sapidus*) particularly in the summer autumn periods. In the Central South area, however, shellfish harvesting with 'gàbies' does not alternate, but coincides with the octopus fishery and is practiced continuously throughout the year, using pots.

STECF notes that the decrease of the fishing fleet actively engaged in this fishery has been parallel to the general decrease of the abundance of the resources available, the closures of areas and exploitable stocks. Therefore, the depleted condition of some of the resources explains partly why the current fishery is being carried out by only three vessels (over the 16 allowed by the MP), but as explained in the BIVALCAT project many boats have shifted to more profitable targets like the invasive blue crab fishery (*Callinectes sapidus*) in the Ebro delta and to octopus using other gears. This adaptation reflects a strategic response to the changing availability and economic viability of different marine resources.

- *Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/1241.*

While for the previous revision made by STECF of the former MP (STECF PLEN 19-01) the data on length-frequency distribution of the catches was presented for each year of the monitoring period (2016-2018), such information was not available to STECF for the current report, neither a direct table with estimates of the percentages of catches of wedge clam below the Minimum Legal Size; MLS (25 mm). Although, description of the catches by size classes was not made available, information coming from the ad hoc surveys for the Projects allowed monitoring of the length distributions of recruits (for Venus and wedge clam from samples from the sediment taken using a Van Veen dredge) and for commercial wedge clams throughout the sampling months between February 2020 and May 2021 in BIVALCAT 2019-2021, using the standard vessels with the mechanized dredges. This also allowed to study the Growth Biology for wedge clam (*D. trunculus*).

STECF notes, however, that the exact number of discards corresponding to the catches below minimum conservation size (of 25 mm for wedge clam) is not clarified in the reports, though might be inferred from commercial catch size distributions obtained the mechanized dredges.

- *Information on the social and economic impact of the measures proposed.*

STECF notes that the report contains information on the prizes of the landings. Concerning the wedge clam (*D. trunculus*) the average sale price of were 15.6 euro/kg during the former MP and during the current MP have risen to about 21.5 euro/kg. The highest price recorded during the years of validity of the Management Plan was 33 euro/kg in August, while the lowest price was 10 euro/kg in March 2023. Even though explanation on the sharing of fishing effort with other fishing activities is described (as mentioned above), a quantification of the economic dependency of the fleet on the target species is not presented. A similar remark was made by STECF 19-01.

- *Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e. seagrass bed, coralligenous habitat and maërl bed).*

The MP prohibits the operation of mechanized dredges over *Posidonia* meadows. Even though this was not flagged as a problem in previous examinations of this plan by STECF, the documents provided by Spain supporting this MP do not contain any information related to the potential impact of this fishery on protected habitats.

Objectives, safeguards and conservation/technical measures and implementation:

- *Implementation of the management plan*

The co-management committee met 15 times to monitor the CPUE, fishing days, sale prizes, over the last 3 years of MP. The committee has three members: Administration/Fishermen, scientists and an optional one from environment NGO. It has the role to fix fishing hours/daily quotas/ closing periods or areas, and economic issues. However, the monitoring report do not mention any decision or actions undertaken during the management period. The MP (ORDEN ARP/122/2020) established that the maximum number of fishing days per year and fishing zone will be established by the committee according to the scientific sampling. But if any decision was undertaken, they are not mentioned in the monitoring report provided to the STECF. It is acknowledged, as mentioned above, that there has been a reduction in the number of boat and fishing day in comparison with previous periods.

The MP followed the former suggestion of STECF 19-01 of setting maximum daily quotas at the levels of mean catches (because former daily catch limits were far above average observed CPUE). Now they were set at 32 kg/vessel for the Ebro delta region and at 9 kg/vessel in the central south zone. It is uncertain to the STECF whether they have been revised annually afterwards, as this is not reported.

STECF agrees with the suggestion made by the BIVALCAT project of maintaining the monitoring of clam stocks by the surveying methodology and strategy applied by the project to have a regular monitoring that allows having long series of data allowing future comparisons.

- *Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of CFP Regulation and quantifiable targets, such as fishing mortality rates and total biomass.*

STECF 19-01 noted the lack of fishing mortality or biomass reference points that are consistent with Article 2 of CFP. The lack of quality of the historical data was said to prevent reliable calculation of the CPUE at MSY levels. For this reason, the MP suggested a protective reduction of 20% of the fishing days set out in the MP previously approved by the EU in 2015, until the F can be calculated, which would allow the restoration and maintenance of exploited stocks. The current monitoring report has provided a first analysis of current exploitation as inferred from the direct samplings carried out in the project BIVALCAT, based on an assumption on the natural mortality for data limited stocks (Then et al., 2014). The very high total Z resulting from the length distribution in the surveys compared to M in the two fishing areas indicates a big F value, higher than optimal F. Parallel analysis based on Yield per recruit supported those results. STECF acknowledges the effort made to carry the analysis, however they rely on having a good understanding of the natural mortality by sizes and of the fishery selectivity which may be not sufficiently understood yet given the spatial structuring of the population. As currently the effort carried out by this mechanized dredge fleet is so low, and other fleets as the dredge boat interact with the current fishery, the wedge clam (*D. trunculus*), a proper allocation of fishing mortality across fleets is also required.

STECF 2019-01 noted “Catch limits for the next year fishing season should rather be set on the basis of on an assessment of the recruitment success estimated through scientific surveys carried out following a well defined sampling protocol”. Such suggestion is probably optimal, however STECF notes that is debatable whether it is too demanding for this small fishery.

STECF notes that the management plan lacks fishing mortality or biomass (densities) or CPUEs targets or thresholds upon which to take decision other than the one based on the maximum daily catch per boats indicator. In STECF 2019-01, when assessing the proposal of the current management plan, it was stated that “management decisions will be taken in agreement with the Technical Committee. As defined in previous MP, changes in biomass (CPUE) will be used as a metric for assessing progress towards management measures.” For the renovation of the management plan further elaboration of management targets and CPUE reference levels would be convenient.

STECF supports the suggestion of BIVALCAT project of developing a specific management plan for *D. trunculus* in Ebro Delta including the mechanized clam dredge fleet and the hand-operated dredge fishers, as both target on the same stock.

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

During the evaluation of the proposal of the current MP, STECF 19-01 noted that the proposed maximum catch limits were not in accordance with the average observed CPUE for these areas which were considerably lower.

Now, STECF notes that the maximum daily catch per boats and areas defined in the current MP (ORDEN ARP/122/2020) were aligned with the observed daily CPUEs of the boats per areas.

According to the MP, the seasonality of the fishery or the annual maximum number of fishing days is competence of the co-management committee. However, the monitoring report does not inform on any decisions taken by the committee on those subjects.

- *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.*

The current MP specifies that catch limits will be based on quarterly averages. There are no predetermined thresholds to prompt management responses in case of resource deterioration as indicated by CPUE. According to the MP, management decisions will be made in consultation with the Technical Committee. No such management reaction is reported in the monitoring report.

- *Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.*

The provided information does not enable an evaluation of the effects of fishing with mechanized dredges on the seafloor and on the associated benthic communities. This limitation was previously highlighted in the assessment of the current management plan proposal.

STECF conclusions

TOR 1 Review the implementation report of the boat seines fishery provided to support the Spanish request to renew the derogation

STECF concludes that the management plan includes appropriate elements for monitoring and managing the activities of the "Sonsera" fishery in Catalan waters.

STECF concludes that the conditions for granting derogations from EC Regulation 1967/2006, Articles 9 and 13, regarding minimum mesh size, distance from the coast, and minimum depth in Spanish (Catalan) waters, are met.

STECF recognizes the innovative approach undertaken to assess and monitor the stock status of the Mediterranean sand eel, *G. cicereus*, the primary target of this fishery. STECF encourages similar efforts to enhance the scientific monitoring of other target species, proposing options for conducting scientific surveys in the region to establish fishery-independent abundance indices for stock assessments.

STECF acknowledges that even small increases in fishing effort could significantly intensify removal rates from the fishery, posing challenges in detecting corresponding declines in population numbers through CPUE statistics due to hyperstability (Maynou et al., 2021). Therefore, STECF concludes that Spain should continue monitoring the fishing effort, ensuring it remains at minimal levels without any increase.

TOR 2 Review of the monitoring report for mechanised dredges management plan catching bivalves in the waters of Catalonia

STECF acknowledges Spain's efforts in effectively monitoring clam resources across current and historical fishing grounds in Catalonia through dedicated projects linked to the monitoring report of the MP.

STECF concludes that, given the low biomass levels of Venus clam and smooth clam, Spain's 2019 decision to close these fisheries was justified and appropriate. Subsequently, reopening this fishery as a pilot study in 2023, for a single vessel using mechanized dredges in the central south zone, might provide valuable data for assessing the evolution of these resources over time.

STECF endorses the BIVALCAT suggestion of development of a unified management plan for the wedge clam population in the Ebro Delta fishing area, which is commercially exploited by both mechanized dredges and hand-operated dredges. This approach aims to ensure effective management of this resource under a cohesive strategy.

STECF concludes that the monitoring program to report the monthly size distributions and the proportion of discards corresponding to the catches below MCRS for the wedge clam (of 25 mm) fishery using the mechanized dredges should be improved.

STECF also concludes that additional studies should be valuable for understanding the potential impact of mechanized dredges on the benthic communities associated to the fishing grounds

STECF reiterates its suggestion from STECF 19-01 to include an evaluation of the fleet's economic dependency on the target clam species. This should encompass the relative contribution of clam catches to the total annual income per boat, generated by the potential use of fishing gears targeting species other than bivalves.

STECF endorses the suggestion made by the BIVALCAT project of maintaining the monitoring of clam stocks by the surveying methodology and strategy applied by the project to have a regular monitoring. It allows having long time series of data that will support comparisons between current and future status.

STECF concludes that reporting the decisions undertaken by the co-management committee in the monitoring report of the MP are convenient.

STECF concludes that in any update of this management plan a further elaboration of management targets and CPUE reference levels would be an improvement.

References

- Baeta, M., Solís, M., Ramón, M., & Ballesteros, M. (2021). Effects of fishing closure and mechanized clam dredging on a *Callista chione* bed in the western Mediterranean Sea. *Regional Studies in Marine Science*, 48, 102063.
- Maynou F., Demestre M., Martín P., Sanchez P. (2021). Application of a multi-annual generalized depletion model to the Mediterranean sand eel fishery in Catalonia. *Fish. Res.*, 234, <https://doi.org/10.1016/j.fishres.2020.105814>
- Scientific, Technical and Economic Committee for Fisheries (STECF) – 60th Plenary Meeting Report (PLEN-19-01). Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-02904-5, doi:10.2760/56785, JRC116423
- Then A.Y., Hoenig J.M., Hall N.G., Hewitt D.A. and Jardim H.e.E. (2014) Evaluating the predictive performance of empirical estimators of natural mortality rate using information on over 200 fish species. *ICES Journal of Marine Science*, 72(1), 82-92.

6.8 Review of the monitoring report of the management plan for transparent goby in certain territorial waters of Spain (Murcia)

Background provided by the Commission

As established in Article 2 of Commission Implementing Regulation (EU) 2023/2230 of 25 October 2023 extending the derogation from Council Regulation (EC) No 1967/2006 as regards the minimum distance from the coast and depth granted to boat seines fishing for transparent goby (*Aphia minuta*) within the Spanish territorial waters of the Autonomous Community of the Region of Murcia, the Spanish administration has to provide scientific monitoring reports.

In June 2024, the Spanish Administration provided the Scientific Monitoring Report elaborated by the Autonomous Community of the Region of Murcia so it can be evaluated by STECF. This report describes the administrative controls and scientific monitoring carried out by the General Directorate of Production Agricultural, Livestock and Fishing of the Region of Murcia for the fishing campaign 2023-2024, as well as an evaluation of the results obtained.

Background documents are published on:

<https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

The STECF is requested to:

- Advise and assess whether the documents transmitted by Spain contain adequate elements in terms of:
 - o The description of the fisheries
 - Biological characteristics and state of the exploited resources with reference in particular to long-term yields.
 - Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.
 - Data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).
 - Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/1241.
 - Information on the social and economic impact of the measures proposed.

- Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e., seagrass bed, coralligenous habitat and maërl bed).
- Objectives, safeguards and conservation/technical measures
 - Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of Regulation (EU) No 1380/2013 and quantifiable targets, such as fishing mortality rates and total biomass.
 - Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.
 - 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 deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk.
 - Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.
- Other aspects
 - Quantifiable indicators for periodic monitoring and assessment of progress in achieving the objectives of a management plan.
- Suggest additional recommendation to improve the monitoring of this fishery.

Previous review by STECF

STECF assessed the request for extending the derogation regarding the minimum distance from the coast and depth to boat seines fishing transparent goby in its plenary meeting PLEN 23-01. The conclusions were the following:

- The implementation of the boat seine management plan in the Murcia Region in the period 2021/2022 meets the conditions upon which the derogation regarding minimum distance from the coast and depth was granted in 2020.
- The Plan contains the elements necessary for limiting the level of exploitation of transparent goby in the Murcia region, including limits on licenses, fishing periods, fishing effort, maximum yearly catches, HCRs and monthly CPUE thresholds below which the fishery should be limited or closed.

- In the 2021/2022 fishing season the above management mechanisms were applied. In December, the CPUE value was below the reference level and the weekly fishing day reduction (from 4 to 5 days) was adopted in January. Subsequently, as the January CPUE value was still below the reference value, the fishery was closed early. The above-mentioned management mechanisms were similarly applied in the 2022/2023 fishing season.

- The adaptive management measures in place may need to be strengthened if the signs of degradation in the stock observed in the last two fishing seasons continue to be seen in the next 2-3 years.

Information provided to the STECF

One document was provided to PLEN 24-02: "Scientific Monitoring Report. Management plan for the traditional fishery of *Aphia minuta* in waters of the Region of Murcia, Spain. Fishing season 2023-2024" (original in Spanish "Informe de Seguimiento Científico. Plan de Gestión para la pesca tradicional del chanquete (*Aphia minuta*) en aguas de la Región de Murcia, España. Campaña 2023-2024").

The extension of the derogation as regards the minimum distance from the coast and depth to boat seines fishing for transparent goby (*Aphia minuta*) was granted in October 2023 (Commission Implementing Regulation (EU) 2023/2230). It is indicated, among other obligations, that Spain shall communicate a report drawn in accordance with the monitoring plan, for the first time by 1 June 2024 and, thereafter, every 12 months. The provided document corresponds to this first monitoring report.

The report describes the administrative controls and the scientific monitoring carried out during the fishing season 2023-2024 (catches, CPUEs, LFDs, activity of the fleet, economic value of catches, control inspections on board, maps with the haul position and catch). Results of the monitoring are also presented for the period 2001-2002 to 2023-2024, which provides an overview of the performance of this fishery and allows comparison of the current situation with previous fishing seasons.

STECF comments

In response to the ToRs, STECF has the following comments:

Advise and assess whether the documents transmitted by Spain contain adequate elements in terms of:

- **The description of the fisheries**

- *Biological characteristics and state of the exploited resources with reference in particular to long-term yields.*

The target species are transparent goby (*Aphia minuta*), Ferrer's goby (*Pseudoaphia ferreri*) and crystal goby (*Cristalogobius linearis*). By far, the main target species is transparent goby (around 80% of individuals). A total of 2 460 individuals from 41 samplings on board and port sampling were examined. Information on sizes, weight, life cycle and maturity are presented for the three species.

- *Description of the fishing pressure and measures to accomplish a sustainable exploitation of the main target stocks.*

STECF notes that no standard analytical stock assessment is available for gobies. Management is based on TACs (for fishing season and daily by vessel) and monthly CPUE threshold. The fishing season TAC (percentile 75%) was updated using all available data (2001-2023) and set to 18.0 tonnes, slightly lower than the previous one (18.2 tonnes).

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

The fishing season of transparent goby lasts three months. Until 2023 the fishing season spanned from December to February; in the last fishing season 2023-2024 this period was slightly modified, from mid-December to mid-March. The target species is not discarded. By-catch species are immediately returned to the sea and survival is reported to be high according to visual observations.

Catch and CPUE (daily catch by vessel) data are presented for transparent goby by season and month from 2001-2002 to 2023-2024; and by individual vessel and month for the fishing season 2023-2024. CPUE (kg per haul) is also presented, by individual vessel, for the fishing season 2023-2024.

The number of fishing licenses were 27 and of these, 23 vessels were active during 2023-2024. Fishing can be carried out from Monday to Friday. These data allowed the comparison between the potential fishing days authorized and those effectively used, which was lower (the ratio fishing days/potential fishing days was 75% and 54% in months 1 and 2 of the fishing season, respectively). Fishing effort in March, the last month of the fishing season, was only 64 days because of the advancement of the closure when the season TAC was exhausted.

- *Catch composition in terms of size distribution, with particular reference to the percentage of catches of species subject to minimum sizes in accordance with Annex IX of Regulation (EU) 2019/1241.*

Size distributions are presented for the three gobiid species, for the fishing season 2023-2024 and by month.

The catch of species below minimum landing size is anecdotal (estimated to be in the fishing season 2023-2024 0.5% in weight) and most individuals are returned to sea alive.

- *Information on the social and economic impact of the measures proposed.*

Information is provided in terms of catch and income for the fleet and by individual vessel. The income from landings in 2023-2024 was EUR 314 800 and the mean price was 17.6 euro/kg. The mean price was lower than in previous years because of high catch of transparent goby and the higher presence of Ferrer's goby, which makes the price decrease (e.g. the previous season 2022-2023, with 8.14 tonnes landed, the mean price was 37.7 euro/kg) The mean income by vessel was ca. EUR 13 500, and income from landings by fishing day was estimated at 648 euro/vessel. The income from transparent goby represents 25% of the total income of the vessels that fish transparent goby.

- *Potential impact of the fishing gear on the marine environment with particular interest on protected habitats (i.e., seagrass bed, coralligenous habitat and maërl bed).*

A total of 14 hauls were examined to assess the impact of the gear on the bottom. The presence of sediment, stones, algae, *Posidonia oceanica* and sessile organisms was checked. Sessile and benthic organisms, as well as sediments remains or stones were not observed. Dead *Posidonia* leaves, with signs that they were dead days in advance the fishing operation (black, in state of decomposition) appeared in two hauls, its presence reported to be consequence of currents during the sampling, not of the fishing operation. According to these results, the impact on the bottom is minimal, in particular over *Posidonia oceanica* meadows.

- **Objectives, safeguards and conservation/technical measures**

- *Objectives that are consistent with the objectives set out in Article 2 and with the relevant provisions of Articles 6 of Regulation (EU) No 1380/2013 and quantifiable targets, such as fishing mortality rates and total biomass.*

The fishery is managed by TACs, for the season (18.0 tonnes until 1st March 2026), and daily TACs by vessel (40 kg for vessels with two fishers and 50 kg for vessels with three fishers). STECF notes that the daily TAC by vessel was increased at the request of the fishing sector, due to the increase in costs (previous daily limits were 35 and 45 kg for vessels with 2 and 3 fishers, respectively).

The percentile 25% of the CPUE (kg/day/vessel) calculated over 2013-2014 to 2022-2023 is taken as indicator of the status of the resource. It has been set to 18.5 kg/day/vessel. In case this threshold is not reached the fishing activity during the week will be reduced by one day the following month. In case this minimum threshold is not reached, the fishery will close. In 2023-2024 mean CPUE was 27.6 (kg/fishing days).

Two main reproduction periods have been observed, in spring and autumn. The timing of the fishing season, three months from mid-December to mid-March, allows transparent goby to reproduce without fishing activity part of spring and in autumn.

In addition, a new safeguard measure has been introduced. When transparent goby mature females with eggs represent more than 50% of adult females the fishery will close.

- *Objectives for conservation and technical measures to be taken in order to achieve the targets set out in Article 15 of Regulation (EU) No 1380/2013, and measures designed to avoid and reduce, as far as possible, unwanted catches.*

The fishing gear is very selective. Good practices on board allow high survival of by-catch species. By-catch species with MCRS represented 0.003% in number and 0.52% in weight.

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

The fishery is managed at a monthly scale. Fishing effort reduction and closure of the fishery are foreseen when the defined CPUE thresholds are not met. The fishery is also closed when the season TAC has been exhausted, as it was the case in the season 2023-2024.

- *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.*

When the safeguards thresholds are not reached (CPUE 18.5 kg/day/vessel) fishing effort reduction will be implemented the following month (fishing 4 days a week); and in case the threshold is still not reached, the fishery will close. When the season TAC (18.0 tonnes) is exhausted, the fishery will close. This measure was applied in 2023-2024. The quality of data is good.

- *Other conservation measures, in particular measures to gradually eliminate discards, taking into account the best available scientific advice or to minimise the negative impact of fishing on the ecosystem.*

STECF notes that discards are very low. According to the sampling of 14 hauls examined to estimate by-catch and discards, discards represented 1.16 % of the catch in weight and 0.007 in number. The fishing gear is very selective, gobies represented 95% of the catch in 2023-2024, and its impact on the bottom is negligible.

- **Other aspects**

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

As noted by STECF-PLN-23-01, because of the very short life span of transparent goby, empirical in-season management measures are used to set catch limits, which are set based on a catch per unit effort (CPUE) index. This CPUE index is considered to be influenced by environmental conditions which are likely to drive fluctuations in CPUE. It is shown in the information provided to STECF that high temperature in December (start of the fishing season) condition low recruitment or, at least, temporal variation of recruitment. STECF-PLN-23-01 suggested a periodic revision of this CPUE index. STECF notes that CPUE were updated with the available data series, from 2001 to 2023.

- ***Suggest additional recommendation to improve the monitoring of this fishery.***

STECF conclusions

STECF concludes that the documentation provided reports appropriately on the fishing activity during the fishing season 2023-2024, control measures in force, characteristics of catches, income and impact on the environment.

In the fishing season 2023-2024 the mean CPUE 27.6 kg/day/vessel was higher than the safeguard threshold (18.5 kg/day/vessel) and the fishery was closed in advance when the season TAC (18.0 tonnes) was exhausted, which would point to higher abundance of the resource in relation to the two previous seasons, when the fishery was closed in advance because the monthly CPUE was below the reference level. Therefore, STECF concludes that the management mechanisms have thus been applied appropriately, as agreed in the plan.

References

Commission Implementing Regulation (EU) 2023/2230 of 25 October 2023 extending the derogation from Council Regulation (EC) No 1967/2006 as regards the minimum distance from the coast and depth granted to boat seines fishing for transparent goby (*Aphia minuta*) within the Spanish territorial waters of the Autonomous Community of the Region of Murcia.

6.9 Follow-up of EWG 24-01: West Med MAP measures

Background provided by the Commission:

In adopting the Western Mediterranean Multiannual Management Plan (West Med MAP), Member States agreed to its objective of achieving F_{MSY} for all demersal stocks by 1 January 2025 at the latest as well as to Article 11 that aims at protecting, in particular juveniles and spawners hake, via the adoption of closure areas on the basis of the best available scientific advice, where there is evidence of a high concentration of juvenile fish, below the minimum conservation reference size, and of spawning grounds of demersal stocks. STECF PLEN 23-01, STECF EWG 23-01 and STECF PLEN 23-02 are the latest reviews of the proposals of closures (placement and period) submitted by western Mediterranean Member States and looked at their efficiency to protect juveniles and spawners of hake.

Since 2022, a compensation mechanism has been added to the trawling effort regime in the western Mediterranean multiannual plan. It rewards trawling vessels with additional fishing days when they adopt more sustainable fishing practices, such as efficient closure areas, change fishing gear for increased selectivity. STECF PLEN 23-01 looked at the information available during the first year of implementation of the compensation mechanism to review the mechanism's criteria and their use by the concerned Member States.

Background documents are published on: <https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

ToR1: Hake management measures to achieve and maintain MSY

In view of the latest STECF assessments in particular on the state of hake stocks and of previous STECF analyses on closure areas, STECF is requested to review and identify possible new management measures that would be applicable to hake stocks in the western Mediterranean to support a rapid achievement of MSY. These measures, should include, *inter alia*:

- a) Management of the fishing mortality stemming from fixed gear (GNS, GTR, LLS) targeting adults of hake via either effort control or a catch limit. Due consideration and advice should be provided to improve the partial F estimation in EMU 1 in particular.
- b) Identification of clear bathymetries and periods where targeted closures would ensure a decrease in fishing mortality and/or catches of age class 0-1 in the order of 15%.
- c) Increase in mesh size to 45mm square in the codend or other gear technical measures.
- d) Other management measures to be identified by STECF.

Along the same lines, STECF is requested to identify possible remedial measures for situations where the hake stock requires the activation of safeguard measures stemming from Art 6 of the West Med MAP.

ToR2: STECF is requested to identify possible remedial measures for stocks currently assessed having an SSB below Blim or Bpa and thus requiring the activation of safeguard measures stemming from Art 6 of the West Med MAP.

Some measures identified under ToR 1-2 could be candidates for further quantitative testing in EWG 24-12.

ToR3: Assessment of the compensation mechanism

STECF is requested to review all the criteria used under the compensation mechanism since 2022, evaluate the potential impact/effectiveness. The Mediterranean Fishing Opportunities for 2024 includes a fully-fledge article with 12 criteria for the compensation criteria. Building on the evaluation from STECF EWG 23-01, STECF could provide insight on all the existing criteria.

Summary of the information provided to STECF

STECF was not provided with any specific background documents for this ToR. Instead, DG MARE proposed STECF to use the backgrounds documents provided for STECF PLEN-23-02. These include:

- Background documents for ToR 6.5: the reports of the ad-hoc contracts STECF 2301 and STECF 2302 and the report of STECF ref STECF2345_STECF2346 (two reports based on four ad-hoc contracts) that describe the production of maps of densities for different species targeted by the WestMed MAP. Those maps were based on species distribution models fitted on MEDITS survey data, consistently with the MediSeH project.
- Background documents for ToR 6.6: these include 4 reports detailing protocols to monitor the effect of closure areas as well as first results on the recovery of the benthic community, spill-over effect, fishing effort redistribution. A report entitled “Establishment of reference conditions” that summarises an underwater video survey carried out in the context of the ECOREST project.
- Background documents for ToR 6.7: Fishing effort data per year, GSA, country, gear and vessel-length.

STECF comments

ToR1: Hake management measures to achieve and maintain MSY

a) Management of the fishing mortality stemming from fixed gear (GNS, GTR, LLS) targeting adults of hake via either effort control or a catch limit. Due consideration and advice should be provided to improve the partial F estimation in EMU 1 in particular.

STECF observes that fixed gears account for a small proportion of total hake landings compared to other gears for the hake stock HKE_1_5_6_7 in EMU1 (Fig 6.9.1 - Tab 6.9.1). As such STECF considers that, while any measures to reduce fishing mortality is positive given the critical status of the two European hake stocks, their impacts would be limited in EMU1. STECF further notes that the contribution of fixed gears in total landings is much more important for the hake stock in EMU 2 (Figure 6.9.2) and that, in this context, remedial measures related to fixed gears are likely to have more effect.

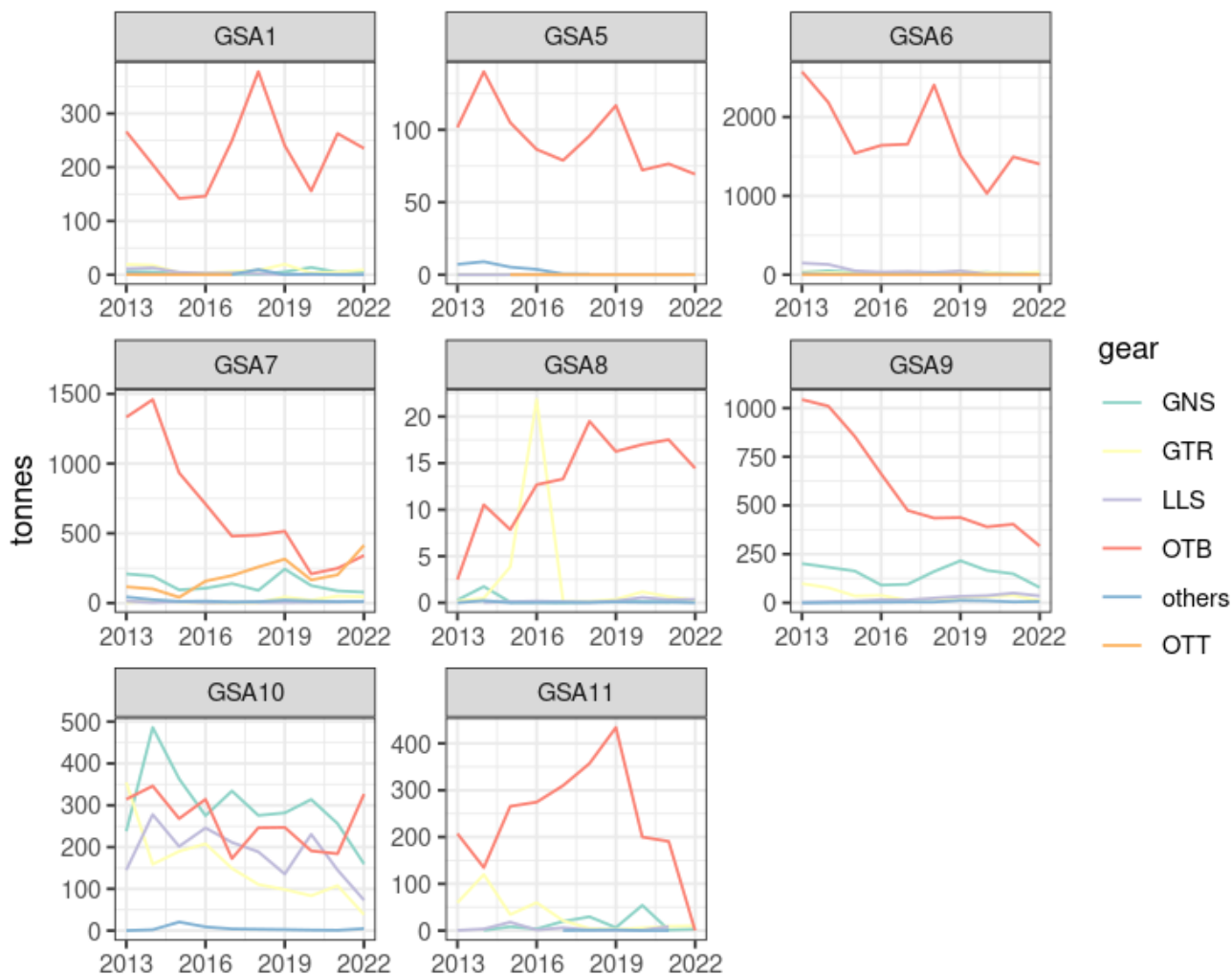
STECF reiterates that STECF PLEN 23-02 highlighted the difficulty to determine a fishing effort baseline for those fishing gears as the available fishing effort data are not necessarily good indicators of the effective fishing pressure generated by those gears. This has already been highlighted for longliners during STECF PLEN 22-03. This is visible in the absence of relationship in almost all GSA between partial fishing mortality and fishing effort (STECF EWG 23-11). Given these difficulties in effort measurement and given that fixed gear fisheries are more selective than active gears, catch limits could be an option for those fisheries to reduce the overall fishing pressure on hake stocks. This would imply implementing two different systems (effort limit and catch limit) for the same species depending on the fishing gear used. STECF considers that a possible solution could be to carry out short-term forecasts at target fishing mortality, estimate corresponding catch and then use partial fishing mortality to estimate catch for fixed gears and suitable level of fishing effort for trawlers.

Regarding the estimation of partial fishing mortality, STECF observes that length frequency data of landings are not available for set nets and demersal longlines in GSA 1 and 5, impairing the reconstruction of landings-at-age and subsequently of partial fishing mortality (see section 3.1.2 in STECF EWG 23-11) in those two GSA. STECF also observes that fixed gears have a very different selection pattern (e.g. in GSA 6 in 2021, mean length of landings was 23.4 cm for OTB, 50.3 cm for LLS, 38.5 cm for GNS and 37.8 cm for GTR, based on data used by STECF EWG 23-09), and that the length classes targeted by fixed gears are poorly monitored by the MEDITS survey. As such, STECF considers that while some assumptions can be made with respect to the selectivity to reconstruct catch-at-age matrices for those gears in those two GSAs, there will be few data to check their reliability.

STECF notes that length-frequency data for those gears are available in the other two GSAs of EMU 1, namely GSA 6 and 7. With those data, STECF EWG 24-12 could estimate partial

fishing mortality related to fixed gears in those two GSAs (see section 3.2.2.1 in STECF EWG 23-11). As the landings in GSA 1 and 5 are small compared to landings in GSA 6 and 7 (figure 6.9.1), and as landings by fixed gears are very small in those two GSAs (1 and 5), STECF considers that missing partial fishing mortality in GSA 1 and 5 is not an issue when assessing the mortality due to fixed gears in EMU1.

Figure 6.9.1. Reported hake landings per gear and GSA (FDI landings data).



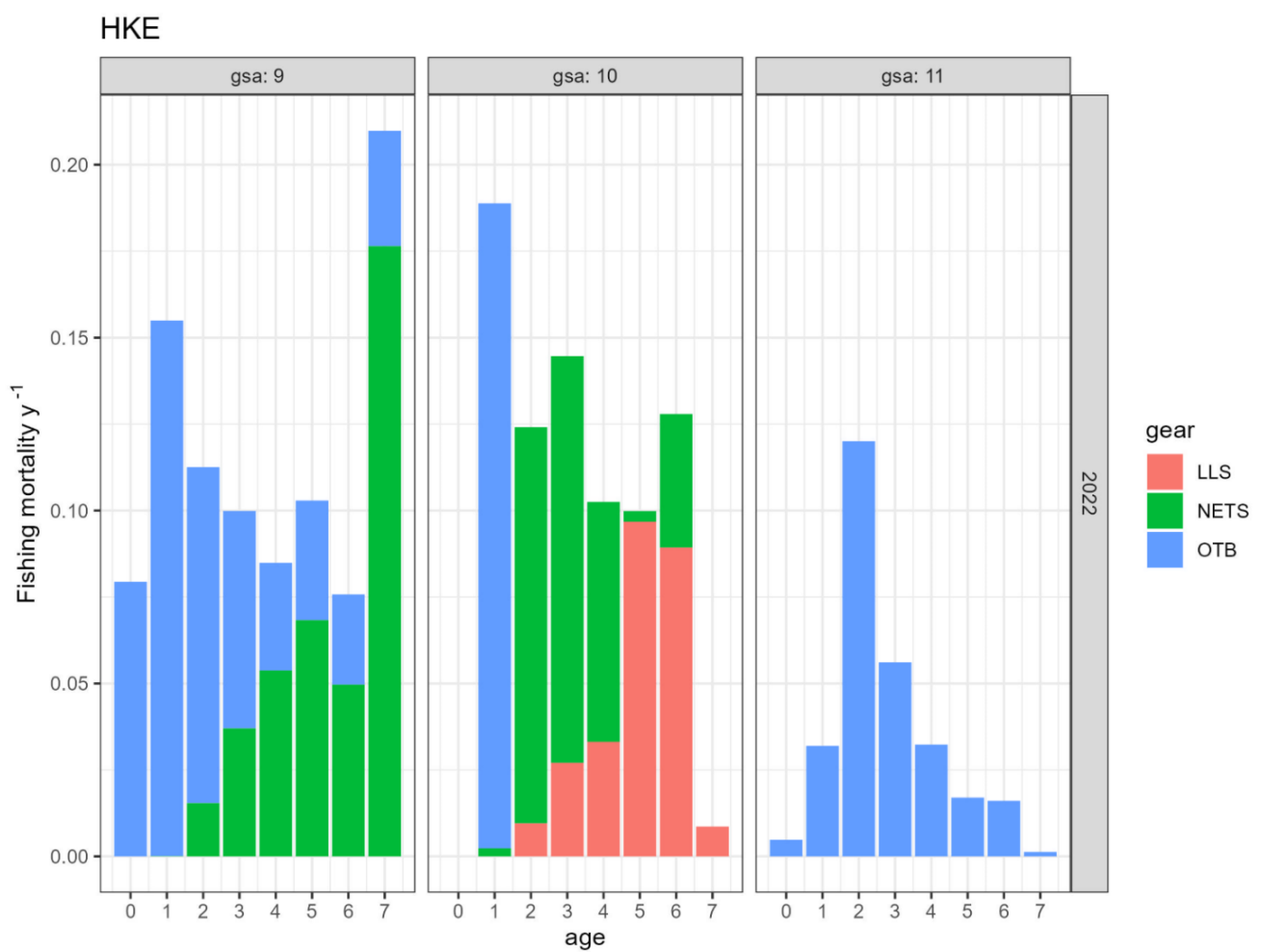
Source: EWG-24-01, FDI data calls and own elaboration.

Table 6.9.1. Minimum and maximum yearly percentage of hake total landings harvested by fixed nets over the period 2013-2022 according to FDI landings data.

stock	GNS	GTR	LLS
HKE_1_5_6_7	3.1%-9.1%	0.7%-3.4%	0.5%-3.5%
HKE_8_9_10_11	16.5%-30.8%	5.6%-19.2%	5.5%-15.5%

Source: EWG-24-01, FDI data calls and own elaboration.

Figure 6.9.2. Partial fishing mortality of hakes in EMU 2 estimated by STECF EWG 23-11.

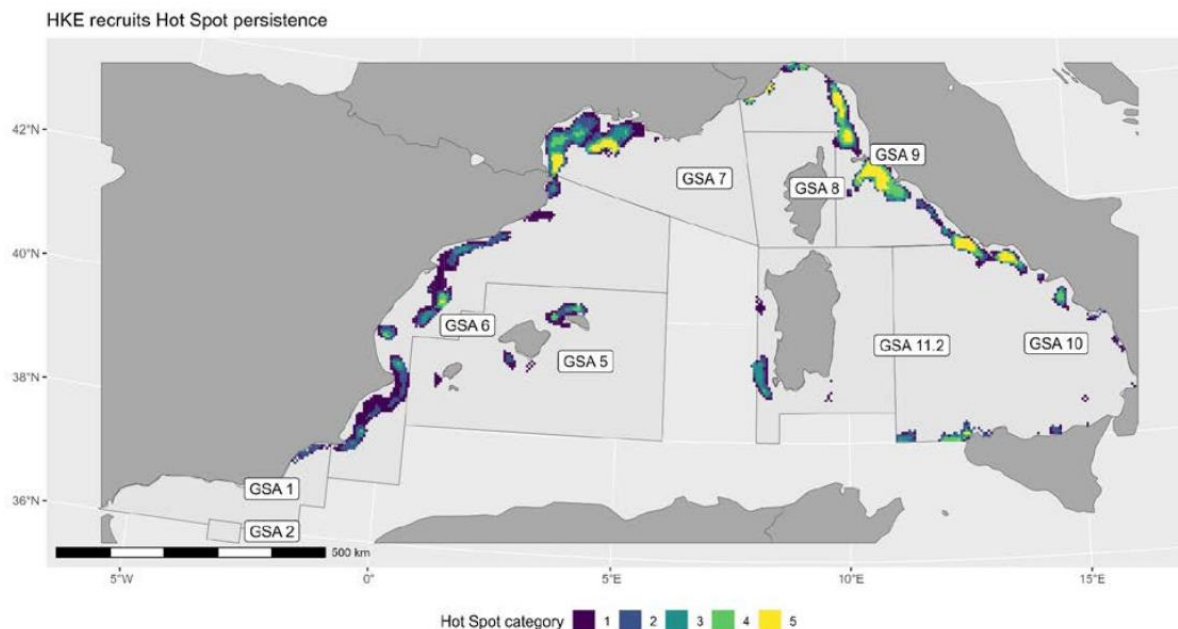


Source: EWG-23-11.

b) *Identification of clear bathymetries and periods where targeted closures would ensure a decrease in fishing mortality and/or catches of age class 0-1 in the order of 15%.*

STECF observes that the species distribution models developed by ad-hoc contracts STECF 2301, STECF 2302 and STECF 2345_STECF 2346, included a depth effect as predictors of hake juvenile density. However, while the depth effect was significant in both delta (probability of presence/absence) and positive (density in case of presence) submodels in the Sardinian area, it was kept only in the presence/absence model in EMU 1 and in the Tyrrhenian area. STECF notes that those models also include a slope effect that was significant in both delta and positive submodels in EMU1 and Tyrrhenian Sea and in the presence/absence submodel in Sardinia area. The models allowed to identify hotspots that can be used to propose closure areas (figure 6.9.3), as done by STECF EWG 23-01, or in a similar approach by Ortega et al. (2023).

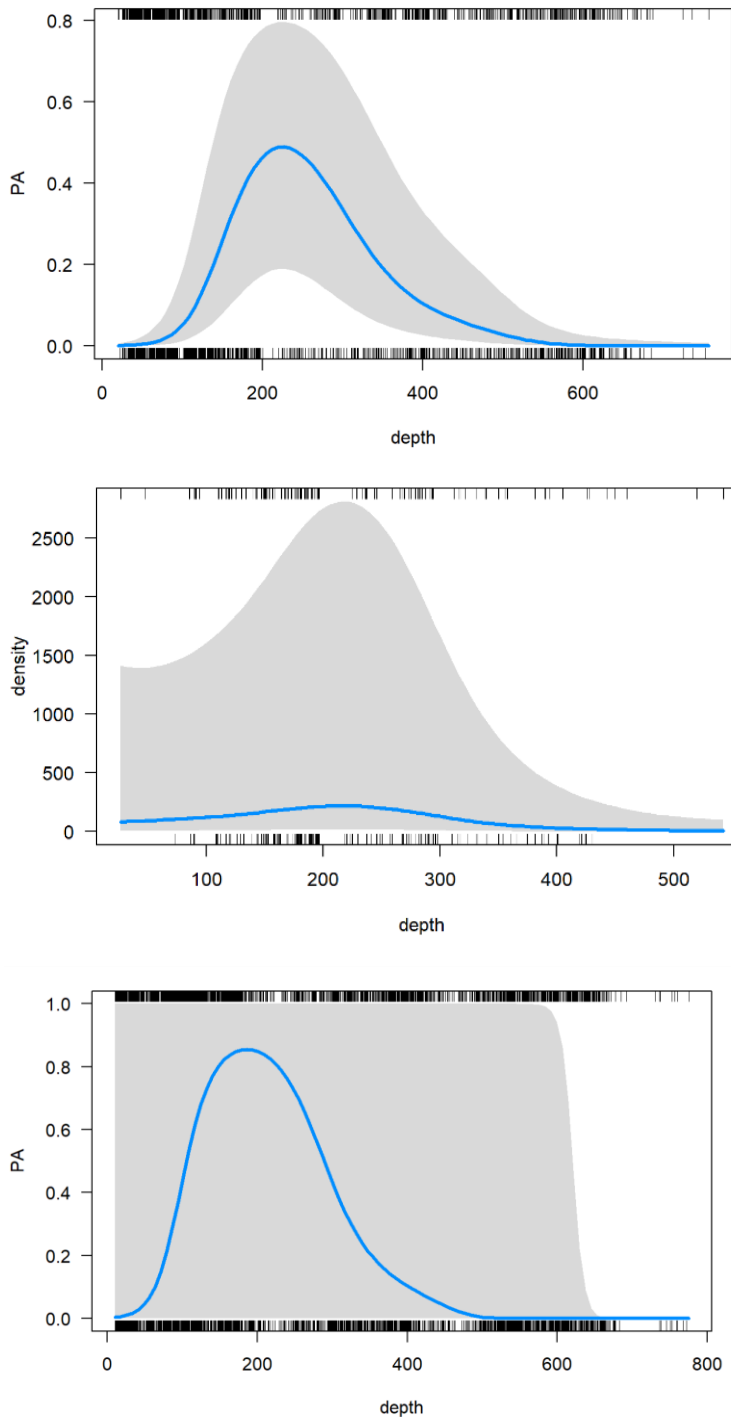
Figure 6.9.3. Hot spot (defined as zone of high concentration that are persistent through years) of hake juveniles density.

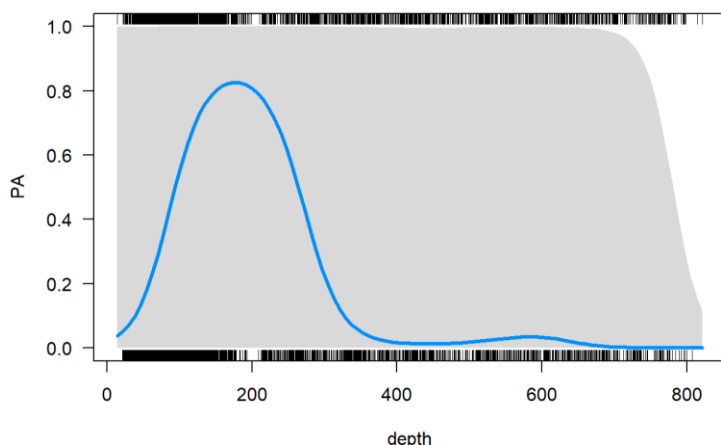


Source: ad-hoc contract (Ref STECF 23-01 and STECF 23-02).

The SDM model can be used to have a more precise view of the relationship between depth and hake density (figure 6.9.4). It shows that highest densities are found between 50 m and 300 m. STECF reminds that slope was another important complementary predictor of density, and that therefore, it might be an additional criterion to look at when proposing closure area.

Figure 6.9.4. Marginal effects of depth of the SDM models that show how probability of presence (left column) and density in case of presence (right column) vary with depth when all other predictors are kept at their mean values in Sardinia (first row), Tyrrhenian area (second row) and EMU 1 (third row).





Source: EWG-24-01 and own elaboration.

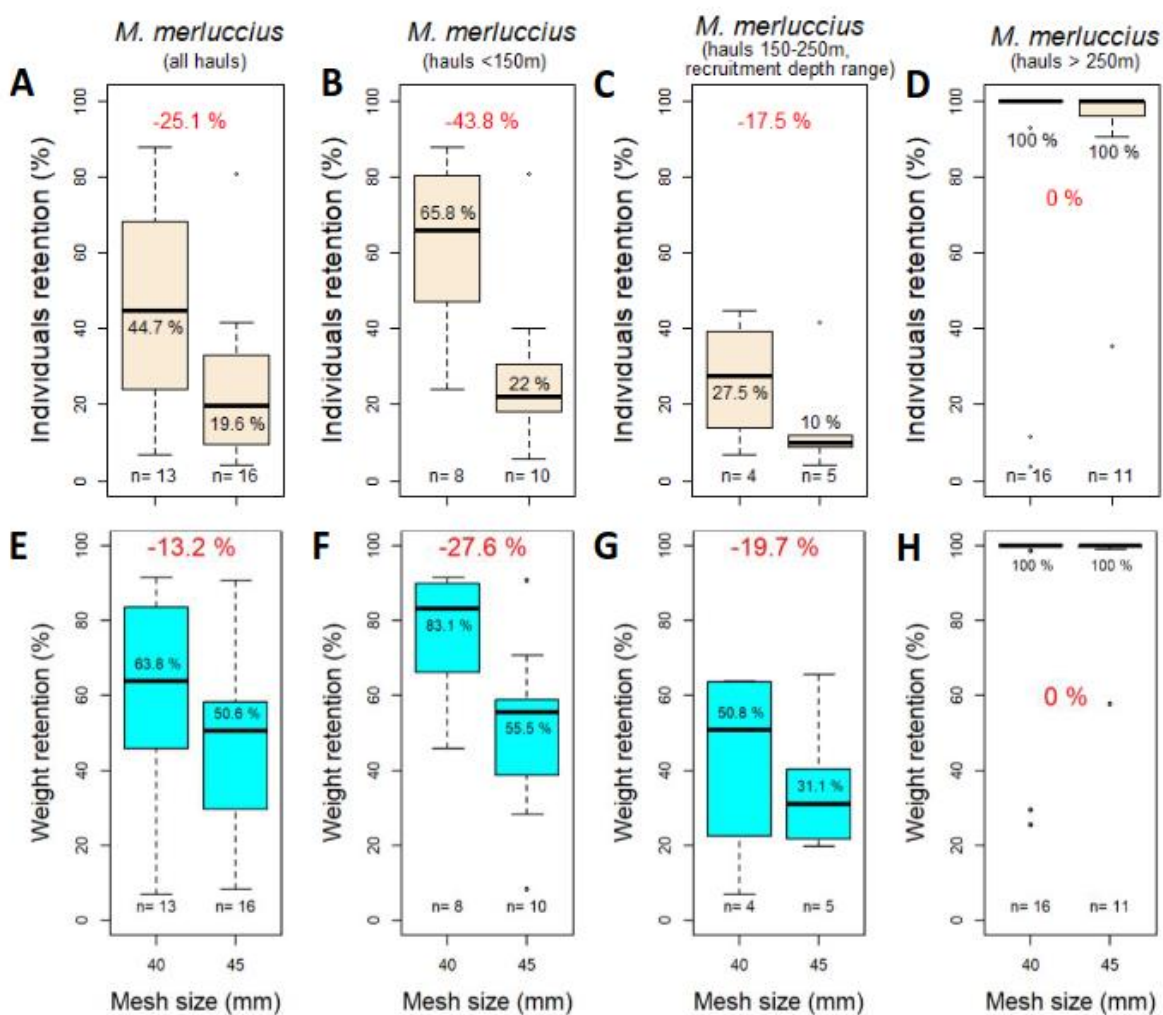
However, STECF observes that those models and maps were based on MEDITS data which are collected during a single season, as such they cannot necessarily be used for other seasons. An analysis of length-frequency composition of landings of commercial landings might be relevant to detect the most critical seasons.

STECF observes that Blanco et al. (2023) have analysed how discard rates and length frequency of catches vary among bathymetry strata and seasons in the bottom trawl fishery in GSA6. They do not display species specific variations in discard rate in their article, however, it shows that while the European hake was an important contributor of total discards in spring and summer in shallow waters (20-70m) and in spring, summer and fall on the continental shelf (70-200m), it was not an important part of the discarded fraction in the upper slope (200-400) and lower slope (400-700). It also shows that the L50 of discard probability (i.e. length at which there is a 50% probability of being discarded by commercial fishermen) is 17 cm, below the MCRS (20 cm).

Also, in GSA6, ICATMAR have analysed the spatial distribution of commercial LPUE of hake in the bottom trawl fishery and the length frequency of landings and discards at different depth strata (Institut Català de Recerca per a la Governança del Mar (ICATMAR), 2023a). There is no obvious bathymetric pattern in LPUE across the continental shelf (Figure 21 in (Institut Català de Recerca per a la Governança del Mar (ICATMAR), 2023a)). However, analysis of length frequency of landings in discards per strata and month (Annex 11 in (Institut Català de Recerca per a la Governança del Mar (ICATMAR), 2023a)) suggests that most discards arise from bathymetry between 0 and 200 m from May to September. In this context, STECF considers that some closures at those bathymetries and over this period might be candidates for further remedial measures. Nevertheless, STECF considers that such fine scale measures can be difficult to test with a bioeconomic spatial simulation model, since results will be sensitive to assumptions regarding fish behaviour affecting spillover, and fishing activity redistribution.

c) Increase in mesh size to 45 mm square in the codend or other gear technical measures. STECF reminds that a review of recent selectivity trials and length-at-maturity estimations for hake was carried out during STECF PLEN 22-03, but that no experiments had tested the 45 mm mesh size at that time. ICATMAR (2021) tested such mesh size, showing a reduction of the retention in the codend of undersized hake (fig 3.6.5) and an increase of the L50 (Tab 2) but that it remains below the MCRS (20 cm). They estimated that the negative impact of such a change on fleets' valuable catches would be limited (short-term loss of income typically less than 4% for the coastal OTB fishery in GSA 6).

Figure 3.6.5. Retention of hakes (retention is defined as the percentage of hakes that remain in the codend and is not able to escape).



Source: ICATMAR (2021).

Table 3.6.2. Selectivity parameters estimated by ICATMAR (2021).

Codend mesh size (mm)		L50 (cm)	SR (cm)
40	All hauls	13.6	1.9
	Hauls < 150 m	14.3	1.6
	Hauls in recruitment depth range (<150-250m)	13	2.8
45	All hauls	16.8	1.8
	Hauls < 150 m	16.9	1.8
	Hauls in recruitment depth range (<150-250m)	16.6	1.6

Source: ICATMAR (2021).

Those results have recently been confirmed by Bahamon et al. (2024) in GSA 5 and GSA 6. Overall, it suggests that an increase in mesh size could lead to a significant reduction of discards. However, STECF also reminds that under scenarios tested by STECF EWG 23-11, MSY for all species was not achieved with selectivity improvement only.

d) *Other management measures to be identified by STECF.*

STECF observes that bottom trawlers account for the largest part of hake catches; given the critical status of the stocks, reducing the fishing mortality due to those gears would be required to achieve Fmsy in the short term. Scenarios tested during STECF EWG 23-11 showed that a large decrease of fishing effort was required to achieve Fmsy in the short term, but with drastic socio-economic consequences. While changes in selectivity (e.g. SM45mm) could effectively reduce discard of juveniles (Institut Català de Recerca per a la Governança del Mar (ICATMAR), 2021; Bahamon *et al.*, 2024), they would not allow reaching Fmsy according to STECF EWG 23-11 on their own. Recently, additional gear modifications have been tested (rigid device in the gear, T90 mesh) but with limited effect on the selectivity (Sbrana *et al.*, 2022; Herrmann *et al.*, 2024). Potentially, closures areas from May to September in depth from 0-200m could also be a way to reduce the catch of undersized hakes.

ToR2: STECF is requested to identify possible remedial measures for stocks currently assessed having an SSB below Blim or Bpa and thus requiring the activation of safeguard measures stemming from Art 6 of the West Med MAP.

STECF observes that the following stocks would require the activation of safeguard measures according to latest stock assessments (STECF EWG 23-09):

- below Blim: hake in GSA 1_5_6_7, Norway lobster in GSA 6, hake in GSA 8_9_10_11
- below Bpa: red mullet in GSA 1, red mullet in GSA 6, blue and red shrimps in GSA 5, blue and red shrimps in GSA 6_7

STECF notes that Article 6 of the West Med MAP states that for stocks below Bpa: “In particular, notwithstanding Article 4(3), maximum allowable fishing effort shall be set at levels consistent with a fishing mortality that is reduced within the range of FMSY”, while for stock below Blim: “In particular, notwithstanding Article 4(3), such remedial measures may include suspending the targeted fishery for the stocks concerned and the adequate reduction of the maximum allowable fishing effort”. STECF further notes that the West Med MAP also lists possible remedial measures in articles 7, 8, 11 and 14, consisting in further fishing effort regulation, measures on recreational fisheries, closure areas as well as measures related to the landing obligation. The West Med MAP also states that “emergency measures in accordance with Articles 12 and 13 of Regulation (EU) No 1380/2013” could be taken. Those two articles state that emergency measures should be taken in “on duly justified imperative grounds of emergency relating to a serious threat to the conservation of marine biological resources or to the marine ecosystem based on evidence”.

Regarding the European hake, different measures have been explored and tested in different STECF EWGs, including different set of closures, compensation mechanism or selectivity improvements. STECF notes that the tests carried out during STECF EWG 23-11 showed that Fmsy was achieved only with scenarios that included a drastic reduction of fishing effort. STECF also reminds that in EMU2, fixed gears account for a significant part of the landings and that catch limits can be seen as an option, and that closures from May to September in depth below 200 m can potentially reduce the catch of undersized hakes. The use of SM50mm codend could also be a method to reduce discards of undersized hakes. See previous section for further details.

Regarding Norway lobster, STECF notes that the current MCRS is below length-at-first maturity (STECF PLEN 22-02), that discard survival of the species is rather good though variable among seasons (García-De-Vinuesa *et al.*, 2020 – 74% in winter and only 6% in summer) and can be optimised with good practices (Mérillet *et al.*, 2018). As such, STECF suggests that increasing the MCRS to 25mm CL (20mmCL now), even with no change in the gear, could be a remedial measure to test since it will have a limited impacts on other species provided that undersized Norway lobsters are discarded (the stock is under a survivability exemption to the landing obligation all year round for pots and traps, from January to June and September to December for trawlers – Commission Delegated Regulation (EU) 2021/2066).

Regarding red mullets, the species is harvested by a mixed fishery that also target hake. Since hake stocks are in a worse condition, any effort reduction to protect hakes should deliver positive outcomes for red mullet as demonstrated by scenario tested during STECF EWG 23-11.

Regarding blue and red shrimp, STECF 23-01 has shown that the use of a 50mm codend would significantly reduce the catch of shrimps under 25mm, but a quantification of the final effect on the stock still needs to be carried out. The implementation of MCRS might be tested

but would result in economic loss for the fisheries and possibly side effects for other species. STECF observes that the distribution of the species extends to 3000m depth, areas for which data are scarce. As such, STECF considers that modelling and simulating the dynamics of the species is complex and uncertain.

More generally, STECF points out that biological knowledge (displacement of fishes, migration) and fishery data with appropriate temporal and spatial coverage and resolution are missing which prevents proposing and designing new remedial measures. In that sense, the availability of VMS data would be a valuable addition.

ToR3: Assessment of the compensation mechanism

STECF observes that seven criteria defined in the Council Regulation (EU) 2024/259 are strictly similar to the ones defined in the Council Regulation (EU) 2023/195 which were reviewed by STECF EWG 23-01. STECF did not find any new scientific information related to those criteria, except for criterion “a) vessel uses a trawl net with a 45 mm square mesh codend in order to reduce by at least 25 % catches of the juveniles of hake” for which more recent studies in GSA 6 have highlighted possible positive outcomes (Bahamon *et al.*, 2024).

STECF observes that criterion “(e) the Member State concerned has adopted a new minimum conservation reference size for hake of at least 26 cm, *and has secured the enforcement of appropriate technical measures to comply with this minimum conservation reference size, in order to progressively reach the length at first maturity and improve hake stocks status*” is a revised version of previous criterion, with the addition of the italicised part. This addition answers to the concerns of STECF EWG 23-01 which had noted that the previous version was missing a reference to any technical measures and therefore, would have only led to an increase of the discarded fraction.

STECF notes that the Regulation defines six new criteria:

- *(f) the Member State concerned has adopted a new minimum conservation reference size for blue and red shrimp of at least 25 mm CL and for giant red shrimp of at least 35 mm CL, and has secured the enforcement of appropriate technical measures to comply with those minimum conservation reference sizes, in order to progressively reach the length at first maturity and improve stock status;*

STECF observes that the proposed MCRS are in line with the L50 of the maturity ogive estimated by the ad-hoc contract in support of STECF PLEN 22-02. Indeed, while there is currently no MCRS enforced for blue and red shrimp and giant red shrimp, the ad-hoc contract suggested L50 between respectively 25-30mm CL and 35-40 mm CL.

However, STECF notes that ICATMAR (2021) has assessed the impact of the use of SM50 on blue and red shrimps. Results show that while such a gear would decrease the retention

and had limited economic impact (less than 5%), but the L50 would remain below the 25 mm MCRS except during the recruitment season (23.4 mm all hauls, 26.2 mm during the recruitment season). STECF EWG 23-01 had simulated the effect of the use of such a gear, showing a significant reduction of catch of shrimp below 25 mm. STECF has not found any selectivity trials for the giant red shrimp. In view of this, STECF is not sure that the implementation of an MCRS would not lead to an increase of the discard fraction. Moreover, STECF supports the concern of STECF EWG 23-01, i.e shrimp fishery in EMU2 is a mixed fishery where vessels targeting blue and red shrimp also target giant red shrimp so that, in practice, it does not justified to have two different MCRS.

- *(h) the Member State concerned has set a closure for fishing activities using twin trawlers;*

STECF observes that twin trawlers are mostly limited to the French fleet in GSA 7 where it accounts for 22% landings of hake (yearly average based on FDI data from 2013 to 2022). As such, STECF considers that a possible effect of this criteria is limited to this GSA. STECF observes that the criterion does not specify the type of closures (temporal or temporary) nor any objectives, and as such Member States could potentially propose ineffective measures. STECF also observes that this criterion could be analysed using the bio-economic simulation models. STECF EWG 23-01 reminded that EWG 22-01 had estimated that closure areas in GSA 7 already cover about 30% of overall trawlable area, that if further reductions in F are needed this would be better addressed with other management measures.

- *(i) the Member State concerned has set a closure for fishing activity with trawlers at a depth higher than 800 m;*

STECF observes that such closure would affect deep-water trawling. STECF notes that this fishery is mainly occurring in depth lower than 800m (FAO, 2016; Maiorano *et al.*, 2022) though it can extend till 900m (STECF EWG 22-09). ICATMAR (2023c) has discussed the potential impact of an extension of the 1000-m FRA to 800 m in GSA 6. It concluded that impact on landings would be limited and should rather be seen as “a precautionary measure to deter eventual advances in fishing technology to fish deeper”. STECF suspects that the same conclusion would also apply to other GSAs.

STECF also notes that data below 800m are scarce (for example, MEDITS do not cover area below 800 m), likely impairing an assessment of the measures (typically, the SMART model used by STECF EWG 23-11 does not cover areas below 800m).

STECF observes that, as currently written, the criterion does not specify any duration, minimum surface or objectives and that, as such ineffective measures could potentially be proposed .

- *(j) the Member State concerned has established permanent closure areas in order to reduce by at least 25 % catches of juveniles of all demersal species or by at least 20 % catches of spawners of all demersal species;*

This criterion is similar to criterion d) except that it refers to “permanent closures” instead of “temporary closures” and is hence less constraining. As such, STECF notes that there is no need to implement a permanent closure to be granted with the compensatory fishing days and this criterion can be seen as a specific subcase of criterion d). STECF also reminds that the report of ICATMAR (2023b) showed that permanent closures can have more impact than seasonal closures to reduce total fishing effort in the closure area. This was also highlighted by STECF 23-01.

- *(k) the vessel uses a trawl with flying or mid-waters doors or other doors which reduce the contact of the doors and the gear with the seabed, to preserve the essential fish habitats of the demersal species;*

STECF observes that this criterion has another objective (i.e. protection of habitats) compared to other criteria, which is not consistent with the initial aim of compensation mechanism which according to the point 29 in Council Regulation (EU) 2024/259 is “to promote the use of selective gears and to establish efficient closure areas to protect juveniles and spawners”. STECF notes that it might be difficult to monitor and assess the relative contribution of such a large diversity of criteria with respect to the achievement of the West Med MAP target of an exploitation of stocks within the range of FMSY.

STECF reminds that the negative impact of trawl doors on benthic habitat is well documented (Hiddink *et al.*, 2006; Juan *et al.*, 2007; Hinz *et al.*, 2009). Some technical modifications have been proposed to reduce the contact and impact of doors on ground (Rijnsdorp *et al.*, 2020; Sala *et al.*, 2023; Bastardie, 2024). STECF notes that modified doors have been tested in the Catalan bottom trawl fishery and that video monitoring suggest an effective reduction of impacts (Institut Català de Recerca per a la Governança del Mar (ICATMAR), 2023c). However, STECF is not able to assess the potential effects of generalising the use of such gears on the different stocks. Moreover, those effects are likely to depend on the biology of the species.

- *(l) the Member State concerned has set a closure period of at least four continuous weeks for fishing activities with trawlers in the areas and periods recognised as important, on the basis of the best available scientific advice, for the protection of blue and red shrimp and/or giant red shrimp.*

STECF observes that there is no strong seasonality in the landings of blue and red shrimp (Table 6.9.3) and as such, it might be difficult to find an appropriate season for closures.

Table 6.9.3. Average percentages of total yearly landings arising from the different quarters. The average was computed based on FDI data over the period 2013-2022.

stock	Quarter 1	Quarter 2	Quarter 3	Quarter 4
ARA_1_2	13.3	26.1	42.2	18.4
ARA_5	21.2	30.5	29.2	19
ARA_6_7	18.2	29.4	32	20.3
ARA_8_9_10_11	19.5	31.8	34	14.7

Source: FDI data and own elaboration.

STECF observes that France and Spain used the compensation mechanism in 2022 and 2023 while Italy made a request for it in 2023 but did not use the additional days (European Commission 2024a,b).

Criterion d) (*“the Member State concerned has established temporary closure areas in order to reduce by at least 25 % catches of juveniles of all demersal species or by at least 20 % catches of spawners of all demersal species”*) was the most frequently used criterion (European Commission 2024a,b). Regarding this specific criterion, STECF EWG 23-01 pointed out that currently available data does not allow to assess whether implemented closure areas have achieved their objectives of catch reduction. However, STECF EWG 23-01 observed an effective modification in the spatial distribution of fishing effort and Certain and Billet (2023) observed an effective reduction of the capture of juveniles following the implementation of two closures in the Gulf of Lion.

Criteria b) (*“the vessel uses a trawl net with a 50 mm square-mesh codend for deep-water fisheries in order to reduce by at least 25 % catches of blue and red shrimps with a carapace length (CL) of less than 25 mm in geographical subareas 1, 2, 5, 6,7, 8, 9, 10 and 11 and to reduce by at least 25 % catches of giant red shrimps with a CL of less than 35 mm in the geographical subareas 8, 9, 10 and 11”*) and criterion f) (*“the Member State concerned has set a closure of at least four continuous weeks for fishing activities with trawlers in the areas and periods recognised as important, on the basis of the best available scientific advice, for the protection of spawners of hake stocks. Such areas shall also account for spatial patterns of spawners’ distribution, including depths from 150 m to 500 m. The periods of the temporary fishing closure shall be from February to March and from October to November.”*) have also been used by Spain in 2023 and 2024 (European Commission 2024a,b). While for criterion b), STECF EWG 23-01 was in position to simulate and to validate that the change in mesh size is likely to achieve the objective of catch reduction of small shrimps, it was not possible to assess the overall effect on the stock dynamics. For criterion f), STECF reiterates the concern of STECF EWG 23-01 that the design of implemented closures (closure areas alternate spatially) is likely to limit the total effort reduction. Moreover, those implemented closures areas covered periods not covered by MEDITS limiting the data to assess their potential effects.

In 2024, criteria a) (“vessel uses a trawl net with a 45 mm square-mesh codend in order to reduce by at least 25 % catches of the juveniles of hake”), b), d), g) (same as previous criterion f), i) and k) have been used by Spain (European Commission 2024a,b). STECF considers that the results provided by Bahamon *et al.* (2024) suggests that criterion a is likely to achieve its objective of catch of undersized hake reduction, but that the effect on stock dynamics still needs to be tested. On the other hand, STECF observes that it is not possible to assess the effect of criterion i) (see previous comment) and that criterion k) is not directly related to the protection of species.

STECF also observes that the number of compensated days has progressively increased through years (244 days in EMU1 in 2022, 4724 in EMU1 in 2023, 6688 in EMU1 in 2024, Italy has requested but not used compensation mechanism only in 2023 - European Commission 2024a,b). Those compensated days can significantly increase the total amount of effective fishing days. For example, French trawlers in fishing effort group EFF1/MED1_TR3 and EFF1/MED1_TR4 had an initial quota of 7602 fishing days in 2024 (Council Regulation (EU) 2024/259) and received 770 (i.e. 7% increase compared to the 2024 7602-days quota) in compensation. STECF stress that compensation mechanism might impair the general objective of fishing effort reduction while delivering effects that cannot be assessed.

STECF conclusions

ToR1: Hake management measures to achieve and maintain MSY

STECF concludes that, considering the status of hake stocks, any reductions of fishing mortality are positive, additional remedial measures on fixed gears are more likely to have an effect in EMU2 than in EMU1. STECF considers that catch limits might be better suited than effort limits for fixed gears.

STECF concludes that the lack of length-frequency data from gillnets and longlines in GSA1 and GSA5 does not impair the estimation of partial fishing mortality at the stock level given their very limited contribution to total catches.

STECF concludes that the effect of closure areas below 200m from May to September to protect age 0 and 1 hake could be tested as eventhough hake are widespread along the whole continental shelf, discards in GSA 6 seem to mainly occur in those period and bathymetries.

STECF concludes that the use of 45mm SM codend could reduce the catch of undersized juveniles of hake.

ToR2: STECF is requested to identify possible remedial measures for stocks currently assessed having an SSB below Blim or Bpa and thus requiring the activation of safeguard measures stemming from Art 6 of the West Med MAP.

For hake, STECF concludes that many measures have been proposed and tested and that only a strong reduction in fishing effort would ensure achieving the West Med MAP objective. This fishing effort reduction would also benefit red mullet stocks that are under safeguards measures conditions.

STECF concludes that increasing the MCRS for Norway lobster could be tested. Considering that the species is under a landing obligation exemption, discarded individuals could benefit the stock given their high survivability.

The lack of biological knowledge and fishery data with sufficient temporal and spatial coverage and resolution prevents STECF to propose, design and test new remedial measures.

ToR3: Assessment of the compensation mechanism

STECF concludes that the modification made to “criterion e” clarifies its objective.

STECF concludes that ideally, the effect of any compensation measures on stock biomasses and landings should be tested with simulation models. Such simulations critically depend on the availability of data with appropriate spatial and temporal resolution (e.g. VMS data alongside landings, survey data below 800m) consistent with fine spatio-temporal closures to be tested. Moreover, STECF reminds that the smaller the spatial and/or temporal coverage of closure areas, the more sensitive the results become to model assumptions about the redistribution of species and fishing effort.

Table 6.9.4 summarises STECF comments and conclusions on each compensation mechanism.

Table 6.9.4. Main STECF comments for each compensation mechanism criterion defined in Council Regulation (EU) 2024/259.

critereon	STECF conclusions/comments
(a)	Evidence suggests that the reduction of catches might be achieved (Bahamon et al., 2024), effect on the stock could be tested by simulations.
(b)	Evidence suggests that the reduction of catches might be achieved (STECF EWG 23-01), effect on the stock could be tested by simulations. Effect of selectivity improvement on deep-water trawler was tested by STECF EWG 23-11, with limited outcomes compared to effort reduction.
(c)	Evidence suggests that it would have effects mainly on European hake (STECF PLEN 22-03). Effects on stock biomass and catches can potentially be simulated provided selection curves data are available.

- (d) Theoretically, the effects can be tested with spatial simulation models (currently ISIS-Fish in EMU1 but only for hake, SMART in EMU 2 though parametrisation might take time). Scenario already tested in previous EWG had never achieved the criterion objective. The smaller the spatial and/or temporal coverage of closure areas, the more sensitive the results become to model assumptions about the redistribution of species and fishing effort.
 - (e) see criterion a
 - (f) Having two different MCRS for the two species might be difficult to implement. Effect of selectivity improvement on deep-water trawler was tested by STECF EWG 23-11, with limited outcomes compared to effort reduction.
 - (g) There is no evidence of hake spawner aggregation (STECF PLEN 22-03). STECF EWG 23-01 noted about the closure areas implemented in Spain that “the closed period alternate spatially so that effort reallocation is likely to occur from closed towards adjacent open areas, at least partially limiting the total effort reduction”. Effect can theoretically be simulated with spatial models, but results will likely be sensitive to assumptions on fish movement and effort redistribution
 - (h) Possible effects are expected mostly in GSA7 where 30% of trawlable area is already closed. The effect of such measure on stock biomass and catches could be tested by simulation however, the smaller the spatial and/or temporal coverage of closure areas, the more sensitive the results become to model assumptions about the redistribution of species and fishing effort. The criterion is not precise enough leaving to much flexibility to Member States.
 - (i) Data are scarce in those areas (i.e. no MEDITS below 800m) impairing simulation of the effects. Given the limited fishing activity below 800m, this is more likely a safeguard to future technical. The criterion is not precise enough leaving to much flexibility to Member States.
 - (j) The achievement of the objective of the criterion and its impact on stock biomasses and catches could be tested by simulation, the smaller closure areas are, the more sensitive the results are to assumptions on fish movements and effort redistribution. This criterion is similar to criterion b, but more constraining for MS.
 - (k) The effect cannot be predicted and tested.
 - (l) The distribution areas of those species extend far beyond 800m, in depth where data are very scarce, and fishing activity limited. Implemented new closures areas below 800m is unlikely to have major effect. The effects will be difficult to predict
-

Source: own elaborations.

References

- Bahamon, N., Recasens, L., Sala-Coromina, J., Calero, B., Garcia, J. A., Rotllant, G., Maurer, A., *et al.* 2024. Selectivity-based management for reversing overexploitation of demersal fisheries in North-western Mediterranean Sea. *Marine Policy*, 165: 106185.
- Bastardie, F. 2024. Exploring the viability of innovative fishing technologies as an alternative to bottom trawling in European marine protected areas, an environmental and socio-economic analysis. Panel for the Future of Science and Technology, PE 762.843. European Parliamentary Research Service.
- Blanco, M., Nos, D., Lombarte, A., Recasens, L., Company, J. B., and Galimany, E. 2023. Characterization of discards along a wide bathymetric range from a trawl fishery in the NW Mediterranean. *Fisheries Research*, 258: 106552.
- Certain, G., and Billet, N. 2023. Évaluation biologique et socio-économique du plan de gestion WestMed dans le Golfe du Lion. Rapport d’expertise Ifremer.

- European Commission. 2024a. Report from the Commission to the European Parliament and the Council. First report on the implementation of the Multiannual Plan for the fisheries exploiting demersal stocks in the Western Mediterranean Sea. COM/2024/322 final
- European Commission. 2024b. Commission staff working document - Details of the report Accompanying the document Report from the Commission to the European Parliament and the Council First report on the implementation of the Multiannual Plan for the fisheries exploiting demersal stocks in the Western Mediterranean Sea. SWD/2024/195 final
- FAO. 2016. FAO workshop on the management of deep-sea fisheries and vulnerable marine ecosystems in the Mediterranean. FIAF/ R1183. Rome.
- García-De-Vinuesa, A., Breen, M., Benoît, H. P., Maynou, F., and Demestre, M. 2020. Seasonal variation in the survival of discarded *Nephrops norvegicus* in a NW Mediterranean bottom-trawl fishery. *Fisheries Research*, 230: 105671.
- Herrmann, B., Bak-Jensen, Z., Sistiaga, M., Brinkhof, J., Larsen, R. B., Grimaldo, E., Cerbule, K., et al. 2024. Are rigid sorting devices necessary to control size selectivity in demersal trawl fisheries? *Regional Studies in Marine Science*, 72: 103445.
- Hiddink, J. G., Jennings, S., Kaiser, M. J., Queirós, A. M., Duplisea, D. E., and Piet, G. J. 2006. Cumulative impacts of seabed trawl disturbance on benthic biomass, production, and species richness in different habitats. *Canadian Journal of Fisheries and Aquatic Sciences*, 63: 721–736. NRC Research Press.
- Hinz, H., Prieto, V., and Kaiser, M. J. 2009. Trawl disturbance on benthic communities: chronic effects and experimental predictions. *Ecological Applications*, 19: 761–773.
- Institut Català de Recerca per a la Governança del Mar (ICATMAR). 2021. Size selectivity trials and the economic impact in GSA6 of increasing square mesh codend size from the actual 40mm to 45- and 50mm for coastal and deep-sea otter trawl fisheries, respectively. ICATMAR, 21-05.
- Institut Català de Recerca per a la Governança del Mar (ICATMAR). 2023a. State of fisheries in Catalonia 2022, Part 1: report on the monitoring of the commercial fishing fleet. ICATMAR, 23-07. Barcelona.
- Institut Català de Recerca per a la Governança del Mar (ICATMAR). 2023b. Fisheries advisory report for the Northern GSA 6. ICATMAR, 23-09. Barcelona.
- Institut Català de Recerca per a la Governança del Mar (ICATMAR). 2023c. Spatial WMMAP fishing closures effectiveness in GSA 6, Effort reduction, redistribution and spillover effect. ICATMAR, 23-06.
- Juan, S. de, Thrush, S. F., and Demestre, M. 2007. Functional changes as indicators of trawling disturbance on a benthic community located in a fishing ground (NW Mediterranean Sea). *Marine Ecology Progress Series*, 334: 117–129.
- Maiorano, P., Capezzuto, F., Carluccio, A., Calculli, C., Cipriano, G., Carlucci, R., Ricci, P., et al. 2022. Food from the Depths of the Mediterranean: The Role of Habitats, Changes in the Sea-Bottom Temperature and Fishing Pressure. *Foods*, 11: 1420. Multidisciplinary Digital Publishing Institute.
- Mérillet, L., Méhault, S., Rimaud, T., Piton, C., Morandeau, F., Morfin, M., and Kopp, D. 2018. Survivability of discarded Norway lobster in the bottom trawl fishery of the Bay of Biscay. *Fisheries Research*, 198: 24–30.

- Ortega, M., Castro-Cadenas, M. D., Steenbeek, J., and Coll, M. 2023. Identifying and prioritizing demersal fisheries restricted areas based on combined ecological and fisheries criteria: The western Mediterranean. *Marine Policy*, 157: 105850.
- Rijnsdorp, A. D., Depestele, J., Eigaard, O. R., Hintzen, N. T., Ivanovic, A., Molenaar, P., O'Neill, F. G., et al. 2020. Mitigating seafloor disturbance of bottom trawl fisheries for North Sea sole *Solea solea* by replacing mechanical with electrical stimulation. *PLOS ONE*, 15: e0228528. Public Library of Science.
- Sala, A., Depestele, J., Gümüş, A., Laffargue, P., Nielsen, J. R., Polet, H., Smith, C. J., et al. 2023. Technological innovations to reduce the impact of bottom gears on the seabed. *Marine Policy*, 157: 105861.
- Sbrana, M., De Carlo, F., Ligas, A., Massaro, A., Musumeci, C., Rossetti, I., Sartini, M., et al. 2022. Testing experimental devices in the extension piece to increase the selectivity of bottom trawl in the Nw Mediterranean. *Frontiers in Marine Science*, 9. Frontiers. <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2022.1017766/full> (Accessed 2 July 2024).

6.10 Review of the ad-hoc contracts to follow-up on STECF EWG 24-01 concerning quantification of aid measures for the fleets fishing under the West Med MAP

Background provided by the Commission:

Background documents are published on: <https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

The STECF is requested to evaluate the results of the ad-hoc contract for EMU 2 -Italy and assess if the below TORs should be adjusted for EMU-1.

TORs for this ad hoc contract:

TOR 1: Provide an overview on the implementation of the crisis mechanism in the respective Member State. This should include the legal framework.

TOR 2: Develop and populate a database with the available data on paid subsidies in the MS regarding the fleet segments used in the bio-economic models of the West Med Map evaluations (economic fleet segments, specific fleet segments in Italy).

TOR 3: Provide an overview on the measures of temporal and permanent cessations in the MS. This should include an overview on payments already issued and planned funding in the future.

TOR 4: Analyse AER data regarding operational subsidies for the time period 2012- 2022 in France, Italy and Spain. This information should reveal how the last years may have been different from the years before the COVID-19 crisis. This provided data overview should be specified by countries and fleet segments.

STECF comments

STECF observes that the results of the ad-hoc contract include: a) a report, b) an excel file with the subsidies paid from 2019 to 2024, by fleet segment, GSA and type of measure for the Italian fishing fleet and c) a folder with the legal acts reporting the list of beneficiaries for each administrative body and by type of measure.

STECF notes that, as requested by TOR1, a detailed description of the different types of financial support measures is included in the report. In particular, STECF observes that in the period 2019-2024, the Italian fleet segments operating in the West Mediterranean Sea received operating subsidies in relation to: a) Mandatory temporary cessation of fishing activities funds (MTC), b) Temporary Cessation of fishing activities funds to mitigate the impact of the COVID-19, outbreak (TC_Covid_19), c) Emergency Fund for Fishery and Aquaculture_Covid-19 (Fund_Covid-19), d) One-off compensation for measures to alleviate the consequences of Russia's war of aggression against Ukraine on fishing activities (Fund_EU Ukraine crisis).

STECF observes that for each type of measure, a summary sheet is presented to describe the measure, the financial support, the payment year and the calculation of the subsidy for each vessel. STECF notes that each type of financial support has different and very

complicated eligibility requirements and procedures. Due to a lack of minimum requirements, some vessels may not be eligible to receive financial support. STECF also notes that different administrative bodies are involved in the verification of the eligibility criteria and in the payment process and that there is no centralized national database listing all the beneficiaries. In addition, the information available in the official documents is not reported by fleet segment, therefore it is necessary to associate to the beneficiary the identification number of the vessel (that is the Common Fleet Register (CFR) number) and then to associate to each identified vessel the fleet segment, as defined in the DCF (prevalent fishing technique and vessel length).

STECF observes that the contractor addressed TOR 2 by providing an excel spreadsheet with the list of payments made by year, fleet segments, GSA and type of measures. STECF also notes that this list has to be considered as partial because, for some administrative regions, data on the subsidies related to the Emergency Fund for Fishery and Aquaculture_Ukraine crisis are not yet available. Also, the year of payments is not available for all the interventions, therefore for certain type of subsidies and administrative regions some assumptions have been made to assign the payment year. Finally, STECF notes that data on fuel tax credits, established within the Fund_ EU Ukraine crisis, are not available and therefore they have not been included in the database.

STECF notes that the contractor also provides an analysis of the available data on paid subsidies by fleet segments in the West Med area and type of measure. From this analysis, STECF observes that in 2019-2024, operating subsidies for the fleet operating in GSA9, 10 and 11 show a highly variable trend. STECF notes that a low incidence of operating subsidies on the total income is reported, but this incidence is calculated on the whole fleet, therefore including also vessels that did not receive any aid, because they did not fulfil the requirements or because the payment has not been finalized yet. The actual incidence of subsidies on individual vessels may therefore greatly.

STECF observes that TOR 3 of the ad-hoc contract required to provide an overview on the measures of temporal and permanent cessations in the Member State. STECF observes that the permanent cessation of fishing activities was implemented in 2017 and payments were made in 2018 for a total of about EUR 70 million. In 2024, a new permanent cessation measure will be launched under the new EMFAF. Temporary cessation of fishing activities is implemented year by year on the basis of the Italian National Management Plans drawn up on the basis of Article 19 of Council Regulation (EC) No 1967/2006.

Finally, STECF observes that, in addition to the analysis of the 2019-2024 data provided, an additional analysis of operational subsidies data available in the AER database is presented by the contractor. STECF observes that the analysis covered the period 2013-2021, in line with the data available in the STECF dissemination page. STECF also observes that data presented in this TOR are not comparable with those presented in previous TORs because AER data refer to the whole Italian fleet and not to specific GSAs. From the analysis presented in the ad-hoc contract STECF notes that the trend of the operating subsidies is quite cyclical because the payment year is not the year of implementation of the measures implemented. This is particularly evident for the temporary cessation measure where as the

deadline for structural funds approaches, there is an acceleration of payments (2007-2013 EFF, 2014-2020 EMFF).

STECF conclusions

STECF concludes that the ad-hoc contract addressed all the TORs for the Italian fleet.

STECF concludes that similar studies are required for other Member States (Spain and France) in EMU 1, to make the results by Member States fishing fleet comparable. STECF concludes that overall, the TORs addressed for the Italian fleet in EMU_2 are clear and could be applied also for a similar study in EMU_1. However, the TORs could be slightly improved by adding the periods to be covered that should be 2019-2024 in TORs 1 and 2, in line with the approach used in the ad-hoc contract for Italy. In addition, TOR 1 should include an overview of all the operating subsidies implemented and not only on the implementation of the crisis mechanism.

STECF concludes that the same structure of the database should be used in any forthcoming ad-hoc contracts in order to facilitate the use of such data.

STECF concludes that the complex eligibility requirements and procedures, along with a lack of comprehensive administrative process, hinder the proper and complete tracking of payments. STECF concludes that the database provided in the ad-hoc contract only includes payments already incurred, while financial supports that have been already assigned but not paid are not included yet. This may be relevant because, as reported in the report from the ad-hoc contract, there is an acceleration of payments as the deadline for structural funds approach.

STECF concludes that incorporation of subsidies into predictive models is challenging because of two major exogenous events (COVID-19 and Ukraine war) that complicates predictability and effectiveness and also because of the high year-to-year variability of subsidies and related payments.

STECF concludes that the qualitative and quantitative information provided by the ad-hoc contract should be scrutinized by the forthcoming EWG 24-12. This scrutiny should aim to identify specific types of financial support measures that could be included in the models, particularly those that are not linked to specific exogenous crises but are stable over time, such as payments for mandatory temporary cessation of fishing activities. Additionally, the results may be used to assess the actual impact of these subsidies on the profitability and future economic viability of the fishing fleets.

STECF concludes that if predictive models incorporate a component on fleet dynamic that allows to simulate investment/disinvestment functions, the different foreseen financial support measures (including permanent cessation that will be launched under the new EMFAF) should also be considered in the decision function of the model (as this one is usually based on past profitability).

6.11 Assessing an amended request from Finland for a scientific fishery for Baltic salmon

Background provided by the Commission

STECF PLEN 24-01 assessed a project from Finland for a scientific fishery for Baltic salmon in ICES subdivisions 29 North and 30. Following the STECF assessment Finland notified an amended project on 30 April 2024 and a slightly revised amended project on 24 May 2024. Since the amended project continues to involve more than 6 vessels and the quantity of wild salmon expected to be caught still seems to be significant, the Commission in accordance with article 25 of the Technical Measures Regulation (EU) 2019/1241 seeks the STECF's advice if the level of participation is justified on scientific grounds. To be noted that despite the Commission's request to Finland to wait for the STECF's assessment of the amended project, Finland announced that the fishery would start on 27 May 2024 as initially planned.

Background documents are published on: <https://stecf.ec.europa.eu/meetings-calendar/past-meetings>

Request to the STECF

The STECF is requested to assess if the level of participation of commercial fishermen in the amended scientific project is justified on scientific grounds. If this was not the case, the STECF is requested to estimate, to the extent possible, what a justified level of participation would be.

Summary of previous STECF advice

STECF PLEN 24-01 evaluated the first version of the request for the scientific salmon fishery in Subdivisions 29N and 30 submitted by Finland.

STECF PLEN 24-01 concluded that the objective of the proposed scientific fishery was unclear. STECF noted that specifying this objective was essential to developing an appropriate sampling protocol. The sampling strategy depends on the question raised, and in many cases could target certain areas or time periods, decreasing the number of salmon potentially caught and the number of vessels required.

STECF PLEN 24-01 further concluded that the added value of the proposed scientific fishery was unclear in that the number of vessels was not justified on scientific grounds. If such a fishery was to be allowed, once the objective is clearly specified, STECF had suggested that the number of salmon to be caught and the number of vessels could be determined by the Finnish authorities using pre-existing knowledge on the spatial and temporal distribution of salmon.

STECF PLEN 24-01 concluded that, if a scientific fishery is allowed, it would be worthwhile specifying the measures put in place to ensure that commercial fishermen comply with the scientific protocol.

STECF PLEN 24-01 also concluded that to reduce the potential impact of the sampling programme, consideration could be given to releasing wild salmon to deliver the same scientific results while limiting the risk of detrimental impacts on the depleted population. This is justified given the survivability of salmon from trap nets has been shown to be greater than 70%.

Summary of the information provided to STECF

STECF was provided with two letters from the Ministry of Agriculture and Forestry of Finland as background documents:

1. *Letter from the Ministry of Agriculture and Forestry of Finland (30.04.2024), on amending the conditions of the scientific fisheries for salmon in Finnish waters of subdivisions 29N and 30 in 2024 following the advice of STECF.*

This letter submitted to the Commission 30 April 2024, notifies on amendments to the proposed scientific fishery following to the STECF PLEN 24-01 assessment.

According to the document, the Ministry of Agriculture and Forestry of Finland will in accordance with Article 25(1) point e) of Regulation 1241/2019 supplement the objective and conditions of the scientific salmon fisheries for 2024 as follows:

- "The scientific salmon fisheries will be conducted with the necessary number of fishing vessels needed and salmon caught to achieve a representative sample of salmon populations in the fishing areas and time periods within four nautical miles along the Finnish coastline in SDs 29N and 30 that in 2024 are closed to directed salmon fishing due to possible occurrence of Ljungan salmon. The scientific fisheries will not simulate a full fishery".
- Following the conclusion of STECF that it could be worthwhile specifying the measures put in place to ensure that commercial fishermen comply with the scientific protocol, the Ministry informs that all applicable inspection and control provisions and measures will also apply to the scientific salmon fisheries.
- On the STECF consideration of releasing of wild salmon the document concludes that this is not an alternative since taking the samples from the scales of wild salmon individuals is crucial for collecting relevant information on the river origin of wild salmon individuals. The scale samples cannot be taken without harming the wild salmon individuals and raising the risk of causing a high mortality of the released individuals.

Furthermore, Finland states that the incoming Delegated Regulation 2024/1296 on an exemption for salmon from the landing obligation when fishing with trapnets requires that when discarding salmon caught with trapnets and fyke nets, the salmon shall be released immediately back into the sea, which does not allow a weighing, measurements of length, sex identification and especially scale sampling of live salmon before release, as the data sampling in the scientific fisheries requires. In the Åland Islands the scientific salmon fisheries are conducted with fixed nets, which do not allow for a release of wild salmon due to the landing obligation and since the fish are damaged in the netting.

The document also states that the Ministry of Agriculture and Forestry, in accordance with Article 25(1) of Regulation (EU) 2019/1241, will run the scientific salmon fisheries in 2024, as amended above following the STECF advice.

The document also includes a list of the 32 Finnish commercial fishing vessels that will be authorized for scientific salmon fisheries in SD 29N and 30 in 2024.

2. *Letter from the Ministry of Agriculture and Forestry of Finland (25.05.2024) on scientific fisheries for salmon in Finnish waters of subdivisions 29N and 30 in 2024.*

This letter, submitted to the Commission 25 April 2024, summarises the information of the document described above, providing also information on changes in the provisional list of vessels participating in scientific fishery in 2024.

The letter also suggests that the further assessment of the request would be unnecessary “since the setup with 32 vessels and an estimated catch of 2550 wild salmon does not simulate a full fishery but ensures a representative sample of the salmon populations caught in our coastal fisheries with the necessary spatio-temporal coverage as mentioned in the information of 30 April. We have therefore designed the scientific salmon fisheries based on the STECF plenary report 24-01 and the need for a representative sample and we have carried out the process in full compliance with article 25 of Regulation 1241/2019”. The letter also reiterates that measuring length and weight and determining the sex of live wild salmon and especially taking a sufficient amount of scales from them and thereafter releasing them, would seem to be a violation of Article 3(3) of the Commission Delegated Regulation 2024/1296 requiring immediate release of salmon to be discarded (released) and would not be in accordance with Finnish legislation on animal welfare. The document also states that “since the salmon individuals are strong it is likely that taking the scale samples would in practice cause them serious wounds and lower significantly also their survivability”.

The letter emphasizes the importance of expected new scientific information on the salmon populations present in subdivisions 29N and 30 to relevant institutions as well as ICES.

STECF comments

STECF observes that the overall status of the Atlantic salmon in the Baltic Sea is poor. Wild smolt production in Assessment Unit (AU) 3 (Sub-divisions 29N and 30), relevant to the proposed scientific fishery, has been low compared to the other AUs since the beginning of observations in 1997. There was also a decline in AU 3 smolt production during 2019–2023 as a result of disease, especially severe in the Ljungan River, and therefore closing the fisheries in SD 30 is not expected to immediately increase the recovery rate “more than marginally” (ICES 2023, 2024a, 2024b). However, STECF notes that the most recent assessment indicates a slight improvement of the situation with smolt production in the Ljungan River (ICES 2024a).

STECF observes that the objective of the trial fishery: “to verify if a delayed start of the coastal salmon fisheries together with effort restrictions can be conducted without or with negligible catches of salmon from the Ljungan stock, and thereby be comparable and an alternative to a closure of directed salmon fisheries, which is based on a zero tolerance advice and policy”, has been further specified by adding a sentence: “The scientific salmon fisheries will be conducted with the necessary number of fishing vessels needed and salmon caught to achieve a representative sample of salmon populations in the fishing areas and time periods within four nautical miles along the Finnish coastline in SDs 29N and 30 that in 2024 are closed to directed salmon fishing due to possible occurrence of Ljungan salmon. The scientific fisheries will not simulate a full fishery” as a response to first evaluation of the proposal by STECF PLEN 24-01.

STECF further observes that the amended version of the project envisages the reduction of participating fishers/vessels from 45 to 32, based on increasing the minimum catch threshold for fishermen from 20 to 64 salmon taken either in 2022 or 2023 in order to participate in the requested fisheries. STECF observes that this is still approximately 50% of all vessels used in commercial salmon fishery in the area in 2022-2023. STECF further observes a 15% decrease of the expected salmon catch during the scientific fishery compared to the earlier proposal (from 4300 to 3650 salmon, incl. app. 2550 of wild origin), following the planned reduction in effort. In spite of this reduction, STECF notes that the total catch would still be close to 70% of the catch of 5300 salmon reported from the area during the fishing season of 2022.

STECF notes that the revised plan assures that “the scientific salmon fisheries would thereby collect a representative sample of the salmon populations in the applicable waters with sufficient spatio-temporal coverage, while still not simulating the full fishery”.

STECF acknowledges that the reduction in the number of participating fishers and expected catches will slightly decrease the amount of additional negative effect on Ljungan population, but expresses concern on the fact that, when expected catches are as high as 70% of commercial catches in the previous years, the Member

State considers this “not to simulate the full fishery”. STECF remains of the opinion that a scientific sampling shall be in orders of magnitude smaller than commercial fishing.

Furthermore, STECF, notes that it is unclear which scientific evidence served as a basis for the changes described in the amended conditions for scientific fisheries. Therefore, STECF is not in the position to evaluate if the amended setup of the scientific fishery would be optimal with respect to the future outlook of the salmon stocks involved. STECF also notes that under the EU-MAP the Member State sampled just 394 individuals in AU 3 in 2023 (99 in Sd 29 and 295 in Sd 30- ICES 2024a).

STECF reminds that according to recent modelling results (Whitlock et al. 2017, 2021), the risk of catching salmon of Ljungan River is not spatially homogeneous, with higher risk around Åland islands and near southern coasts of SD 30. If the biological objective is to demonstrate that there is no risk of catching any salmon from the Ljungan river in SD30 (following the ICES comment that fishery restrictions in SD 30 are not expected to increase significantly the recovery rate of the stock), then sampling could be limited to SD30. On the other hand, if the objective is to demonstrate that there is a limited risk of catching any salmon from the Ljungan River in both SD29N and SD30, then STECF considers that sampling effort should primarily focus on the zone where the risk of catching salmon from the Ljungan river is the highest (ref. Whitlock et al. 2021). In view of this, STECF reiterates its previous conclusion (PLEN 24-01), that the objectives of the requested scientific fishery are still unclear.

STECF further notes that STECF previously evaluated similar requests from other Member States regarding the implementation of scientific fisheries involving more than 6 fishing vessels in accordance with Article 25 of the Technical Measures Regulation (EU) 2019/1241. Regarding the request from Croatia for scientific research in West coast of Istria, STECF PLEN 19-03 concluded that in order to evaluate whether a request is justified on scientific grounds some minimum information is required, such as:

- Scientific question/questions asked, i.e. aim of the study.
- Design of the study, i.e. how these scientific questions will be addressed.
- Analysis to define the number of participating vessels.
- Outline of new information required in order to translate a scientific trial fishery into a regular fishery fully managed.

STECF further observes that the amended request from Finland states that only limited knowledge available on the spatial and temporal distribution of salmon stocks in the area would not allow further reduction of the number of vessels and salmon catch or spatio-temporal coverage of the scientific salmon fisheries, without risking its representativeness and value as evidence in further scientific work and decision making. The request states that samples need to give a conclusive picture of the salmon populations in the Finnish coastal salmon fisheries in SDs 29N and 30. STECF notes that ICES WGBAST has made an extensive review of genetic assignment experiments based on substantial number of analysed salmon. Additionally, the results in Whitlock et al. (2018, 2021) provides some information on the possible spatial risks of catching the Ljungan salmon in the area.

STECF acknowledges that the delayed start of the scientific fishery can to some extent be a protective measure, with part of the wild Ljungan salmons already close to the native river before the scientific fisheries at the Finnish coast commence. However, STECF notes that the results from the available migration model (Whitlock et al. 2018) indicate that the onset of the spawning migration of wild Atlantic salmon from the Ljungan river is rather late compared to many other wild stocks in the Gulf of Bothnia, and with a significant temporal overlap with reared Atlantic salmon stocks as estimated for the seasons 2013 and 2014 (Whitlock et al. 2021).

STECF also notes that the onset of spawning migration of Ljungan salmon may vary substantially from year to year (e.g. from 15 May in 2014 to 15 June in 2013; ICES 2024c).

The recent ICES advice (ICES 2024c), also suggests that the salmon from the Ljungan river are migrating relatively late, a delayed fishing start until 27 May is not expected to be an effective protection measure, primarily because only a small part of the current catches in the Finnish and Swedish SDs 29N–30 coastal fisheries are taken in May. However, ICES has no possibility to quantify the effect of this measure on the recovery of the Ljungan stock (ICES 2024c).

STECF further observes that the number of salmon spawning stock in Ljungan river is very low. Despite uncertainties, it is estimated to be around 100 individuals according to the ICES assessment (ICES, 2024b). This further implies that the proportion of salmon from the Ljungan River in the expected catches of mixed stock at sea is likely to be extremely low. While that could indeed call for the need of a larger sampling effort to estimate catch proportions, STECF reiterates that even harvesting a few salmon is likely to have a very significant negative impact on the Ljungan River population.

STECF acknowledges that following the STECF PLEN 24-01 conclusion that measures should be specified to ensure that commercial fishermen participating in trial fisheries comply with the scientific protocol, the Ministry of Agriculture and Forestry assures that all applicable inspection and control provisions and measures will also apply to the scientific salmon fisheries and they will be reinforced with an immediate loss of the special fishing authorisation for the scientific fisheries if the conditions and requirements of the permit or data sampling are breached. Data sampling, effort restrictions and delayed starting dates will be specific requirements for participating in the scientific fisheries. STECF however cannot evaluate if the control provisions and measures are sufficient.

STECF observes that on the STECF proposal for considering of releasing of wild salmon to reduce the potential impact of the sampling programme, the Ministry states that this is not an alternative since mandatory sampling of the scales of wild salmon individuals raise the risk of increased mortality of released individuals. STECF notes that recent tagging experiments that included also sampling of scales of salmon from trapnet fishery performed in the AU 3 during the fishing season, resulted in post-release mortality up to 24% (for one-sea-winter fish) and 25-31% for multi-sea-winter salmon (Roukonen *et al.*, 2022). This demonstrates that the possible post-release mortality due to sampling procedures is essentially lower than the 100% mortality of retained onboard and landed catch.

STECF conclusions

STECF acknowledges that the amended proposal for scientific salmon fishery in SD 29N and 30 mitigates the planned sampling effort compared to the previous version of the request. STECF however concludes that the proposed level of participation in the fishery is still not justified on scientific grounds and most of conclusions of STECF 24-01 (on clarity of the objectives, possibility to release fish after sampling procedures), remain valid.

STECF concludes that, once the objective of such a scientific fishery is clarified, the available modelling e.g. the outcomes of Whitlock *et al.* (2018) could be used to better allocate the sampling effort.

References

- ICES. 2023. Atlantic salmon (*Salmo salar*) in subdivisions 22–31 (Baltic Sea, excluding the Gulf of Finland). Replacing advice provided in May 2023. ICES Advice 2023 – sal.27.22– 31.
- ICES. 2024a. Baltic Salmon and Trout Assessment Working Group (WGBAST). ICES Scientific Reports. 6:42. 425 pp. <https://doi.org/10.17895/ices.pub.25868665>
- ICES. 2024b. Atlantic salmon (*Salmo salar*) in subdivisions 22–31 (Baltic Sea, excluding the Gulf of Finland). In Report of the ICES Advisory Committee, 2024. ICES Advice 2024, sal.27.22-31, <https://doi.org/10.17895/ices.advice.25019630>

- ICES. 2024c. EU request for assessing remedial measures in subdivisions 29N and 30 to protect the Atlantic salmon stock from the Ljungan river in Sweden. In Report of the ICES Advisory Committee, 2024. ICES Advice 2024, sr.2024.08.<https://doi.org/10.17895/ices.advice.25908916>
- Roukonen, T.J., Suuronen, P., Pulkkinen, H., Erkinaro, J. 2022. Release mortality of wild Atlantic salmon in coastal pontoon-trap fishery in the northern Baltic Sea. *Fisheries Research* 252 (2022) 106336.
- Whitlock, R., Mäntyniemi, S., Palm, S., Koljonen, M.-L., Dannewitz, J., and Östergren, J. 2018. Integrating genetic analysis of mixed populations with a spatially explicit population dynamics model. *Methods in Ecology and Evolution*, 9: 1017–1035.
- Whitlock, R. E., Pakarinen, T., Palm, S., Koljonen, M. L., Östergren, J., and Dannewitz, J. 2021. Trade-offs among spatio-temporal management actions for a mixed-stock fishery revealed by Bayesian decision analysis. *ICES Journal of Marine Science*, 78: 3625–3638.

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

7.1 EWG follow up on the assessment of socio-economic impact of VMEs in Member States

Request to the STECF

STECF is requested to discuss the organisation of this EWG, which must include a planning for:

1. Date(s) of the EWG meeting(s)
2. Timeline for actions including the feedback-loop exercise, Plenary Nov. 2024 and Plenary March 2025
3. Detailed planning of the feedback-loop exercise (outreach to Advisory Councils, processing of results and analysis)
4. Provisional needs for ad hoc contracts supporting the feedback-loop exercise (including outreach to Advisory Councils with compilation of mailing lists, structured interviews templates, language issues solutions, transparency and confidentiality clauses for interviewees, analysing results and drawing conclusions)
5. Repository of background documents (STECF sharepoint) regularly updated, incl. study from the Principado de Asturias (transmitted June 2024) and all other relevant documents with a view to create a list of reference documents for the final advice

In doing so, STECF should consider and summarise the results of the previous STECF advices (PLEN 23-02, PLEN 23-03 and PLEN 24-01), of the scoping meeting (Feb. 2024) and other conclusions of the EWG previous meeting(s).

STECF observations

STECF provided DG Mare with a separate document with a detailed updated planning of the additional socio-economic assessment regarding the closures of the VMEs.

The EWG meeting is proposed to be held 17-21 February 2025. The feedback-loop exercise with Advisory Councils (ACs) will start in October 2024 after the ACs have received a description of the process, and how STECF will use the response from the ACs in the assessments.

In addition to the ad-hoc contract to run the DISPLACE model, STECF notes that two ad-hoc contracts will be needed; one to support the feedback-loop exercise and one to summaries additional information such as scientific papers.

STECF notes that the documents from the ad-hoc contracts and other documents regarding the assessment of the socio-economic impacts of VME closures will be put into the STECF file workspace, hosted by JRC.

References

- Bastardie, F., Nielsen, J. R., & Miethe, T. 2014. DISPLACE: a dynamic, individual-based model for spatial fishing planning and effort displacement—integrating underlying fish population models. *Canadian Journal of Fisheries and Aquatic Sciences*, 71(3), 366-386.
- Biseau Alain, Begot Eric (2023). Evaluation de l'impact de deux scénarios de fermeture aux engins de fond des zones susceptibles d'abriter des écosystèmes marins vulnérables (EMV). DGAMPA - Direction Générale des Affaires Maritimes, de la Pêche et de l'Aquaculture, Ref. Saisine P9 23-050 du 19 juin 2023, 14p.<https://archimer.ifremer.fr/doc/00853/96517/>
- Fernández-Arcaya U., Rodríguez-Basalo A., Verísimo P., Rodríguez J., Ceballos E., González-Irusta J.M., García-Alegre A., Plaza-Morlote M., Serrano A., Punzón A. 2023. Bottom fishing beyond trawling. Spatio-temporal trends of mobile and static bottom fisheries on benthic habitats. *Marine Policy*, 159. <https://doi.org/10.1016/j.marpol.2023.105805>.

7.2 Preparation of EWG 24-16: implementation of the technical measures regulation

Request to the STECF

The STECF is requested to discuss the organisation (including dates and venue) of this EWG, clarify the workflow and discuss the draft ToRs. The discussion will consider the conclusions on the matter of PLEN 24-01.

STECF comments

STECF notes that EWG 23-15 outlined the pathways and tools required to develop a modelling framework to assess the biological and economic impact of technical measures. Building on this work, EWG 24-16 will be requested to apply the proposed framework to two case studies, discuss the findings, and identify additional requirements to operationalise this framework. This multidisciplinary work will require expertise in economics, mixed fisheries modelling, gear technologists, and social scientists. The outcomes of EWG 24-16 will feed into further technical measures expert working groups, progressing towards longer term goals such as (but not limited too):

- 1) Explore how increased yields can be achieved, what long-term benefits and costs could be attained,
- 2) Identifying alternative pathways of gears changes to increase the size-selectivity of mixed fisheries and impacts of fishing gear diversification,
- 3) Assess, for each fishery, likely costs and benefits associated with the progressive changes over time.

STECF notes that EWG 24-16 will be divided into three sections: tool preparation (data and code); framework application (two case studies); and framework development to identify additional aspects required to fully operationalise the bio-economic and social assessment of the impact of technical measures.

STECF notes that an ad-hoc contract could be used to prepare the tools required by EWG 24-16. This contract should cover the collection, compilation and quality control of the data and code required for the two case studies. The requirements for each study are outline in (Table 7.2.1).

STECF notes that during EWG 24-16 these tools will be applied to two case studies: hake in Bay of Biscay mixed fishery; hake in a Western Mediterranean mixed fishery currently included in the West Med Map (STECF 2024). Each case study will provide an opportunity to explore the impact of technical measures implementation on target and non-target species

within a mixed fishery. This also includes the assessment of biological and economic impacts. Each case study will progress at a different pace, progressing the development of an operational model as far as is feasible during the EWG.

STECF notes that EWG 24-16 will also discuss recent developments in the field of integrated ecological-economic fisheries models, and identify additional needs and tools required to describe the potential biological, economic and social impacts of technical measures. This work will include advances in gear trials and their application in fisheries forecasting; social data pipelines and indicators; and stakeholder input and scenario development. Focusing on the long-term goal of developing tools to support transparent discussions around trade-offs in the short to long term and provide accessible and meaningful advice.

STECF notes that EWG 24-16 is planned to be held as a hybrid meeting 21-25 October, 2024. The proposed ToRs below were discussed with DG MARE at PLEN 24-02 and will be published on the STECF meeting webpage once finalised.

ToR 1 – Review the outputs of ad hoc contract to determine suitability of data and code for use by the EWG.

ToR 2 – Apply the framework identified in EWG 23-15 to two case studies: hake in Bay of Biscay mixed fisheries and hake in the Western Mediterranean mixed fisheries. Each case study will where possible assess in the short term:

- a. the impacts of increasing the size-selectivity of gears on the species caught in mixed fisheries in terms of catch, effort, fishing mortality and recruitment.
- b. the likely costs and potential benefits associated with gear changes for fleets on the short-term (1 year) forecast.
- c.

ToR 3 – Identify meaningful management scenarios that could be tested with these models, and the additional information/data/models that would be required to produce additional scenarios.

ToR 4 - Discuss direction of future work, additional needs, stakeholder engagement, and advice needs. These discussions will include the development of longer-term forecasts; assessments on the impacts of spatial and temporal closures, and inclusion of social data.

Table 7.2.1 Summary of the tools required to conduct a bio-economic assessment of the impact of technical measures in the two proposed case studies.

Case study 1: Bay of Biscay Hake Mixed Fisheries				
Type	Description	Coverage	Owner	Purpose
Data	'Accessions' Fleet data: Catch and effort	All stocks 2009 - 2023	ICES - WGMIXFISH	Describe the fishing footprint of fleet, and merge with AER data. This highly aggregated data will provide an initial tool. However, it will not facilitate alignment with AER and economic indicators as there is no vessel-based information.
	FLFleet object	All fleets 2023 advice year	ICES - WGMIXFISH	Describe selectivity
	FLStock objects (with forecast)	All stocks in model 2023 advice year	ICES – WGCSE, WGBIE,	Describe stock dynamics
	Community Profiles	4 harbours within Bay of Biscay	Individual Institutes and member states	Describe social impacts
	FDI data	All species, all tables, all years	EU	Build EU based fleet objects
	AER data	All fleets, all species, all tables, all years	EU	Build EU based fleet and economic objects
Code	WGMIXFISH advice repo	2023 advice year	ICES - WGMIXFISH	Template for modelling stock dynamics
	FLSelex code	Newest version	BIM	Plugin template for modelling selectivity
	BIOECON	Newest version	BIM	Plugin template for model visualisation and dissemination
	FDI ~ AER code to merge	FDI methodology group	EU	Template for data merging

Case study 2: Western Mediterranean Hake Mixed Fisheries				
Type	Description	Coverage	Owner	Purpose
Data	Stock assessment outputs	All stocks in model 2023 advice year	GFCM	Describe stock dynamics
	Community Profiles	4 harbours within West Med	Individual Institutes and member states	Describe social impacts
	FDI data	All species, all tables, all years	EU	Describe the fishing footprint of fleet, and merge with AER data. This highly aggregated data will provide an initial tool. However, it will not facilitate alignment with AER and economic indicators as there is no vessel-based information.
	AER data	All fleets, all species, all tables, all years	EU	Build EU based fleet and economic objects
Code	All code developed by EWG 24-01 and previous West Med map meetings to develop and apply mixed fisheries and bio-economic models.	2023 advice year	EU	Template for modelling stock dynamics and economic inputs

Source: own elaborations.

References:

STECF (2024). Scientific, Technical and Economic Committee for Fisheries (STECF) – Fishing effort regime for demersal fisheries in West Med - advancement to a unified bio-economic model (STECF-24- 01). Publications Office of the European Union, Luxembourg, 2024 https://stecf.jrc.ec.europa.eu/documents/d/stecf/stecf_24-01_fisheff-demersal-in-west-med

7.3 Preparation of EWG 24-10: West Med MAP stock assessments

Request to the STECF

The STECF is requested to discuss the organisation of this EWG, clarify the workflow and discuss the draft ToRs. As in last year, the EWG report would be adopted during a mini-plenary on 17-18 October 2024 for a publication at the latest by 31 October 2024.

STECF comments

STECF discussed draft ToRs for EWG 24-10. The draft ToRs are based on ToRs for the EWG on West Med MAP stock assessments in previous years, as well as on the outcomes of other related EWGs (e.g., EWG 24-02).

STECF notes that the ToRs should give particular attention to hake stocks partial fishing mortality estimation in EMU 1 and 2 to precisely quantify the partial-F by gear and GSA over time, in particular if updated length based landings have been made available via the 2024 Med&BS data call and these data incorporated into the updated assessments. STECF notes that in addition to the formal three yearly evaluation proposed by PLEN 22-03, the EWG should update the F reference points (F_{msy}) produced by EWG 24-02, needed for the MAP implementation: F_{max} for type 1 stocks and $F_{0.1}$ for all the others. If the 2024 hake assessments show any of these stocks to be above Bpa, then ranges of F may be needed: STECF suggests using the F_{MSY} ranges estimated by EWG 24-02.

DG MARE informed STECF of its requirement to have a published STECF report by the end of October 2024 to conform with its legislative timescale. This implies that the EWG 24-10 report will need to be reviewed and adopted by the STECF during a mini-plenary on 17-18 October 2024 for a publication at the latest by 31 October 2024.

The ToRs for EWG 24-10 are still under discussion and will be published on the STECF meeting webpage once finalised.

7.4 Preparation of EWG 24-12: Fishing Effort Regime for demersal Fisheries in the West Med

Request to the STECF

STECF is requested to discuss the organisation of this EWG, clarify the workflow and discuss the draft ToRs. The discussion should be conducted having in mind the preparatory discussions conducted since STECF PLEN 22-03 on the short- and long-term steps to secure best available scientific advice for the West Med MAP implementation. The EWG should develop the modelling frameworks to be able to account for the estimated Fmsy ranges stemming from EWG 24-02 and advance on the methodology to synthesize the different models outputs.

STECF comments

STECF notes that following EWG 24-01 the Commission decided to go forward in the evaluation of the West Med MAP with the IBIS approach keeping four mixed fisheries models to run scenarios requested.

STECF discussed the TORs for EWG 24-12 which report the final scenarios that will be run during the EWG, the table of Fmsy ranges that will be used as F levels during the simulation and the table of remedial measures to be applied when one or more stocks are under Bpa from EWG 24-10 assessments.

STECF observes that seven (A-G) scenarios are requested, alternative to the Status Quo scenario. Across all scenarios (A-G) it is requested to implement the level of trawling effort that would secure the stocks to be at Fmsy by 2025 and the level of Maximum Catch Limits (MCL) that would secure blue and red shrimp and giant red shrimp stocks to be at Fmsy by 2025. Effort and MCL reduction should change between scenarios depending on the presence of additional measures such as MCL of hake for set nets or fishing days limitations for set longlines.

STECF notes that EWG 24-12 will need to receive from EWG 24-10 the complete set of input stock and index objects and the output stock objects, a set of catch at age matrices per gear and GSA for all stocks to estimate partial fishing mortalities and a table reporting the Fmsy ranges per stock.

The ToRs for EWG 24-12 are still under discussion and will be published on the STECF meeting webpage once finalised.

7.5. Preparation of Prep Working Group for EWG-24-13 Balance/capacity, EWG-24-17 EWG Balance/capacity outermost regions, and mini-plenary to validate results of EWG-24-17

Background provided by the Commission

The Commission will request the STECF's advice on the assessment of balance indicators for fleet segments in the outermost regions prior to the already planned EWG-24-13 Balance/capacity. The Commission requests that an analysis of balance between fleet capacity and fishing opportunity be made using a standard approach across all EU fleet segments, based on DCF information and in line with the Commission Guidelines COM(2014) 545 final and COM(2024) 223 final. Where possible, evaluation should use data reference years 2011 to 2023. This analysis shall cover all EU fleet segments in the outermost regions.

The Commission will make the OR relevant MSs national reports i.e. FR, ES, PT available to the STECF at the PLEN-24-02 plenary meeting.

Request to the STECF

STECF is requested to discuss the organisation of preparatory work, the EWG-24-17 and related mini-plenary organisation and set-up, clarify the workflow and discuss and agree the respective ToRs with the Commission.

STECF comments

Schedule of STECF meetings and EWGs

Changes to the timing of requests from the Commission for advice on the balance between fishing Capacity and Fishing mortality for fleet segments in operating in the Outermost Regions of Member States (ORs), has necessitated in some rescheduling of the STECF calendar for the second half of 2024.

Specifically, the Commission has requested STECF to plan for an additional Expert Working group (EWG) in 2024 to provide a stand-alone report on the balance between fishing capacity and fishing opportunities for the ORs before the end of September.

The Committee discussed the above with the DG MARE focal point and it was agreed that an expert group (EWG 24-17) will take place online from 11-13 September and the EWG 24-17 report will be issued as a separate stand-alone report for review by the STECF by Friday 20 September.

The Terms of Reference for the EWG 24-17 will remain essentially the same as those given to the 2023 EWG on Balance (EWG 23-13) but will be tailored specifically to address fleet

segments operating in the in the ORs. Hence the format of the EWG 24-17 report will remain principally the same as the section dealing with fleet segments in the ORs in the 2023 Balance Report (STECF 23-13).

The EWG 24-17 report will take into account the provisions of the 2014 Commission guidelines for the assessment of Balance (COM(2014) 545 final) together with supplementary guidelines specific to certain fleet segments in the OMRs (COM(2024) 223 final).

As a result of the above agreement, the section dealing with fleet segments operating in the ORs will not be included in the report of the EWG 24-13 meeting, which is scheduled for 7-11 October.

The Terms of reference for EWG 24-17 and EWG 24-13 and the request to the STECF will be available at th respective meetings' webpages.

In summary the agreed schedule of meetings in 2024 is as follows:

- 3-5 September – EWG 24-13: Preparatory working group to assemble relevant data and compute indicator values for use by EWG 24-17 and EWG 24-13.
- 11-13 September – EWG 24-17: Expert Working group to prepare a stand-alone report to the STECF on the balance between fishing capacity and fishing opportunities for the ORs.
- 18 September – online Plenary meeting to review the EWG 24-17 report
- By 20 September – STECF Review and opinion on the EWG 24-17 Report to DG MARE.
- 7-11 October – EWG 24-13: Expert Working group to prepare a stand-alone report to the STECF on the balance between fishing capacity and fishing opportunities for regions other than the ORs.
- 11-15 November – PLEN 23-03: Review and opinion on the EWG 24-13 Report by the STECF.

Guidelines for the assessment of balance for fleet segments in the ORs (COM (2024) 223 final).

The STECF sought clarification from the Commission on a number of points relating to vessels less than 12 metres in length in outermost regions. The specific points concerned in the text of the guidelines are reproduced below (in italics):

Assessing balance

- *The balance assessment for those fleet segments in the outermost regions should remain based on the biological, economic and vessel use indicators set out in COM (2014) 545 final. Specifically, both biological indicators (SHI and SAR), both economic*

indicators (RoI, CR/BER), and one of the vessel use indicators (either VUR, VUR220, or a Member State defined VURnn) should be in balance.

Clarification from the Commission: For a given fleet segment, if one or more of the indicators mentioned above indicates imbalance, the Guidelines specify that the segment is deemed to be out of balance with its fishing opportunities.

Biological indicators

- *In line with COM(2014) 545 final, both biological indicators (sustainable harvest indicator and stocks at risk indicator) should be in balance as part of demonstrating the balance of a fleet segment.*

Clarification from the Commission: If one or both biological indicator values for a fleet segment indicate imbalance, the Guidelines specify that the segment is deemed to be out of balance with its fishing opportunities.

Sustainable Harvest indicator

For fleet segments concerning vessels of less than 12 metres in length in the outermost regions, the calculation for the sustainable harvest indicator (SHI) as explained in section 10.1 of COM(2014)545 final may be simplified in one of the following ways:

- *F and Fmsy values may be derived, in order of priority, from: (a) national assessments subjected to peer review, where the peer reviews are either publicly accessible or are provided as an annex to the fleet report; (b) national assessments not (yet) subjected to peer review, where the national assessments are provided as an annex to the fleet report, for peer review;*

Clarification from the Commission: There is no requirement for the EWGs 24-17 or the STECF PLEN 24-03 to provide a peer review of any National stock assessments used by any Member State. STECF may be requested to comment on the suitability of any data and assessments used to derive the F and Fmsy values re derived.

- *Estimates of F and Fmsy from one or more representative target species in the fishery can be used; in this context, assessments based on the productivity of species groupings may also be presented and used.*

Clarification from the Commission: The above point is a provision for Member States to be selective as to which species they use to provide F/FMSY. If they do so, Member

States must justify their choice. STECF may be requested to comment on such justifications.

- *Regardless of the simplification applied by the Member State, all necessary data should be provided in annex to the fleet report to allow for further scrutiny by the STECF.*

Clarification from the Commission: The STECF may be requested to comment on whether the information submitted by Member States is complete and sufficient to justify the calculations presented by the MS.

7. 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>

*STECF members marked with an asterix did not attend the meeting.

Name	Affiliation ¹	Email
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 (rapporteur)	FishFix, Lisbon, Portugal	info@fishfix.eu
Casey, John (rapporteur)	Independent consultant	blindlemoncasey@gmail.com
Daskalov, Georgi	Laboratory of Marine Ecology, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences	Georgi.m.daskalov@gmail.com
Döring, Ralf (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
Drouineau, Hilaire (rapporteur)	Inrae, France	hilaire.drouineau@inrae.fr
*Goti Aralucea, Leyre	Thünen Institute of Sea Fisheries - Research Unit Fisheries Economics, Herwigstrasse 31, D-27572 Bremerhaven, Germany	leyre.goti@thuenen.de

Name	Affiliation¹	Email
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
Hamon, Katell (rapporteur)	Wageningen Economic Research, The Netherlands	katell.hamon@wur.nl
Ibaibarriaga, Leire (rapporteur)	AZTI. Marine Research Unit. Txatxarramendi Ugarteia z/g. E-48395 Sukarrieta, Bizkaia. Spain.	libaibarriaga@azti.es
Jardim, Ernesto (rapporteur)	Marine Stewardship Council MSC, Fisheries Standard Director FSD, London	ernesto.jardim@msc.org
Jung, Armelle (rapporteur)	DRDH, Techonopôle Brest-Iroise, BLP 15 rue Dumont d'Urville, Plouzane, France	armelle.jung@desrequinsetdeshommes.org
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
Mannini, Alessandro	CNR IRBIM Ancona, Largo Fiera della Pesca, 260125 Ancona ITALY	alessandro.mannini@irbim.cnr.it
Martin, Paloma (rapporteur)	CSIC Instituto de Ciencias del Mar Passeig Marítim, 37-49, 08003 Barcelona, Spain	paloma@icm.csic.es
Motova -Surmava, Arina	Sea Fish Industry Authority, 18 Logie Mill, Logie Green Road, Edinburgh EH7 4HS, UK	arina.motova@seafish.co.uk
Moore, Claire (rapporteur)	Marine Institute, Ireland	claire.moore@marine.ie
Nielsen, Rasmus	University of Copenhagen, Section for Environment and Natural Resources, Rolighedsvej 23, 1958 Frederiksberg C, Denmark	rn@ifro.ku.dk
Nimmegeers, Sofie (rapporteur)	Flanders research institute for agriculture, fisheries and food, Belgium	Sofie.Nimmegeers@ilvo.vlaanderen.be

Name	Affiliation¹	Email
Nord, Jenny (chair)	Independent	jennymnord@gmail.com
Pinto, Cecilia (vice-chair, rapporteur)	Università di Genova, DISTAV - Dipartimento di Scienze della Terra, dell'Ambiente e della Vita, Corso Europa 26, 16132 Genova, Italy	cecilia.pinto@edu.unige.it
Prellezo, Raúl (vice-chair, rapporteur)	AZTI -Unidad de Investigación Marina, Txatxarramendi Ugarte a z/g 48395 Sukarrieta (Bizkaia), Spain	rprellezo@azti.es
Raid, Tiit (rapporteur)	Estonian Marine Institute, University of Tartu, Mäealuse 14, Tallin, EE-126, Estonia	Tiit.raid@gmail.com
Sabatella, Evelina Carmen (rapporteur)	National Research Council (CNR) – Institute for Research on Population and Social Policies (IRPPS), Corso S. Vincenzo Ferreri, 12, 84084 Fisciano, Salerno, Italy	evelina.sabatella@cnr.it
Sampedro, Paz (rapporteur)	Spanish Institute of Oceanography, Center of A Coruña, Paseo Alcalde Francisco Vázquez, 10, 15001 A Coruña, Spain	paz.sampedro@ieo.csic.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	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	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

Name	Affiliation ¹	Email
*Valentinsson, Daniel	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
Velasco Guevara, Francisco (rapporteur)	Spanish Institute of Oceanography - National Research Council, Spain	francisco.velasco@ieo.csic.es
Vrgoc, Nedo	Institute of Oceanography and Fisheries, Split, Setaliste Ivana Mestrovica 63, 21000 Split, Croatia	vrgoc@izor.hr

JRC experts		
Name	Address	Email
Hekim, Zeynep	DG Joint Research Centre JRC	hekim.zeynep@ec.europa.eu
Virtanen, Jarno	DG Joint Research Centre JRC	Jarno.virtanen@ec.europa.eu

European Commission		
Name	Address	Email
Alibert-Deprez, Caroline	DG MARE, C1	Caroline.alibert-deprez@ec.europa.eu
Calvo Santos, Angel Andres	DG MARE, A4	Angel.calvo-santod@ec.europa.eu
Doerner, Hendrik	DG Joint Research Centre JRC, STECF secretariat	Stecf-secretariat@jrc.ec.europa.eu
Dragon, Anne-Cecile	DG MARE, D1	Anne-cecile.dargon@ec.europa.eu

Duflot, Melissa	DG MARE, C3	Melissa.duflot@ec.europa.eu
Kopp, Antoine	DG MARE, C1	Antoine.kopp@ec.europa.eu
Kostopoulou Venetia	DG MARE, C3	venetia.kostopoulou@ec.europa.eu
Moset, Maria	DG MARE, D3	Maria.moset-martinez@ec.europa.eu
O'Dowd, Leonie	DG MARE, C3	Leonie.ODowd@ec.europa.eu
Osio, Chato	DG MARE, D1	Chato.osio@ec.europa.eu
Perez Perera, Amanda	DG MARE, C1	Amanda.perez-perera@ec.europa.eu
Petrucco, Giacomo	DG MARE, A4	Giacomo.petrucco@ec.europa.eu
Peyronnet, Arnaud	DG MARE, C3	Arnaud.PEYRONNET@ec.europa.eu
Ranshuysen Evelien	DG MARE, D.3	Evelien.RANSHUYSEN@ec.europa.eu
Roussouliere-Azzam Joan	DG MARE, D.3	Joan.ROUSSOULIERE-AZZAM@ec.europa.eu
Sadowska Agnieszka	DG MARE, C.3	Agnieszka.Sadowska@ec.europa.eu

Stamoulis, Antonios	DG MARE, D.3	<u>Antonios.STAMOULIS@ec.europa.eu</u>
Sterczewska, Monika	DG MARE, C.3	<u>Monika.STERCZEWSKA@ec.europa.eu</u>
Vasconcelos, Paolo	DG MARE, C5	<u>Paolo.vasconcelos@ec.europa.eu</u>

Getting in touch with the EU

In person

All over the European Union there are hundreds of Europe Direct centres. You can find the address of the centre nearest you online (european-union.europa.eu/contact-eu/meet-us_en).

On the phone or in writing

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,
- via the following form: european-union.europa.eu/contact-eu/write-us_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 (european-union.europa.eu).

EU publications

You can view or order EU publications at op.europa.eu/en/publications. Multiple copies of free publications can be obtained by contacting Europe Direct or your local documentation centre (european-union.europa.eu/contact-eu/meet-us_en).

EU law and related documents

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex (eur-lex.europa.eu).

EU open data

The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

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.

Science for policy

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society



EU Science Hub
[Joint-research-centre.ec.europa.eu](https://joint-research-centre.ec.europa.eu)



Publications Office
of the European Union